

# Companies on forefront of innovation

With a long heritage in nuclear technology and a vision for the future, The Babcock & Wilcox Company (B&W) is on the forefront of innovation to make safe, dependable, nuclear energy a reality – today and for future generations.

## Committed to Nuclear Energy, National Security

Since designing and fabricating components for the first nuclear-powered submarine, the USS Nautilus, B&W continues to be a leader in nuclear innovation.

Serving as the only heavy nuclear component manufacturer in North America, we've provided the nuclear industry with approximately 1,400 heavy components, including more than 300 steam generators, in addition to a range of specialized services.

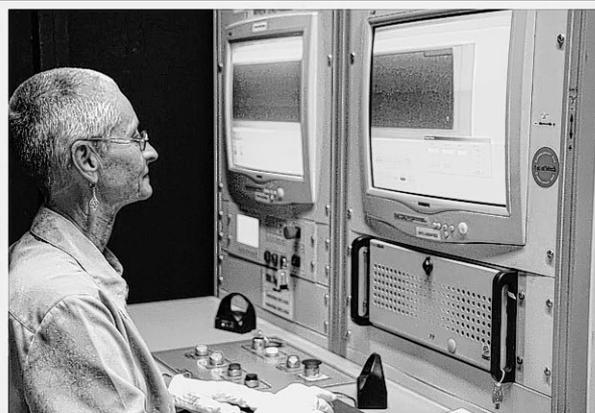
This expertise paved the way for small modular reactors, our latest commercial development. Through our laboratory operations at vital national labo-



ratories, B&W supports nuclear deterrence national security initiatives.

And, together with our part-

ners, we remediate legacy nuclear sites like the Savannah River Site located in South Carolina's Aiken and neighboring counties.



## Reaching Young Minds. B&W – a Partner in Education.

Looking ahead to the future, B&W is committed to inspiring young minds by supporting Science, Technology, Engineering and Math (STEM) education.

As an energy technology and manufacturing company, we have a vested interest in ensuring the next generation is prepared for careers in the nuclear industry as the existing workforce nears retirement.

The Aiken community also faces this challenge with approximately half of the Savannah River Site workforce eligible for retirement in the next few years.

By reaching students in middle school and high school through STEM education and partnering with vocational programs and colleges, B&W is proactive in making sure we have job applicants in the future, and that applicants have the requisite skill sets critical to our operations.

At many of our locations B&W provides internships, partners with technical colleges in cooperative programs, and supports STEM initiatives in the classroom. Encouraging more young people to pursue STEM careers is vital for supporting industry in the United States and, more specifically, right here in Aiken.

## The Latent Risk Myth

SUBMITTED BY CNTA

Have you ever heard someone say that exposure to some low level of radiation will lead to some number of cancer deaths? You have if you have attended Nuclear Regulatory Commission hearings on new site applications for nuclear power plants or have attended a conference of interveners. It is a favorite scare tactic.

Their argument goes something like this: "According to the Department of Energy's Office of Science, we know that an acute dose of 1000 rem (a measure of biological risk associated with radiation exposure) has an extremely high probability of killing the unfortunate one exposed; therefore, if we expose 1000 people to a dose of one rem we have the same level of certainty that one of the 1000 will die from this acute dose."

This kind of logic actually has a statistical name called "Linear Non Threshold" or "LNT" methodology. It is sort of like saying

"if one person consumes 1000 aspirin tablets at once and it proves to be fatal, then if we give one tablet to a thousand people we should expect one fatality among the 1000 participants, and furthermore if we give an aspirin to 10,000 people we should expect 10 deaths, and so on."

Now you probably think that sounds ridiculous and if you do then you are right, but that doesn't keep nuclear activists from predicting latent cancer cases based on the same rationale.

More than 500 years ago, a medieval pharmacist named Paracelsus, was posed the question, "What is a poison?" His response was, "It depends on the dose."

Humans must have salt in their diets to maintain appropriate body chemistry, but too much salt can kill you. The same can be said for a number of metals, e.g., selenium, arsenic, chromium, manganese, cobalt, iron and a number of vitamins and even water.

This observation by Paracelsus leads logi-

cally to the concept of a dose response curve which shows toxicity increasing only after some threshold value of the agent has been exceeded.

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The use of LNT methodology is rationalized as providing "a worst case scenario" when we don't know enough about the actual effect of low level radiation exposure to make accurate estimates of health effects.

The reason we don't know enough is that the effects are so miniscule that they can't be accurately measured and we don't even know whether the effects are detrimental or

beneficial.

How can we attribute something sinister to low level exposures of millirems (one millirem equals one one-thousandth of a rem) of radiation when natural background levels of radiation vary widely around the earth from just less than 100 millirems to more than 25,000 millirems per year with no apparent human health effects?

The fact that anti nuclear activists trot out the latent cancer arguments when fighting the nuclear renaissance is not only bad science, but it is counterproductive to their own cause since coal fired power plants, which we would hope nuclear plants would replace, emit 100 times more radiation than do nuclear plants of the same size.

It is time to eliminate the fear mongering and superstition and get on with a responsible, urgent implementation of nuclear power if we are serious about saving our planet from the ravages of carbon based energy production.