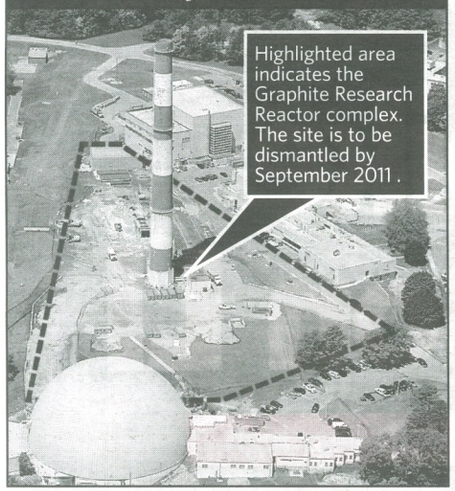
BNL cleanup



Lab to dismantle graphite reactor

BY PATRICK WHITTLE
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Brookhaven National Laboratory's long-closed Graphite Research Reactor will be completely dismantled by September 2011 with help from $28 million in new stimulus funding, federal officials announced yesterday at the Upton lab.

The reactor — the world's first peacetime research reactor — ceased operation in the late 1960s. The remaining disassembling work includes dismantling a concrete and steel "biological shield," removing a 100-meter reactor stack, and placing an impermeable cap around the building's base, officials said.

The work is "a significant milestone in the environmental restoration of the Brookhaven laboratory," said federal Department of Energy Deputy Secretary Daniel Poneman, who attended the event.

The stimulus funding brings the cost of closing the reactor to about $120 million. The lab has received $70.5 million in stimulus funding to decommission the reactor and perform other cleanup work.

The reactor is one of three — all closed — at Brookhaven Lab. The high-flux beam reactor will be taken apart in 65 years — there is too much radiation present to act before then — while the decommissioning plan for the medical research reactor has not been crafted, officials said.

The graphite research reactor played a key role in developing products ranging from motor oils to seeds used to produce new varieties of grapefruit. Much of the building, cooling system and soil below eventually became contaminated.

More than 700 tons of radioactive graphite were removed from the reactor core from February to May, officials said, and shipped to Nevada for disposal.

"This is a unique project, as the graphite reactor is the first reactor of its size to undergo removal of its graphite core," George Goode, the federal lab's assistant laboratory director for environment, safety and health, said in a statement, adding that federal officials view the removal as "a case study for other planned graphite reactor decommissioning projects across the DOE complex."

Rep. Tim Bishop (D-Southampton), who attended the event, used a news conference to tout the success of the American Recovery and Reinvestment Act, which funded the Brookhaven project. Federal officials approved the funding last week, officials said.

"This nation is in better shape economically than we would have been if not for the recovery act," Bishop said.

BREAST CANCER : NEW HOPE

Promising

Survivors react

PHOTOS BY JAMES CARBONE

Hope and worry for her family

Ronice Bunn reacted to news of a possible vaccine with cautious optimism. "We don't know how it's going to pan out," said the 61-year-old retired social worker of Wyandanch. Still, she added, "Anything they find, I'm sure it's a plus for us."

Bunn was diagnosed four years ago and received chemotherapy and radiation. She also received targeted therapy for her particular type of cancer.

While Bunn was the first in her family to battle breast cancer, she looks at her family and wonders if they'll have a healthy future. "I have a daughter, and she went for her first mammogram today," Bunn said. Thankfully the mammogram turned up nothing.

Bunn said she was living proof of why screenings and prevention are important. She had a clean bill of health until the tumor showed up during a routine mammogram. "It was a very aggressive type of cancer," she said. "If it weren't for the mammogram I wouldn't be here today."

Vaccine news leaves unanswered questions

Susan Piccininni had questions about the types of cancer the possible vaccine would combat. "They always say breast cancer is a bunch of different diseases," she said. "There are so many various different types of breast cancer that I don't know what kind this trial is targeting."

Piccininni, 53, a Deer Park resident who is a grant writer for the Bay Shore nonprofit Breast Cancer Help, has been in remission for seven years. "I was diagnosed in 2003 with Stage 3 breast cancer," she said. After a mastectomy, she had chemotherapy, radiation and targeted therapy treatments, followed by reconstructive surgery.

"It's nice to hear about something like this, but we have to wait and see," she said.

n See the state Health Department's cancer map and look for news updates on a vaccine. newsday.com/health

strides for vaccine

- **'First-of-its-kind'** at least a year off for human trials
- **Shot inoculates**, others attack after cancer advances

PHOTO BY KATHY KMONICEK

Developments may mean better future for her children

Breast cancer's toll on Joan McTague's family is extensive: a maternal aunt, a cousin, another cousin.

McTague, 67, a former nurse of Lynbrook, was herself diagnosed five years ago and is now in remission from a third bout of breast cancer. She looks at her four daughters, and even her son, and worries.

So McTague welcomed news yesterday of a successful laboratory trial at the Cleveland Clinic that might someday lead to a vaccine for the cancer.

"I think it's wonderful," she said, adding her children would immediately sign up for any possible method to ward off developing the cancer. "I know as soon as it's available they'll take the antigens," she said.

After diagnosis in 2005, McTague had a lumpectomy, chemotherapy and radiation. When a lump was found in 2006, she had a double mastectomy followed by chemotherapy, but she found another lump last year.

McTague said she actually tried to sign up for the Cleveland Clinic study but was rejected because she didn't meet the study's stringent requirements.

BY DELTHIA RICKS
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A team at the Cleveland Clinic has laid the scientific groundwork for a breast cancer vaccine that may work much the same way as immunizations for mumps and measles.

The vaccine is made using a protein called alpha-lactalbumin, which is prevalent in a wide range of breast cancers, scientists said yesterday.

"This is a first-of-its-kind prototype," said Dr. Vincent Tuohy, principal investigator of the research.

While the vaccine so far has been tested only in mice, Tuohy said human clinical trials could begin as early as next year, though a marketable vaccine is at least a decade away. He also predicted that the vaccine one day could be administered routinely to women starting at age 40.

Dr. Janice Lu, a specialist in breast cancer and director of medical oncology at Stony Brook University Medical Center, praised the Cleveland effort yesterday. "This is very important research," Lu said, adding "they targeted a protein that is expressed in high amounts in breast tumors."

She said the prototype vaccine differs from the other 40 anti-breast cancer vaccines under study that are designed to thwart breast cancer only after it has advanced. The recently approved prostate cancer vaccine, Provenge, was developed to attack cancer only after it has spread.

As with immunizations against infectious diseases, the anti-breast cancer vaccine is administered by injection. Many of the vaccines under study that are designed to attack advanced breast cancer are delivered intravenously, as is Provenge.

In his research at the clinic's Lerner Research Institute, Tuohy and his colleagues vaccinated two groups of cancer-prone mice — one with alpha-lactalbumin and the other with a sham vaccine. None of the mice vaccinated with alpha-lactalbumin developed the cancer, while all of the animals immunized with the sham developed tumors. Complete results of the research are reported in the current online edition of Nature Medicine and in next week's bound edition of the journal.

"This is a first-of-its-kind prototype," said Dr. Vincent Tuohy, the lead researcher.

"The conception for this goes back eight years," Tuohy said. "I realized there was a huge hole in our preventive health care plan. We have a wonderful childhood vaccination program that protects us from polio and measles, but that program stops dead at age 13."

What is needed, he added, is a vaccination program that protects adults against many of the insidious conditions that are life-threatening — and costly.

Breast cancer is the most common cancer among women in the United States, and is the second-leading cause of cancer death in women, after lung cancer. The American Cancer Society estimates more than 190,000 cases will be diagnosed this year nationwide and 40,000 women will die of the disease.

Study: Risk factors don't mix

BY MARIA CHENG
The Associated Press

LONDON — Genes that make women more susceptible to breast cancer don't have any link to lifestyle factors that also raise their risk, a new study says.

Some experts previously thought there might be dangerous interactions between breast cancer mutations and other risk factors for the disease, like taking hormone replacement therapy — and that these women had a particularly high risk of breast cancer. According to a study published today in the medical journal, Lancet, that isn't the case.

British researchers studied 7,610 women with breast cancer and 10,196 women without it. All of the women provided a blood sample for genetic testing and information about other risk factors like obesity, alcohol consumption and hormone replacement therapy.

Scientists used statistical analysis to examine the relationship between genetic and lifestyle factors. They found although genetic mutations and lifestyle choices both contribute to cancer, they do so separately and do not mix to more deadly effect.

The genetic mutations studied are carried in up to 60 percent of women and increase a woman's breast cancer risk from 10 to 20 percent. The study did not include the rare BRCA genes, which dramatically increase the risk of breast cancer. The study was paid for by Britain's Medical Research Council and Cancer Research UK.

Experts said lifestyle factors are often more important in avoiding breast cancer than genetic ones. For example, being fat elevates your risk by 40 percent and taking hormone replacement therapy doubles it.

Susan Gapstur, vice president of epidemiology at the American Cancer Society, said the findings would not change the group's prevention messages to women, such as avoid weight gain, stay physically active and minimize hormone replacement therapy.