

To: Jim Mehl, ERU Supervisor
From: Zack Clayton, Rad Coordinator
Subject: October Monthly Report
Date: November 1, 2011

Beans

Training: 3
Drills: 2
Meetings: 3
Technical Assistance: 1
Public Assistance: 1

Web Page Views: There were 15 page views in October.

Coming Attractions

11/2 Working Group
11/8 NRC/FEMA Video Conference on REP Final Rule
12/7 Working Group
1/4 Working group
1/17 URSB
1/26 NEPAC

Facility updates

Davis-Besse Nuclear Power Station

Davis-Besse started October in a planned maintenance shutdown to replace the reactor head.

The RCS was drained on Tuesday Oct. 5. While draining water from the condenser pit beneath the turbine as part of outage activities, the PVC drain line developed a leak. The flow was immediately stopped upon discovery of the leak. The total leak is estimated to be below 100 gallons. Samples were collected from the condenser pit and it was discovered the water contained 2930 picocuries per liter (pCi/l) of tritium. The state must be notified of sample results in excess of 2000 pCi/l. The drinking water limit for tritium is 20,000 pCi/l. The cause of the leak is still being investigated.

On Oct 11, a fitting on this same line became disconnected and leaked. Sample results received at approximately 1pm that afternoon revealed a tritium concentration of 3640

pCi/L. The plant staff is still in the process of estimating the amount of water which leaked from the fitting.

On October 13 the Cleveland Plain Dealer published an article stating that cracks were found in the concrete shield building while crews were cutting through the shield building. Replacing the reactor head requires Davis-Besse to cut through the concrete shield building which protects the reactor. The cutting method being employed is referred to as hydro-demolition as high pressure water is used to cut the concrete. The cracks are hairline in nature and were expanded by the hydro-demolition. DBNPS has begun mechanically removing, with jackhammers, the concrete around the cracking indications to determine how deep the cracks penetrate the concrete. Thus far the cracks appear to be very shallow which indicates they were most likely caused by the hydro-demolition process and are not a structural flaw in the shield building. The plant is still investigating the cracks and will provide further information as the investigation progresses. DBNPS has brought in contract experts in concrete to aid in the investigation. The NRC has inspectors on site who are knowledgeable about concrete and they have been involved in the investigation as well.

On Oct. 25 Davis-Besse reported the fall water sample results for tritium and all of the samples are below the notification concentration of 2000 picocuries per liter (pCi/L). These samples were collected prior to the two releases of tritium contaminated water that occurred during the head replacement outage, but it is believed these releases were of such a small nature that they will not affect the results of future ground water sampling.

Perry Nuclear Power Plant

Perry started October at full power but the Unit 1 startup transformer had failed September 29 and at 1:00 a.m. October 2 the plant began a shut down due to technical specifications in the license. (Technical Specification 3.8.1.A.2 due to one of two required off-site power sources being inoperable.) Specifically the Unit 1 startup transformer faulted on September 29th and the problem has not been rectified within the time allotted by the plant's technical specifications. Perry will begin the process of investigating the transformer fault and repairing the equipment in question.

The transformer has extensive internal arcing and the plant is in the process of acquiring a replacement transformer from Davis-Besse Nuclear Power Station to replace the damaged unit. The new transformer will have to be modified before it can be used, and changes to the plant's procedures and documents will also be needed.

On October 17, 2011, the NRC approved an emergency, one-time Technical Specification amendment request to allow the licensee to operate for approximately 60 days with the startup transformer currently out-of-service, while another transformer is modified and installed. The NRC resident inspectors verified that the compensatory

actions specified in the Technical Specification amendment were implemented. Perry was restarted on October 19, 2011.

See Event Notification 47312.

Spill Report Number 1110-43-3373

On October 17, 2011, the Perry Nuclear Power Plant in Perry, Ohio, had a release of approximately 1,500 gallons of a fuel oil/gasoline mixture. The release occurred at the power plant in a fire department training area outside the restricted area of the plant. First Energy first reported the release on October 21, 2011 to the Ohio EPA hotline after the area where the release occurred was determined to be a wetlands by the company. The site was inspected by the Emergency Response Section on October 24, 2011, and at that time the amount of petroleum released was reduced to approximately 1,200 gallons by First Energy.

It was determined during the inspection that the petroleum was contained to property owned by First Energy, however, the fuel oil/gasoline mixture had entered both surface and ground waters on the property. Contractors were already at the site removing contaminated water and excavating trenches to contain the release. The company was issued a Notice of Violation on October 27, 2011, by the Emergency Response Section for a violation of Chapter 6111 of the Ohio Revised Code.

The Emergency Response Section will continue to work with the company and monitor the site during the removal of petroleum from surface and groundwater, and to prevent the petroleum from migrating offsite.

See Event Notification 47366.

Beaver Valley Power Station

Beaver Valley Unit I

Unit I operated at full power for October.

Beaver Valley Unit II

Unit II operated at full power for October.

Fermi II

Fermi II operated at full power for October.

On Thursday afternoon, Oct 27, a security officer shot himself in the foot while cleaning his weapon. See Event Report 47383.

Fermi III

The draft EIS for Unit 3 has been submitted and has no obvious concerns that would prevent construction. The plant proposed for construction is an economic simplified boiling water reactor (ESBWR) design by GE-Hitachi Nuclear Energy Americas LLC, which NRC approved in March.

Portsmouth Enrichment Plant

There were no reports for Portsmouth for October.

Activity

- 10/5 Working Group. Agency and facility updates. Ohio will host the E-341 ARAAC course in March 2012 for responders at the State and county EOCs.
- 10/11 URSB
- 10/17-10/21 IZRRAG Training and Drill. There were a series of training and drills testing the IZRRAG SOPs prepared earlier this year.
- 10/27 NEPAC – The plants and counties will not use stepoff pads at the decon centers. All three EOFs are under construction and should be done in spring 2012. A combined JIC should be functional by 2014. There was animated discussion of the FEMA REP manual and comments are being collected for submittal.
- 10/28 PERRY IPX tele-conference with FEMA – coordinating call with the state and federal counterparts for the Perry ingestion exercise.

Office Issues

SOP review and revision continues.

News, NRC Reports, and Statistics

Operating Power Levels

October

Date	BV1	BV2	DB	Perry	Fermi2
1	100	100	0	100	100
2	100	100	0	54	100
3	100	100	0	0	100
10	100	100	0	0	100
17	100	100	0	0	100
19	100	100	0	5	100
21	100	100	0	70	100
24	100	100	0	100	100
31	100	100	0	100	100

Perry shutting down for Tech Spec limit

Information Notices

The ADAMS Accession documents are publicly available and will be accessible via the public web site Electronic Reading Room in the Agency Document Access and Management System (ADAMS), <http://www.nrc.gov/reading-rm/adams.html> or to access generic communications files on the NRC Homepage: <http://www.nrc.gov/reading-rm/doc-collections/gen-comm/reg-issues/2010/>. To access these documents use the ADAMS Accession number listed with the title. This is in the format of : ML #####

DAVIS-BESSE: NRC SECURITY BASELINE INSPECTION REPORT
05000346/2011406(DRS) – Cover Letter Only
ADAMS Accession No. ML11264A083

Information Notice 2011-19, Licensee Event Reports Containing Information Pertaining to Defects to Basic Components
ADAMS No. ML111800524

Perry Nuclear Power Plant, Unit No. 1 - Issuance of Amendment re: Adoption of TSTF - 514, Revision 3, "Revise BWR Operability Requirements and Actions for RCS Leakage Instrumentation" –
ADAMS Accession no. ML112521122

DAVIS-BESSE 10/06/11 TIA VESSEL HEAD EVALUATION MEMO
ADAMS ACCESSION # ML11279A218

DAVIS-BESSE 2011-012 LR IR
ADAMS ACCESSION # ML11284A242

Davis-Besse Nuclear Power Station - NRC Material Control and Accounting Program Inspection Report 05000346/2011404(DRP) – OOU Cover Letter Only
Adams Accession No. ML112850180

Perry Information Request to Support Followup Inspection on Substantive Cross-Cutting Issue Resolution at Perry –

Adams Accession No. ML112850627

Davis-Besse: Request for Additional Information for the Review of the Davis-Besse Nuclear Power Station

ADAMS Accession No. ML11271A147

FERMI MOD 50.59 REQUEST FOR INFORMATION LETTER

ADAMS ACCESSION# ML11286A280.

PERRY NUCLEAR POWER PLANT READINESS FOR NRC HUMAN PERFORMANCE CORRECTIVE ACTION INSPECTION

ADAMS Accession Number ML11287A083

Perry Nuclear Power Plant, Unit No. 1 - Issuance of Emergency Amendment regarding use of a delayed circuit as a required offsite circuit in Technical Specification 3.8.1, "AC Sources - Operating" –

ADAMS Accession no. ML112860245

10/07/11 Summary of Meeting with Beyond Nuclear Regarding their 10 CFR 2.206 Petition to Suspend Operating Licenses of General Electric Mark I Boiling Water Reactors

Adams Accession No. ML11292A161

Fermi: MIP- FERMI 1 FY2012

ADAMS Accession No. ML11294A217

Forthcoming Meeting with Industry and Licensee Representatives Re: Transition of Non-Pilot Licensees to National Fire Protection Association Standard 805

ADAMS Accession No.: ML112901202

DAVIS-BESSE: EXPERIENCE REQUIREMENT WAIVER REQUEST FOR LICENSED OPERATOR APPLICANT

ADAMS Accession No. ML16298A298

Fermi Power Plant Unit 2 Integrated Inspection Report 05000341/2011004

Adams Accession # ML112991353

Beaver Valley Power Station, Unit Nos. 1 and 2 – Issuance of Amendments Regarding the Adoption of Technical Specifications Task Force Change Traveler-513, "Revise PWR [Pressurized-Water Reactor] Operability Requirements and Actions for Reactor Coolant System Leakage Instrumentation" (TAC Nos. ME6120 and ME6121)

ADAMS Accession No.: ML11284A187

Davis-Besse Nuclear Power Station Integrated Inspection Report 05000346/2011004
Adams Accession # ML112991544.

Announcement of Generic Fundamentals Examination 2012 Administration Dates
ADAMS ACCESSION NO. ML113000053

Beaver Valley Power Station: NRC Problem Identification and Resolution Inspection
Report

ADAMS Accession No: ML113000366

PERRY: NRC SECURITY BASELINE INSPECTION REPORT
05000440/2011406(DRS) – Cover Letter Only

ADAMS Accession No. ML11304A258

News

USEC will scale back Ohio project without DOE loan guarantee

Hannah Northey, E&E reporter

Published: Friday, September 30, 2011

The U.S. Enrichment Corp. said today it would wind down a proposed uranium enrichment facility in Ohio if the Energy Department refuses to authorize a \$2 billion federal loan guarantee.

Without the loan guarantee, Bethesda, Md.-based USEC said it would cut a third of its investments in the \$5 billion Piketon, Ohio, facility next month and direct contractors to suspend some work on the project.

USEC has sent warnings to 450 workers in Ohio, Tennessee and Maryland that layoffs could be coming and notified workers and contractors that the project could be demobilized on Nov. 1 if DOE fails to come through. The Ohio plant would be the first to use domestic gas centrifuge technology to produce low enriched uranium for nuclear reactors.

"Absent a conditional commitment by the end of October, layoffs of employees and further actions with suppliers are likely to occur," John Welch, USEC's president and CEO, said in a statement. "While challenges remain, we are working toward a conditional commitment that will meet DOE's requirements and enhance shareholder value while protecting the U.S. taxpayer."

USEC also negotiated another last-minute extension with investors today to back the project for another month.

Japan's Toshiba Corp. and Babcock & Wilcox Co. are giving USEC until Oct. 31 to secure the loan guarantee. The companies agreed last May to invest up to \$100 million each in the facility in phases if USEC secured a loan guarantee. The companies have

since pushed back the deadline and are again providing USEC more time before disbursing the second allotment of \$50 million ([Greenwire](#), July 1).

At issue is DOE's concern over USEC's ability to finance and operate the Ohio plant. Two years ago, the DOE asked USEC to withdraw its loan guarantee application because it was unclear whether the company had sufficient funds to finish building the plant or whether the technology was commercially ready ([Greenwire](#), Aug. 15). Paul Jacobson, a spokesman for USEC, said the company has satisfied some DOE concerns by getting investors more involved in the project. USEC, he said, is also considering structuring options.

Uncertainty over financing prompted USEC's board of directors this month to reduce the company's monthly expenditure of \$18 million for the project by about \$5.4 million. The company will continue to develop technology used in the centrifuge machines; it maintains the Ohio plant will be more energy efficient and cost-effective than technology currently used at its plant in Paducah, Ky.

Ohio lawmakers keen on creating jobs in their state say DOE's foot-dragging could jeopardize jobs the project would generate. USEC promises to create 8,000 jobs, including 4,000 in southern Ohio alone.

Sen. Rob Portman (R-Ohio) said in a statement today that USEC and its investors have answered a number of DOE information requests about shoring up private investments, improving project management and demonstrating the reliability of technology.

"The administration has continued to drag its feet on this pro-growth, pro-national security project for over three years, despite President Obama's campaign promise that he would get it done," Portman said. "I hope that the Obama Administration will realize the impact demobilization will have on Southern Ohio and on our national security and energy security needs and find a path to move forward with a conditional commitment as soon as possible."

Solyndra

Jacobson said the collapse of government loan-backed Solyndra LLC has only created more challenges for USEC.

"I would say it certainly hasn't helped, but DOE officials have said publicly that reaction to the Solyndra bankruptcy should not affect other loan guarantees," he said.

The USEC project differs starkly from the Solyndra venture because the Ohio plant has a number of outside investors and the uranium would be sent into a mature market, Jacobson said. USEC also is not competing with cheap, foreign competition like the Solyndra project, he said.

"Contracts for half of the output of the plant are already lined up; we've sold most of the output for 10 to 15 years under fixed commitment contracts with solid customers that would be in place by the time the loan guarantee [comes into effect]," he said. "Solyndra didn't have anything like that in their pipeline."

Source: <http://www.eenews.net/Greenwire/2011/09/30/2>

Uranium-enrichment plant in jeopardy

Saturday October 1, 2011 7:05 AM

By Jessica Wehrman

The Columbus Dispatch

WASHINGTON — A company that wants to build a uranium-enrichment plant in southern Ohio might abandon its plans because it has not received a federal loan guarantee.

USEC, based in Bethesda, Md., said yesterday that it will reduce its spending on the American Centrifuge Project in Piketon by 30 percent during the next month. It also will send out notices to its 450 employees in Ohio, Tennessee and Maryland that layoffs are possible if the company doesn't receive a loan guarantee within a month. The company employs 264 in Ohio.

But USEC did not abandon the project:

Company officials said USEC is continuing its investment in the Piketon plant and still hopes to receive a \$2 billion conditional loan guarantee commitment from the Department of Energy. The company applied for the loan guarantee three years ago. In a call with investors, USEC President and CEO John Welch said the company must see a loan guarantee in the next month or risk the end of the project. He said he believes the project is ready for commercial deployment.

"While challenges remain, I believe there is a path to obtain conditional commitment to a \$2 billion loan guarantee for the completion of the American Centrifuge," he said.

Counting contractors, 800 people now work on the project, Welch said.

He said the company expects October "to be a month of intense interaction" with the energy department in hopes of securing the loan guarantee, but unless the company receives a conditional commitment by the end of October, layoffs are "likely."

USEC officials say the project would bring some 4,000 jobs to Ohio if it becomes a reality. USEC currently operates a uranium-enrichment plant in Paducah, Ky., but hopes to phase out that plant, saying the technology they plan to use in Piketon is more energy-efficient and cost-effective. When completed, USEC hopes the American Centrifuge Plant would supply enriched uranium to nuclear power plants around the world.

USEC is also suspending a number of contracts with suppliers and contractors and is advising them that USEC might "demobilize" the project in November. The company had faced a Sept. 30 deadline with two investors — Toshiba America Nuclear Energy Corp. and Babcock & Wilcox Investment Co. — to receive the federal loan guarantee. The companies have promised to offer a combined \$50 million to support the project after USEC receives the loan guarantee, and, under an agreement among all three companies, had the option of walking away from the deal if USEC had not received a conditional loan guarantee by yesterday. The companies announced they will extend that deadline to Oct. 31.

In February, USEC also set a November deadline with the Department of Energy to secure financing for construction of the plant, meaning that unless the company updates that agreement, it will face two November deadlines that seemingly run counter to each other: one to secure financing and abide by the milestone agreement with the Department of Energy, and the other to receive the loan guarantee, which would help convince investors to finance the plant.

Paul Jacobson, a USEC spokesman, emphasized that the company is hoping to obtain the loan guarantee sometime in October.

Yesterday, an energy department spokesman said the agency continues to work with USEC. “The Department of Energy has been working closely with USEC as the company has continued to test and validate its innovative technology, obtain private financing and meet other benchmarks that would be required for a successful loan guarantee application,” spokesman Damien LaVera said. “We are strongly committed to developing effective, domestic nuclear enrichment capabilities and are looking at all options on a path forward.”

Geoffrey Sea, co-founder of the Southern Ohio Neighbors Group, said the project has always been “nonviable.”

“The American Centrifuge plant has become a Mexican standoff, with both USEC and DOE demanding that the other fork over billion-dollar commitments before Nov. 1, or else each side will shoot themselves,” he said. “Meanwhile, our community continues to bleed for want of jobs and development that aren’t fictional.”

Sen. Rob Portman, R-Ohio, said the company has “waited long enough” and criticized the Obama administration for not issuing the loan. “I’m frustrated by the inaction,” he said, adding that the company has answered every question asked of them.

Gov. John Kasich said he plans to send another letter to President Barack Obama with a fundamental message: “Look, we’re running out of time.” He said he’s talked to Obama and other members of the administration to express his support for the project. “It would be tragic if we lost this, because it is absolutely the right thing for the country,” he said. “And it’s obviously the right thing for Ohio.”

Sen. Sherrod Brown, D-Ohio, also urged the administration to act and said he would continue to back the project.

“This is about creating jobs, strengthening the local economy, and improving our nation’s economic competitiveness and our energy independence,” he said.

Sheri Anderson, a USEC employee from Portsmouth, said workers were disheartened by the news. “We’re all a bit frustrated,” she said. “We all have such great faith in this project. We really want to see this go through.” She lives in a part of Ohio with double-digit unemployment — the highest unemployment in the state.

Without USEC, she said, there are few opportunities.

“Where’s the faith in us? Where’s our chance?” she asked. “We want a chance to get this project off the ground.”

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NRC chief calls for quick safety upgrades; industry urges caution

Hannah Northey, E&E reporter

Published: Tuesday, October 11, 2011

The chairman of the Nuclear Regulatory Commission today said the agency should quickly upgrade safety requirements for U.S. nuclear plants.

NRC has acted too slowly in implementing complex safety regulations in the past and should not take more than 15 years to improve safety rules for nuclear plants following Japan's nuclear crisis, NRC Chairman Gregory Jaczko said during an agency hearing today. Other NRC commissioners rebuffed Jaczko's call earlier this year to make all safety changes by 2016.

"Fifteen years from now, if we're still dealing with post-Fukushima, that's not where anybody needs to be," Jaczko said. "If we do this the way we've always done, we won't get it done in a reasonable amount of time."

The five-member panel heard from environmental groups, industry representatives and other federal agencies today on how to ensure that plants can withstand extended power outages, earthquakes, floods and accidents involving multiple reactors at one site.

The agency is considering a dozen safety recommendations from an internal task force that reviewed the March 11 earthquake and tsunami that struck Japan's Fukushima Daiichi nuclear plant, triggering explosions, radioactive leaks and evacuations.

At the agency's request, NRC staff released a report last week that prioritized the task force safety proposals. NRC staff supported a majority of the task force recommendations but emphasized the urgency for installing instrumentation on spent fuel pools and ordering operators to harden reactor vents on Mark II reactors ([E&ENews PM](#), Oct. 5).

The commission should view safety upgrades in a short-term context to keep pace with plant retirements and relicensing procedures, Jaczko said. It is not clear when the commission will vote on the staff's proposals, but today's discussion will inform the voting process, he said.

Jaczko said a rulemaking to ensure plants can withstand widespread power loss -- also known as "station blackout" -- should not take an extensive amount of time to craft and implement. Officials are essentially considering extending the amount of backup batteries nuclear plants must have in case of emergencies and increasing the facilities' coping time, Jaczko said. NRC could easily gather experts to compile a rule and put it in place, he added.

Christopher Paine, director of the Natural Resources Defense Council's nuclear program, agreed with the chairman and said NRC should move through the safety upgrades quickly. Paine said the staff's recommendations for dealing with flooding and seismic inspections seem "needlessly bureaucratic, time-consuming and cumbersome," with multiple requests for studies and staff review before changes are made.

NRC staff said the agency should expedite a rule to ensure plants can handle extended loss of power, a problem that plagued the Fukushima plant and hampered its ability to continue cooling overheating reactors. But Paine criticized the staff for giving the agency more than four years to develop and issue a final rule to address the issue.

"The staff proposal means that improved protections against [station blackout] would not be in place until the first quarter of 2016 at the earliest, and probably much longer," Paine said. "NRDC finds this delay to be unacceptable, and indicative of a continuing commission mindset that the worst case simply cannot happen in the United States."

The agency should also take note of what other countries have done to make their nuclear fleets safer, Paine said. "Sometimes it seems like NRC exists in a vacuum and doesn't care that countries have done this," he said.

But Charles "Chip" Pardee, chief operating officer of Exelon Generation, the largest U.S. reactor operator, said the agency needs to exercise caution and ensure that any safety upgrades are focused and prevent unintended consequences. Pardee said he saw no reason the station blackout rule couldn't be crafted within five years, and that the pace of such changes depends on what upgrades are required for existing systems.

The industry supports the thrust of the NRC staff's near-term proposals, Pardee said. Even so, officials with the Nuclear Energy Institute have questioned whether some proposed changes are justified as safety-related measures ([ClimateWire](#), Oct. 6). Ed Lyman, senior staff scientist with the Union of Concerned Scientists, applauded the NRC staff for recommending re-examining the technical basis for the current 10-mile emergency planning zone, which UCS has determined is an arbitrary and inadequate limit for many reactor locations.

Source: <http://www.eenews.net/Greenwire/2011/10/11/4>

NRC, FirstEnergy concerned about a crack in Davis-Besse's outer containment building

Published: Wednesday, October 12, 2011, 8:07 PM Updated: Thursday, October 13, 2011, 5:36 AM

By **John Funk, The Plain Dealer**

Contractors preparing the **Davis-Besse** nuclear reactor for a new lid have encountered a problem that could keep the power plant idled longer than expected.

Plant owner FirstEnergy Corp. shut down the Oak Harbor plant near Toledo almost two weeks ago in order to install a new, upgraded reactor lid, equipped with components more resistant to the heat and stress cracking that have plagued Davis-Besse in the last decade. Replacing the lid was supposed to take about two months. At this point, work is on schedule.

The new and potentially big problem is a tiny crack - what a spokesman called a "barely visible indication" of a crack - running some 30 feet vertically in the reinforced concrete of the outer shell of the reactor's containment building.

That huge structure, which the industry calls a "shield building," is 2 1/2 feet thick, made of "nuclear grade" concrete and packed with reinforcing steel bars. The building's job is to protect the reactor from anything striking it from outside - anything from tornado debris to a terrorist in an aircraft.

That's why cracks in the concrete could be a problem.

The building surrounds a 1 1/2-inch-thick steel containment building, which is designed to contain any high-pressure radioactive emissions in the event of a nuclear accident and is considered the true "pressure barrier" by federal regulators and the industry.

To replace the reactor lid, the company hired expert contractors Bechtel and Sargent & Lundy to cut a 33-foot by 22-foot hole in the concrete shield building and the steel containment building inside of it.

After the hole was completed in the concrete building, engineers earlier this week spotted the internal crack, visible on one edge of the new hole, FirstEnergy spokesman Todd Schneider said.

The company brought in additional consulting engineering experts in an effort to figure out the significance of the crack, whether the cutting created it or whether it was inside the concrete before the project began.

And the Nuclear Regulatory Commission sent its own concrete expert to assist the NRC inspectors already at the plant.

The significance of the crack is not clear at this point, NRC spokeswoman Viktoria Mytling said. "We will review what the company and its engineers find, and we are doing

our own independent assessment," she said. "We will have to resolve this issue before they re-start the reactor."

The steel building has not been cut open, Schneider said. "Right now we are conducting an investigation of the [crack] issue with several experts from nationally known engineering firms," he said. "We may not need to take any further action. Or we will develop a plan to address the issue."

Schneider added that so far the issue has not disrupted the work schedule for the lid replacement. Crews inside the containment vessel were continuing to off-load fuel from the reactor and preparing to remove the old lid, he said.

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FirstEnergy, NRC inspect possible cracks at Ohio plant

Hannah Northey, E&E reporter

Published: Friday, October 14, 2011

Federal regulators and FirstEnergy Corp. are inspecting indications of a hairline crack in the protective concrete outer shell of the Davis-Besse nuclear plant in Ohio.

Contractors working at the plant on Monday discovered what could be a 30-foot-long crack as they were cutting a hole into the shield building to install a new reactor vessel head, said Jennifer Young, a spokeswoman for FirstEnergy.

The "crack-like indications" were found 6 inches inside the wall, which is more than 2 feet thick and made of concrete and reinforcing steel to protect the plant from tornadoes and other external hazards, she said.

The 900-megawatt plant sits on the shores of Lake Erie about 20 miles east of Toledo, Ohio, and has been shut down since Oct. 1 to put in the new reactor head, Young said. FirstEnergy hired engineering firms Bechtel and Sargent & Lundy to determine whether a crack exists, and the companies are expected to release the results of their review today, Young said.

"They would let us know if there was a crack that we need to be concerned about, if there's something that impacts structural integrity, the cause of the crack and actions we might need to take to resolve it," she said. Young said it's too soon to tell how long the plant will stay shuttered but said the structure does not pose a safety hazard to the plant or to the public.

The Nuclear Regulatory Commission sent concrete experts to the plant this week to conduct a separate, independent inspection and to oversee FirstEnergy's review, said Prema Chandrathil, a spokeswoman for the agency. There is no significant safety concern right now because the plant is shut down and contains no fuel, she said.

"But we want to understand the genesis of this and what the impact is on the structure," Chandrathil said.

She could not say what the utility would be required to do if a crack was confirmed. FirstEnergy is in the process of replacing the nuclear plant's reactor head because it was found to be corroding, Chandrathil said.

The company was scheduled to replace the vessel head in 2014 but decided to expedite the process after some deterioration of the current head was found last year during a fueling outage, Young said.

The new reactor head will be less susceptible to corrosion and will be better suited to handle the high temperatures and pressures at which the plant operates, Young added. Safety concerns surrounding the reactor vessel head have surfaced at the Davis-Besse plant in past years.

In 2002, investigators discovered that acid in cooling water ate a hole into the plant's 6-inch-thick nuclear reactor lid ([Greenwire](#), Jan. 20). The NRC later said the plant was allowed to continue operating even though the agency had ordered the company to shut the plant down.

The plant was shut down from 2002 to 2004, and FirstEnergy later agreed to pay \$28 million to settle charges that it covered up the safety violations.

Source: <http://www.eenews.net/Greenwire/2011/10/14/10>

Davis Besse crack not immediate threat, NRC says

Monday, October 24, 2011

By DAVID PATCH

BLADE STAFF WRITER

The 30-foot, hairline crack discovered last week in the concrete exterior of the reactor building at FirstEnergy Corp.'s Davis-Besse nuclear plant is in "non-structural, architectural" concrete and poses no "immediate safety concern," according to a preliminary report issued Friday by the Nuclear Regulatory Commission.

But should further investigation reveal "any challenges to the design function of the shield building," the Preliminary Notification of Event or Unusual Occurrence states, "they will have to be resolved before the plant restarts."

Jennifer Young, a FirstEnergy spokesman, said such further investigation is under way. "The team is taking additional concrete samples in the area of the micro-crack indication and utilizing electronic testing to determine the depth of the indication," she said in a prepared statement. But the only crack discovered so far is in a "decorative architectural façade section of the building, which extends 18 inches from the main cylindrical portion of the building, giving it a scalloped look rather than a flat, round appearance."

That decorative façade is in addition to the 2-1/2 feet of reinforced concrete that surrounds the reactor's steel containment building, said Prema Chandrathil, an NRC spokesman in Chicago.

So far, Ms. Chandrathil said, there is no evidence of any trouble with that structural concrete, described variously as the Shield Building — to protect the steel building from outside forces — or as an outer containment building to back up the steel structure. "We have to understand how this happened and the full extent of it," she said. "At this point it appears to be in the architectural concrete."

The tiny crack was discovered after a FirstEnergy contractor cut a hole Oct. 10 in the Shield Building through which a replacement head for the plant's reactor is to be installed during a planned shutdown that began Oct. 1. A matching hole also must be cut in the steel containment structure, 1-1/2 inches thick, to pass the new reactor head through.

Dave Lochbaum, director of the Nuclear Safety Project at the Union of Concerned Scientists, said he thought it odd that the access hole for installing the new reactor head would go through an area with decorative concrete, unless there was no alternative, but approved of how the problem is being handled. "They have to see if this is the only

crack, or if it is the tip of the iceberg," Mr. Lochbaum said Friday. "They're right to do their homework."

Several anti-nuclear protesters had said, during a news conference Wednesday morning outside FirstEnergy's Toledo Edison offices in Levis Square, that the cracked concrete was only the latest black mark to add to Davis-Besse's record and further reason not to renew its license beyond an initial 40-year period that expires in 2017. Attorney Terry Lodge said, in particular, that repairing the Davis-Besse crack could lead down the same road followed by a cracking problem at the Crystal River nuclear plant in Florida.

But Mr. Lochbaum agreed with FirstEnergy's assertion that the Crystal River comparison is not apt. "The design is different from Crystal River, and the crack consequences appear to be different," he said.

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The Toledo Times ®

DOE plans research with USEC at Centrifuge facility

by LISA CORNWELL/Associated Press

1 day 23 hrs ago

The Department of Energy said Friday that it plans to work with USEC Inc. on research and development to reduce technical and financial risks that have held up the developer's application for a \$2 billion loan guarantee.

The loan guarantee application from USEC is still pending. But, the government and the Bethesda, Md.-based developer of the planned American Centrifuge Plant in Piketon have agreed on a potential project that would involve testing and building clusters of machines used to enrich uranium, Richard Kauffman, senior adviser to the Energy secretary, said Friday.

"We want to be able to demonstrate that the technology would work on a commercial basis," Kauffman said.

He said if that can be done, it also would be easier for the company to get contracts and attract other investors.

"DOE, USEC and our partners remain supportive of a path to commercializing the American Centrifuge and believe additional work demonstrating this innovative technology would be beneficial to the project," John Welch, president and chief executive of USEC, said in a statement. "This preserves a path for USEC and our shareholders to obtain value from the investment they have made."

The government's part of the funding of the research and development would be capped at \$300 million and would have to be approved by congressional committees. The department says it intends to ask for approval to use existing DOE funds for the first \$150 million needed for the first phase of the research program. USEC and its partners would pay for 20 percent of the program through a technical verification phase involving the construction of the cascade or initial cluster of centrifuges and 80 percent of the phase that would involve building remaining clusters into a train of multiple clusters.

"When you bring something innovative to the market and are building a factory you want to be sure everything will work on a consistent and practical basis, Kauffman said. He said it is in the government's interest to have a domestic producer of enriched uranium because nuclear power is an important part of the U.S. fuel supply, representing about 20 percent of the power produced.

The plant to be built in Piketon, about 65 miles south of Columbus, would be at the site of a former gaseous diffusion plant that enriched uranium during the Cold War. It would produce enriched uranium for use in generating electricity at nuclear power plants. Read more: Portsmouth Daily Times - DOE plans research with USEC at Centrifuge facility

Feds offer a kick-start for USEC plant

No guarantee, but help with R&D

By Jessica Wehrman

The Columbus Dispatch

Saturday October 22, 2011 6:02 AM

WASHINGTON — The federal government threw a lifeline yesterday to a Maryland-based company that wants to build a uranium-enrichment plant in southern Ohio, offering to help on research and development in an effort to move the project forward. USEC, which hopes to produce enriched uranium in Piketon, applied three years ago for a \$2 billion federal loan guarantee. In late September, the company announced that it might have to lay off workers and reduce spending on the project if it didn't receive one by the end of this month.

Yesterday's news wasn't the approval company officials had hoped for, they acknowledged. But they said it could help the Department of Energy satisfy any remaining concerns about the project's technical viability and, hopefully, bring the company closer to the much-needed loan guarantee.

Under the agreement, the Department of Energy will request a transfer of \$150 million in existing funds to pay for a research-and-development project at the plant.

The federal government would pay for 80 percent of the project through the initial phases, and 20 percent in the build-out phase. The federal government would pay no more than \$300 million during the course of the project.

"This preserves a path for USEC and our shareholders to obtain value from the investment they have made in the American Centrifuge project," said John Welch, company president and CEO.

Department of Energy spokesman Damien LaVera said that although the agency has not decided on the loan guarantee, "DOE and USEC remain supportive of a path to commercializing this innovative technology."

"However, DOE and USEC both believe additional work demonstrating the technology would benefit the project by reducing technical and financial risks associated with the project," he said.

LaVera said the joint project would involve building more production-design machines on a path toward one "train" of 720 centrifuges. Key systems could then be tested as they would operate on the scale necessary for full commercialization.

USEC spokesman Paul Jacobson said it's unclear how the news will affect the potential for layoffs.

"We very much recognize the issue of potential job loss is still out there and needs to be addressed," he said.

A spokesman for Gov. John Kasich called the news "an encouraging interim step."

"The governor's goal is to see Piketon get the federal loan guarantee it needs to build out the next generation of enrichment technology and reinvigorate southern Ohio's economy," said Scott Milburn.

Sen. Sherrod Brown, D-Ohio, said the move would help satisfy any technical concerns the Department of Energy might have. "It's a very positive step," he said.

But Sen. Rob Portman, R-Ohio, said that although the news appears good, the company will still need a conditional loan for the project to succeed.

"The workers supporting this important national-security and energy-security project deserve certainty after waiting for more than three years for a final decision," he said, adding that he has requested a meeting next week with Energy Secretary Steven Chu in an effort to "find a path forward."

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Draft EIS finds no concerns for proposed Mich. reactor

Hannah Northey, E&E reporter

Published: Monday, October 31, 2011

A federal draft environmental assessment released Friday shows no concerns that would prevent Detroit Edison from being licensed to build a new reactor in Monroe County, Mich.

The Nuclear Regulatory Commission is now collecting public comments on the draft environmental impact statement for the project proposed about 30 miles southwest of Detroit.

Detroit Edison, a subsidiary of DTE Energy Co., is weighing whether to proceed with its planned Fermi 3 reactor, which would cost between \$8.5 billion and \$10 billion, DTE spokesman Scott Simons said.

The utility applied for a license in 2008 to build and operate the reactor next to Fermi 2, an existing reactor.

A third experimental breeder reactor at the site was decommissioned years ago, Simons said.

The Fermi 3 would use an economic simplified boiling water reactor (ESBWR) design by GE-Hitachi Nuclear Energy Americas LLC, which NRC approved in March ([ClimateWire](#), March 10).

NRC staff is working on a final certification rule package for the reactor design, and the commission will likely propose a final rule on the design early next year, agency spokesman Scott Burnell said.

The commission is also in the process of finalizing a rule for Westinghouse Electric Co.'s Advanced Passive 1000 reactor design, which is tied to a number of proposed plants throughout the United States ([Greenwire](#), Sept. 28).

NRC staff issued a proposed final AP1000 rule to the commission last week and the agency is expected to have a final decision around the end of the year, Burnell said.

Source: <http://www.eenews.net/Greenwire/2011/10/31/14>

Lack of central planning hinders Japan cleanup

Published: Monday, October 31, 2011

Japan is still figuring out how to clean up radioactive material scattered by the Fukushima Daiichi nuclear accident, and government guidelines for the \$14 billion cleanup effort are still rudimentary.

Cities across Fukushima prefecture are removing contaminated topsoil, but the government has not yet figured out a landfill to store the material. Residents often hose off sidewalks when measured radiation levels are high, but they are likely just washing it off into the sewer system. "Everybody is groping in the dark," said resident Hiroto Nishimaki.

The absence of a coordinated cleanup plan suggests weak decisionmaking at the center, which has been responding slowly to the disaster since it happened in March. Immediately after the incident, officials delayed the evacuation of residents, did not distribute iodine pills to protect against thyroid cancer and said vegetables were safe for consumption without testing.

Cleanup efforts are important because they will determine how long radioactivity stays in the environment and how far it spreads.

Science is not clear either about the health effects of low doses of radiation. There is no clarity about the level at which radiation becomes deadly.

Japan's environment ministry will take over the cleanup in January but concedes that it does not have experience in this area. Typically such large-scale cleanups take decades; radiation is still detected in the vicinity of Chernobyl, Ukraine (Yumiko Ono, [Wall Street Journal](#), Oct. 31). -- **GV**

Source: <http://www.eenews.net/Greenwire/2011/10/31/28>

U.S. aid may be too late for USEC plant

Spending needs Congress OK before approaching deadline

By Jessica Wehrman

The Columbus Dispatch

Saturday October 29, 2011 8:31 AM

WASHINGTON — A week after the U.S. Department of Energy announced that it will invest millions of dollars in a proposed uranium-enrichment plant in Piketon, Ohio, supporters of the plant wonder whether the move is too little, too late.

It's the latest chapter in a three-year quest by Maryland based USEC to secure a \$2 billion federal loan guarantee to build its American Centrifuge Project in the southern Ohio community.

Last week, the Energy Department announced that although it had not yet approved the loan guarantee, it had decided to foot the bill for up to \$300 million in research and development funding for the plant. Department officials said at the time that they hoped the funding would help resolve the technical and financial concerns that have stalled the project's loan guarantee application. They also emphasized that they support the technology and would like to see it commercialized.

The catch: The department will need congressional approval to spend the money, and time is running out. USEC plans to send out layoff notices and reduce investment in the plant by 30 percent if it doesn't receive the loan guarantee by Tuesday.

Another catch: USEC and the department announced this year that they had reached an agreement to set a November 2011 deadline for USEC to secure funding for the project, which would be located on a former Department of Energy site.

“This is a game of chicken,” said Geoffrey Sea of the Southern Ohio Neighbors Group, an organization that has been highly critical of the proposed enrichment plant. “Nobody wants to be the bad guy. This is a game of waiting to see who will terminate this project first.”

Energy Secretary Steven Chu acknowledged that congressional approval was “uncertain” in a letter to USEC CEO John Welch dated Thursday. “Congressional approval of that request on an expeditious basis is critical to continuing work at (the American Centrifuge Project), and is needed to provide the level of funding required to begin the full program of work we have been discussing,” Chu wrote.

Welch initially asked Chu to approve some of the money through an administrative action, bypassing what could be a lengthy congressional-approval process. In his letter to Welch, Chu quashed that idea.

By offering a loan guarantee to USEC, the federal government would promise to cover the borrower’s debt in the event of a default. The federal government shares the financial risks of projects employing new technologies. Congress has authorized and appropriated money for the loan-guarantee program, but the overall federal program has taken heat in recent days because of a loan guarantee issued for Solyndra, a California solar-energy company that later went bankrupt.

The department’s request for money for research and development essentially put the ball in Congress’ court. Frustrated lawmakers say it adds an extra step to a process that should be finished.

Rep. Jean Schmidt, R-Loveland, whose district includes Piketon, expressed her frustration in a letter to Chu dated Thursday.

“We are shocked by DOE’s inaction on USEC’s pending loan guarantee for the American Centrifuge Project,” she wrote in the letter, co-signed by Reps. Bill Johnson, R-Marietta; Steve Austria, R-Beavercreek; Steve Stivers, R-Upper Arlington; and Bob Gibbs, R-Lakeville.

“After three years, hundreds of thousands of machine run time and two independent analyses that say the technology is commercially viable, why is the \$300 million ... program approach better than a conditional commitment?”

A spokesman for Sen. Rob Portman, R-Ohio, meanwhile, said the wait has already gone on too long.

Jeff Albrecht, a Portsmouth businessman who has supported the project, said he believes “that chances are very slim that this is going to work out for USEC.”

The Energy Department “won’t give a conditional loan guarantee because they think it’s too risky for taxpayers, but yet they’re going to Congress saying, „Let’s give them \$300 million in cash instead,“ ” he said.

Sea said that although he opposes this project, he wants to see the site developed.

“This community was promised an active development with jobs,” he said. “We were promised that years ago, and that clearly is not happening now. So they are holding — and by „they,“ I mean USEC and DOE — are holding this federal site hostage.”

jwehrman@dispatch.com

Plant Reports

Non-Agreement State	Event Number: 47309
Rep Org: UNITED STATES AIR FORCE Licensee: UNITED STATES AIR FORCE Region: 3 City: DAYTON State: OH County: License #: 42-23539-01AF Agreement: Y Docket: NRC Notified By: LT. COL. DAVID SMITH HQ OPS Officer: HOWIE CROUCH	Notification Date: 09/30/2011 Notification Time: 15:46 [ET] Event Date: 09/30/2011 Event Time: 14:20 [EDT] Last Update Date: 09/30/2011
Emergency Class: NON EMERGENCY 10 CFR Section: 20.2201(a)(1)(i) - LOST/STOLEN LNM>1000X	Person (Organization): MONTE PHILLIPS (R3DO) GREG PICK (R4DO) DUNCAN WHITE (FSME) ILTAB VIA EMAIL ()

This material event contains a "Less than Cat 3" level of radioactive material.

Event Text

LOST AMERICIUM-241 SOURCE

During a visual inspection of a source storage area at the Wright-Patterson AFB, 88th Medical Group, the licensee was unable to locate a 12 mCi Am-241 source. A rad survey was conducted but the source was not located. A search of the nuclear medicine area was performed with negative results.

The source was last leak tested in July, 2002, then placed in storage. The last visual inspection where the source was identified was performed in September, 2009. The source was slated for disposal. The licensee is searching through their records to determine if the source, in fact, was sent to a disposal facility.

The licensee notified Jackie Cook, R4DNMS.

THIS MATERIAL EVENT CONTAINS A "LESS THAN CAT 3" LEVEL OF RADIOACTIVE MATERIAL

Sources that are "Less than IAEA Category 3 sources," are either sources that are

very unlikely to cause permanent injury to individuals or contain a very small amount of radioactive material that would not cause any permanent injury. Some of these sources, such as moisture density gauges or thickness gauges that are Category 4, the amount of unshielded radioactive material, if not safely managed or securely protected, could possibly - although it is unlikely - temporarily injure someone who handled it or were otherwise in contact with it, or who were close to it for a period of many weeks. For additional information go to http://www-pub.iaea.org/MTCD/publications/PDF/Pub1227_web.pdf

Power Reactor	Event Number: 47312
Facility: PERRY Region: 3 State: OH Unit: [1] [] [] RX Type: [1] GE-6 NRC Notified By: JAMES PRY HQ OPS Officer: STEVE SANDIN	Notification Date: 10/02/2011 Notification Time: 01:06 [ET] Event Date: 10/02/2011 Event Time: 01:00 [EDT] Last Update Date: 10/02/2011
Emergency Class: NON EMERGENCY 10 CFR Section: 50.72(b)(2)(i) - PLANT S/D REQD BY TS	Person (Organization): MONTE PHILLIPS (R3DO)

Unit	SCRAM Code	RX CRIT	Initial PWR	Initial RX Mode	Current PWR	Current RX Mode
1	N	Y	100	Power Operation	98	Power Operation

Event Text

SHUTDOWN REQUIRED BY TECHNICAL SPECIFICATIONS DUE TO TRANSFORMER FAULT

"This event is being reported in accordance with 10CFR50.72(b)(2)(i). On October 2, 2011, at approximately 0100 hours [EDT], the Perry Nuclear Power Plant commenced a controlled plant shutdown. The shutdown was due to the anticipated investigation and expected repair time of the Unit 1 startup transformer exceeding the Technical Specification (TS) Required Action completion time.

"On September 29, 2011, at 0529 hours [EDT] the Unit 1 startup transformer failed due to an internal fault, which required entry into TS 3.8.1 Action A.2 for one required offsite circuit inoperable. The determination has been made that the required action, which is to restore the required offsite circuit to OPERABLE status, cannot be met by the required completion time and a plant shutdown is being initiated.

"The NRC Resident Inspector has been notified."

The licensee expects to have the Unit offline between 1300-1400 hours [EDT] and plans to issue a press release.

Power Reactor	Event Number: 47366
Facility: PERRY Region: 3 State: OH Unit: [1] [] [] RX Type: [1] GE-6 NRC Notified By: DAVID STANLEY HQ OPS Officer: VINCE KLCO	Notification Date: 10/21/2011 Notification Time: 20:25 [ET] Event Date: 10/21/2011 Event Time: 17:20 [EDT] Last Update Date: 10/21/2011
Emergency Class: NON EMERGENCY 10 CFR Section: 50.72(b)(2)(xi) - OFFSITE NOTIFICATION OTHER UNSPEC REQMNT	Person (Organization): DAVID HILLS (R3DO)

Unit	SCRAM Code	RX CRIT	Initial PWR	Initial RX Mode	Current PWR	Current RX Mode
1	N	Y	100	Power Operation	100	Power Operation

Event Text

OFFSITE NOTIFICATION DUE TO FUEL OIL SPILL

"This event is being reported in accordance with 10CFR50.72(b)(2)(xi). On October 21, 2011, at approximately 1723 hours EDT, notification of a fuel oil spill was made to the US Environmental Protection Agency (EPA), National Response Center. At the time of the event, the plant was in Mode 1 at 100 percent rated thermal power. The fuel oil spill was caused by a leak in an underground pipe outside the protected area, but inside the owner controlled area. The spill is estimated between 1000 to 1500 gallons and is contained onsite. However, a certified wetlands specialist was contacted and determined the area met the criteria for wetlands designation, which in turn made the event reportable. Clean Harbors Incorporated is assisting with the onsite clean-up and remediation.

"Additionally, the Ohio EPA: State Emergency Response Commission, Perry Township Fire Department, Lake County Emergency Planning Committee, and the U.S. Coast Guard were notified in accordance with plant procedures. This event is also being reported in accordance with the plant's Operating License, Appendix B, Environmental Protection Plan, which states, in part, that any occurrence of an unusual or important event that indicates or could result in significant environmental impact causally related to plant operation shall be recorded and reported to the NRC within 24 hours followed by a written report."

The licensee notified the NRC Resident Inspector.

Power Reactor	Event Number: 47383
Facility: FERMI Region: 3 State: MI Unit: [2] [] [] RX Type: [2] GE-4 NRC Notified By: JEFF GROFF HQ OPS Officer: JOE O'HARA	Notification Date: 10/27/2011 Notification Time: 19:08 [ET] Event Date: 10/27/2011 Event Time: 17:15 [EDT] Last Update Date: 10/27/2011
Emergency Class: NON EMERGENCY 10 CFR Section: 50.72(b)(2)(xi) - OFFSITE NOTIFICATION	Person (Organization): PATTY PELKE (R3DO)

Unit	SCRAM Code	RX CRIT	Initial PWR	Initial RX Mode	Current PWR	Current RX Mode
2	N	Y	100	Power Operation	100	Power Operation

Event Text

ACCIDENTAL DISCHARGE OF FIREARM

"At approximately 1715 EDT on 10/27/11, a Security Officer accidentally discharged his weapon and wounded himself in the foot. An ambulance and Monroe County Sheriff reported to the site. The officer was transported offsite to a local hospital. This is being reported under 10CFR50.72(b)(2)(xi)."

The officer was clearing his weapon following his shift when the accident occurred. No other individuals were hurt.

The NRC Resident Inspector has been notified.
