

To: Jim Mehl, ERSIS Manager
From: Zack Clayton, Rad Coordinator
Subject: August Monthly Report
Date: September 9, 2016

Beans

Training: 0
Drills: 1
Meetings: 4
Technical Assistance: 3
Public Assistance: 0

Web Page Views: There were 29 page views in August.

Radiological Safety Program Pages: <http://epa.ohio.gov/derr/ersis/er/rad.aspx>

Coming Attractions

9/7 IREP Power Plant Group
9/13 Perry evaluated exercise
9/14 IREP full committee
10/4 Ingestion Sampling Training
10/11 URSB
10/12 IREP Tech Group
10/27 NEPAC

Facility updates

Davis-Besse Nuclear Power Station

Davis Besse operated at full power for August

Three of seven wells sampled show tritium above 2,000 pCi/L. With the exception of one well (MW-30S), results continue to show a decline in tritium across the site. The highest Tritium level measured was 3600 pCi/l. Most reading were below the 2000 pCi/l that FENOC has agreed to report. The MCL for Tritium in drinking water is 20,000 pCi/l. The next samples will be taken in October.

Perry Nuclear Power Plant

Perry operated at full power for August

Beaver Valley Power Station

Beaver Valley Unit I

Unit I operated at full power for the month.

Beaver Valley Unit II

Unit II operated at full power for the month.

DTE

Fermi II

Fermi II operated at full power until August 26. It did not return to full power in August.

On August 2,, the Technical Specification (TS) for the secondary containment pressure boundary was not met for a duration time of approximately 1 second. See Event 52146.

Also on August 2, Fermi 2 discovered a sanitary sewer system leak from underground lines beneath the parking lot near Warehouse B. Some of the sewage has entered the storm drain system. Since these reports are in the process of being made, this is considered a News Release or Notification to Other Government Agencies, therefore this event is reportable under 10 CFR 50.72(b)(2)(xi). See Event 52149.

On August 25, 2016, it was determined that a Mechanical Draft Cooling Tower (MDCT) fan should be declared inoperable if its associated fan brake is nonfunctional. The MDCT fan brake is required to prevent fan over speed from a design basis tornado. See Event 52202.

On August 27, 2016, a severe thunderstorm occurred in Monroe County, including the Fermi 2 site. Due to high winds encountered during the thunderstorm, the Technical Specification (TS) for secondary containment pressure boundary was not met numerous times. The duration of time that the secondary containment Technical Specification was not met was approximately 1 second for each event. See Event 52205.

Fermi III

There was no activity reported for Fermi III

Portsmouth Enrichment Plant

There was no activity reported for the Portsmouth site.

Other Sites

Activity

- 8/4 IREP Power Plant – A review of plant status and Preparation for the Perry Dry Run exercise. Midas Training was also discussed.
- 8/17 Perry Dry Run – This went fairly well for field teams. There was a disconnect with the Plant and state Dose assessment projections that turned out to be due to a (State) unrecognized filtered pathway. As a result the State projections were high. Kurt Kollar in the County EOC recognized this and communicated with the State EOC to resolve the issue.
- 8/25 IREP Tech Group – This was a catch up meeting since the prior two were canceled due to the preparation for the RNC activation. The Docusign demonstration was discussed and we agreed that it would serve our purposes for sample submission. DAS is looking at implementing a electronic document process statewide which would supersede this so the evaluation has been shelved.
- 8/29 Ingestion Sampling Training for October 4 – Agriculture, ODH, EPA and OEMA are planning a background sampling mission in Columbiana County for the ingestion training required by REP plan. The teams will also be testing Rad Responder procedures for use by Ohio.

Office Issues

Reviewed the Lucky Beryllium FUSRAP Site Remediation Radiation Protection Plan for Brian Patterson, DERR.

Statistics, NRC Reports, News, and ADAMS References

Operating Power Levels

August

Date	BV1	BV2	DB	Perry	Fermi2
1	100	100	100	100	100

8	100	100	100	100	100
15	100	100	100	100	100
22	100	100	100	100	100
26	100	100	100	100	53
29	99	100	100	96	52
31	100	100	100	100	66

Event Reports

Power Reactor	Event Number: 52132
Facility: BEAVER VALLEY Region: 1 State: PA Unit: [] [2] [] RX Type: [1] W-3-LP,[2] W-3-LP NRC Notified By: KEN TIEFENTHAL HQ OPS Officer: MARK ABRAMOVITZ	Notification Date: 07/29/2016 Notification Time: 01:51 [ET] Event Date: 07/28/2016 Event Time: 21:20 [EDT] Last Update Date: 07/29/2016
Emergency Class: NON EMERGENCY 10 CFR Section: 50.72(b)(3)(ii)(B) - UNANALYZED CONDITION	Person (Organization): BLAKE WELLING (R1DO)

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

POSTULATED FIRE EVENT THAT COULD ADVERSELY IMPACT SAFE SHUTDOWN EQUIPMENT

"A review of the Beaver Valley Unit 2 Fire Protection Safe Shutdown Report (FPSSR) found that a postulated fire had the potential to spuriously open all three individual steam generator atmospheric dump valves in addition to a common residual heat release valve. Previous analysis did not consider all of the valves spuriously opening from a fire. The potential impact of these valves spuriously opening is a cooldown that could adversely affect shutdown margin.

"Hourly fire tours have been put in place for those fire areas that have the potential to initiate this condition.

"This condition is reportable as an 8 hour report in accordance with 10 CFR 50.72(b)(3)(ii)(B).

"The NRC Resident Inspector was notified."

This condition is not applicable to Unit 1.

Power Reactor	Event Number: 52146
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Facility: FERMI Region: 3 State: MI Unit: [2] [] [] RX Type: [2] GE-4 NRC Notified By: DEREK ETUE HQ OPS Officer: DANIEL MILLS	Notification Date: 08/02/2016 Notification Time: 14:42 [ET] Event Date: 08/02/2016 Event Time: 10:15 [EDT] Last Update Date: 08/02/2016
Emergency Class: NON EMERGENCY 10 CFR Section: 50.72(b)(3)(v)(C) - POT UNCNTRL RAD REL	Person (Organization): RICHARD SKOKOWSKI (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

SECONDARY CONTAINMENT TECHNICAL SPECIFICATION NOT MET

"On August 2, 2016 at 1015 EDT, while restoring the east train of Reactor Building HVAC (RBHVAC) after a surveillance test on Division 2 Standby Gas Treatment System (SGTS), the Technical Specification (TS) for the secondary containment pressure boundary was not met for a duration time of approximately 1 second. The maximum secondary containment pressure observed during that time was approximately 0.120 inches of vacuum water gauge.

"Secondary containment pressure was returned to within the TS operability limit by RBHVAC and SGTS already in operation. There were no radiological releases associated with this event.

"The cause of the event is under investigation.

"The TS requirement is to maintain secondary containment vacuum greater than or equal to 0.125 inches of vacuum water gauge (TS SR 3.6.4.1.1) for secondary containment operability. Declaring secondary containment inoperable is reportable under 10 CFR 50.72(b)(3)(v)(C) as an event or condition that could have prevented the fulfillment of a safety function needed to control the release of radioactive material.

"The licensee has notified the NRC Resident Inspector."

Power Reactor	Event Number: 52149
Facility: FERMI Region: 3 State: MI Unit: [2] [] [] RX Type: [2] GE-4 NRC Notified By: GREG MILLER HQ OPS Officer: DANIEL MILLS	Notification Date: 08/02/2016 Notification Time: 20:33 [ET] Event Date: 08/02/2016 Event Time: 17:10 [EDT] Last Update Date: 08/02/2016
Emergency Class: NON EMERGENCY 10 CFR Section: 50.72(b)(2)(xi) - OFFSITE NOTIFICATION	Person (Organization): RICHARD SKOKOWSKI (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

OFFSITE NOTIFICATION DUE TO ONSITE SEWAGE SPILL

"At 1612 EDT on 08/02/16, Fermi 2 discovered a sanitary sewer system leak from underground lines beneath the parking lot near Warehouse B. Some of the sewage has entered the storm drain system. The sewage leak was stopped at approximately 1730 EDT. The duration and quantity of the spill is unknown. A local sanitary contractor is currently responding to the site to clean the affected areas.

"Reports to the Michigan Department of Environmental Quality (MDEQ), the local health department [Monroe County], and the local news media are in progress. Since these reports are in the process of being made, this is considered a News Release or Notification to Other Government Agencies, therefore this event is reportable under 10 CFR 50.72(b)(2)(xi).

"The NRC Resident Inspector has been notified."

Part 21	Event Number: 51030
Rep Org: AZZ/NLI NUCLEAR LOGISTICS, INC Licensee: ALLEN BRADLEY Region: 4 City: FORT WORTH State: TX County: License #: Agreement: Y Docket: NRC Notified By: TRACY BOLT HQ OPS Officer: DANIEL MILLS	Notification Date: 05/01/2015 Notification Time: 13:32 [ET] Event Date: 04/30/2015 Event Time: [CDT] Last Update Date: 08/15/2016
Emergency Class: NON EMERGENCY 10 CFR Section: 21.21(d)(3)(i) - DEFECTS AND NONCOMPLIANCE	Person (Organization): MEL GRAY (R1DO) FRANK EHRHARDT (R2DO) ROBERT ORLIKOWSKI (R3DO) GEOFFREY MILLER (R4DO) PART 21/50.55 REACT (EMAI)

Event Text

POTENTIALLY UNQUALIFIED COMPONENT IN CERTAIN ALLEN BRADLEY TIMING RELAYS

The following is an excerpt from a document received from the licensee via email:

"Report of potential 10 CFR Part 21, Allen Bradley Timing Relay Model 700RTC

"Pursuant to 10 CFR 21.21(d)(3)(ii), AZZ/NLI is providing written notification of the identification of a potential failure to comply.

"On the basis of our evaluation, it is determined that AZZ/NLI does not have sufficient information to determine if the subject condition would, or has, created a Substantial Safety Hazard or would have created a Technical Specification Safety Limit violation as it relates to the subject plant applications.

"The specific part which fails to comply or contains a defect:

"As of 2009-2010, Allen Bradley relays base model 700RTC, contain an unevaluated CPLD (Complex Programmable Logic Device). This was an unpublished design change that was implemented to replace an obsolete integrated circuit chip. The undocumented design change did not result in a part number change from Allen-Bradley. There was no change to the appearance of the relay that would identify any design changes were made to the relay configuration. Therefore, NLI qualification/dedication of the relays after 2009 have not included additional testing for the new CPLD component.

"The timing relay model 700RTC has been dedicated/qualified for multiple applications for various plants.

"Between 2009-2010 Allen Bradley made a design change without changing the part number of the commercial relay or providing any documented evidence of a design change. The manufacturer specification data sheets maintain the classification that the relays are 'solid state', which would imply that there are no digital devices installed in the relay. However, after inspection of the internals of the timing relay (Figure 2), it has been identified that the unit does contain a CPLD which meets the definition of a digital device under the guidance of NEI 01-01."

Potentially affected plants include Browns Ferry, Ginna, Millstone, Nine Mile Point, North Anna, Ft. Calhoun, **Perry**, River Bend, South Texas Project, and St. Lucie.

* * * UPDATE FROM TRACY BOLT TO JOHN SHOEMAKER AT 1744 EDT ON 4/8/16 * * *

AZZ/NLI Nuclear Logistics provided additional information regarding Part 21 Report No: P21-04302015, Rev. 1.

Notified R1DO (Rogge), R2DO (Nease), R3DO(Skokowski), R4DO (Kellar), and PART 21/50.55 REACTORS via email.

* * * UPDATE FROM LES TAGGART TO BETHANY CECERE AT 0951 EDT ON 5/26/16 * * *

AZZ/NLI Nuclear Logistics provided Revision 2 to Part 21 Report No: P21-04302015 to correct the referenced EPRI TR-102323 Rev. 3 to Rev. 4 and change 'timing' contacts to 'instantaneous' contacts as shown below:

"(vii) The corrective action which has been, is being, or will be taken; the name of the individual or organization responsible for the action; and the length of time that has been or will be taken to complete the action.

"The relays that are currently in stock at NLI have been placed on hold until after the units have been determined to be qualified for the specific application. NU has completed the EMC

qualification testing per the requirements of EPRI TR-102323 Rev. 4 for the following tests, as applicable: CE101, CE102, RE101, RE102, RS101, RS103, CS101, CS114, CS115 and CS116.

"The results were satisfactory with exception of the following condition: During Conducted Susceptibility CS114 onto the power lines, with the timing circuit in operation, the instantaneous contacts exhibited chatter in the range of 2.6 MHz to 20.3 MHz. The unit requires a ferrite to be installed onto the input power lines of the relay with 3 turns through the ferrite core. In this modified configuration, the relay was not susceptible to Conducted Susceptibility and successfully passed the required test per CS114."

Notified R1DO (Lilliendahl), R2DO (Guthrie), R3DO(Kunowski), R4DO (Werner), and PART 21/50.55 REACTORS via email.

* * * UPDATE FROM TRACY BOLT TO DONG PARK AT 1807 EDT ON 8/15/16 * * *

AZZ/NLI Nuclear Logistics provided additional information regarding Part 21 Report No: P21-04302015, Rev. 3, correcting the date the change occurred to October 2008.

Notified R1DO (Jackson), R2DO (Shaeffer), R3DO (Riemer), R4DO (Proulx), and PART 21/50.55 REACTORS via email.

* * * UPDATE FROM TRACY BOLT TO DONG PARK AT 1833 EDT ON 8/26/16 * * *

AZZ/NLI Nuclear Logistics is making a word correction in Part 21 Report No: P21-04302015, Rev. 4.

Notified R1DO (Dimitriadis), R2DO (Michel), R3DO (Cameron), R4DO (Kellar), and PART 21/50.55 REACTORS via email.

Notified R1DO (Lilliendahl), R2DO (Guthrie), R3DO(Kunowski), R4DO (Werner), and PART 21/50.55 REACTORS via email.

* * * UPDATE FROM TRACY BOLT TO DONG PARK AT 1807 EDT ON 8/15/16 * * *

AZZ/NLI Nuclear Logistics provided additional information regarding Part 21 Report No: P21-04302015, Rev. 3, correcting the date the change occurred to October 2008.

Notified R1DO (Jackson), R2DO (Shaeffer), R3DO (Riemer), R4DO (Proulx), and PART 21/50.55 REACTORS via email.

Power Reactor	Event Number: 52202
Facility: FERMI Region: 3 State: MI Unit: [2] [] [] RX Type: [2] GE-4 NRC Notified By: BRETT JEBBIA HQ OPS Officer: DONG HWA PARK	Notification Date: 08/25/2016 Notification Time: 21:39 [ET] Event Date: 08/25/2016 Event Time: 16:29 [EDT] Last Update Date: 08/25/2016
Emergency Class: NON EMERGENCY 10 CFR Section:	Person (Organization): JAMNES CAMERON (R3DO)

50.72(b)(3)(ii)(B) - UNANALYZED CONDITION	
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Unit	SCRAM Code	RX CRIT	Initial PWR	Initial RX Mode	Current PWR	Current RX Mode
2	N	Y	53	Power Operation	53	Power Operation

Event Text

MECHANICAL DRAFT COOLING TOWER DECLARED INOPERABLE

"At 1629 EDT on August 25, 2016, it was determined that a Mechanical Draft Cooling Tower (MDCT) fan should be declared inoperable if its associated fan brake is nonfunctional. The MDCT fan brake is required to prevent fan over speed from a design basis tornado. The MDCT fans are required to support the operability of the Ultimate Heat Sink (UHS). Currently, the MDCT fans and fan brakes are operable. A past operability evaluation is being performed and has initially identified that from 0855 EDT to 1738 EDT on April 6, 2016, the Division 1 'A' fan brake was nonfunctional due to a nitrogen bottle being below the required pressure. Additionally, from 0856 EDT on April 6, 2016, to 1641 EDT on April 7, 2016, the Division 1 'C' fan brake was also nonfunctional due to a nitrogen bottle being below the required pressure. Therefore, the Division 1 UHS and associated Emergency Diesel Generators (EDGs) would have been inoperable. During this time, at 1347 EDT on April 6, 2016, the Division 2 EDG 14 was inoperable for 22 seconds for a planned testing.

"This resulted in an unanalyzed condition because the plant configuration during the 22 seconds when EDG 14 was inoperable would not support safe shutdown capability in the event of a tornado. A past operability review is in progress to determine if declaring a MDCT fan inoperable due to a fan brake being nonfunctional results in any additional instances of unanalyzed condition within the past three years. This condition is reportable under 10 CFR 50.72(b)(3)(ii)(B), as an event or condition that results in an unanalyzed condition that significantly degrades plant safety. There was no adverse impact to public health and safety or to plant employees.

"The NRC Resident Inspector has been notified."

Power Reactor	Event Number: 52205
Facility: FERMI Region: 3 State: MI Unit: [2] [] [] RX Type: [2] GE-4 NRC Notified By: CHRIS MCEACHRAN HQ OPS Officer: DONG HWA PARK	Notification Date: 08/27/2016 Notification Time: 17:48 [ET] Event Date: 08/27/2016 Event Time: 15:00 [EDT] Last Update Date: 08/27/2016
Emergency Class: NON EMERGENCY 10 CFR Section: 50.72(b)(3)(v)(C) - POT UNCNTRL RAD REL	Person (Organization): JAMNES CAMERON (R3DO)

Unit	SCRAM Code	RX CRIT	Initial PWR	Initial RX Mode	Current PWR	Current RX Mode
2	N	Y	53	Power Operation	53	Power Operation

Event Text

SECONDARY CONTAINMENT TECHNICAL SPECIFICATION NOT MET

"On August 27, 2016, at 1500 EDT a severe thunderstorm occurred in Monroe County, including the Fermi 2 site. Due to high winds encountered during the thunderstorm, the Technical Specification (TS) for secondary containment pressure boundary was not met numerous times. The duration of time that the secondary containment Technical Specification was not met was approximately 1 second for each event.

"All plant equipment responded as required to the changing environmental conditions and Reactor Building HVAC returned secondary containment pressure within TS limits. At 1540 EDT, secondary containment vacuum was greater than the TS operability limit of 0.125 inches of vacuum water gauge (TS SR 3.6.4.1.1) and steady, and the LCO was exited. There were no radiological releases associated with this event.

"Declaring secondary containment inoperable is reportable under 10 CFR 50.72(b)(3)(v)(C) as an event or condition that could have prevented the fulfillment of a safety function needed to control the release of radioactive material.

"The licensee has notified the NRC Resident Inspector."

News

Court declines to rehear storage case

[Amanda Reilly](#), E&E reporter

Published: Monday, August 8, 2016

A federal court will not rehear a case challenging the Nuclear Regulatory Commission's approach to analyzing nuclear waste storage.

The U.S. Court of Appeals for the District of Columbia Circuit today issued an [order](#) declining environmentalists' petition for the full court to rehear the case.

Environmentalists, Native Americans and three states — New York, Vermont and Connecticut — had brought the lawsuit challenging NRC's approval of analyses that would allow hot, radioactive waste to be stored at reactor sites across the country indefinitely.

A three-judge panel of the D.C. Circuit in June upheld the agency's approval. Senior Judge David Sentelle, a Republican appointee, wrote in a unanimous opinion that the groups' concerns belong in Congress and not the courts ([Greenwire](#), June 3).

In their petitions asking for a rehearing, environmentalists had contended that the panel's decision conflicts with two prior decisions related to the timing of environmental reviews under the National Environmental Policy Act.

Twitter: [@apeterka](#) Email: areilly@eenews.net

Source: <http://www.eenews.net/eenewspm/2016/08/08/stories/1060041337>

Industry pushes other states to duplicate N.Y. policy

[Jeffrey Tomich](#), E&E reporter

Published: Monday, August 15, 2016

CHICAGO — Operators of the nation's nuclear power fleet are an exclusive fraternity. They care about safety. They share best practices. And when wholesale power prices erode, they tend to suffer together.

Since the closure of Kewaunee Power Station in Wisconsin in 2013, industry lobbyists have been thumbing their way through dog-eared playbooks for a political strategy that could save other struggling plants.

Frustrated with the inability of Congress to even debate a climate bill that would value nuclear's carbon-free power generation, operators are turning to the states.

In the state of New York, the nuclear industry hopes it has found a formula for success.

This month, regulators there rolled out a 50 percent renewable energy standard, coupled with a deal brokered by Gov. Andrew Cuomo (D) to extend the life of a trio of upstate reactors by providing nearly \$1 billion in subsidies over the next two years.

From last month's national meeting of utility regulators in Nashville to the National Conference of State Legislatures' 2016 Legislative Summit last week, the nuclear industry is stepping up its lobbying efforts as a dozen or more of the nation's 99 operating reactors are deemed at risk of being shut down.

"Now is the time, I would contend, for state legislatures to step up and address the issue," Alex Flint, senior vice president of government affairs at the Nuclear Energy Institute, told lawmakers and staffers at the legislative conference in Chicago.

The campaign was buoyed by the Aug. 1 win in New York, where the Public Service Commission approved a plan to help the R.E. Ginna, Nine Mile Point and Fitzpatrick plants ([EnergyWire](#), Aug. 10). Two of the plants are owned by Exelon Corp. and the company has an agreement to purchase the third.

Flint said the zero emission credit (ZEC) program in New York, where payments are based on the Obama administration's controversial calculations for the social cost of carbon emissions, isn't the only option.

"There are a number of models for addressing the issues," he said. But regardless of the court challenge to U.S. EPA's Clean Power Plan, he said some form of carbon regulation is here to stay, and preserving existing nuclear generation — 63 percent of the nation's carbon-free power — is key to any strategy.

Legislation proposed in Illinois would help two money-losing Exelon plants, Clinton and Quad Cities. **Ohio regulators are considering a different kind of proposal to aid FirstEnergy Corp.'s Davis-Besse plant.** And in Connecticut, a measure to aid

Dominion's Millstone nuclear station was filed in the final days of the legislative session.

The Connecticut Senate unanimously passed the bill. But the House didn't take it up.

State Rep. Mary Mushinsky, a Democrat, said the bill left her conflicted. An environmentalist, she feels urgency to act on climate change. But she's concerned about the effect on electric rates and subsidizing a profitable company.

"My environmental side is wrestling with my consumer side right now," she said.

Even where there are not yet concrete proposals, talk has begun in other states where nuclear reactors are seen as at-risk. The threat is most acute in states such as New Jersey and Pennsylvania that have competitive power markets.

In Pennsylvania, Exelon's 837-megawatt Three Mile Island plant is frequently cited among those in danger of shutting its doors, in no small part because of the shifting economics of energy and the surge of cheap shale gas from nearby Marcellus and Utica formations.

The plant failed to clear grid operator PJM Interconnection's last two capacity auctions for 2018-19 and 2019-20. Meant to ensure there is adequate generation for high-demand periods, the auction is a key source of revenue for power plant owners. And not clearing the auction means the plant failed to qualify for millions of dollars in annual payments.

In an email statement, Exelon spokesman Ralph DeSantis said the company will "explore" whether lawmakers in the state will consider proposals similar to those in New York and Illinois.

"What we do know is that parity among zero-carbon resources needs to be addressed in order to ensure that the state is able to meet its carbon reduction goals at the best price to consumers," the statement said.

The company has already announced plans to shut down its 625-megawatt Oyster Creek Nuclear Generating Station in New Jersey by 2019.

The other two nuclear plants in the state, the Salem and Hope Creek stations, are operated by Newark-based Public Service Enterprise Group Inc.

In a conference call with analysts and investors just days ahead of the New York PSC decision, PSEG's chief executive, Ralph Izzo, said he thinks the plants should be rewarded for producing carbon-free energy and their reliability and that the company is engaged in "early conversations" with policymakers.

But, he acknowledged that unlike the Exelon plants in Illinois and New York, the company's reactors aren't bleeding red ink.

"We don't have that situation," Izzo said. "I'm glad we don't have that situation."

Without a brewing crisis, however, it will be tougher to convince lawmakers to act given all of the other problems they face.

"Our challenge is that our plants are quite healthy, economically. It does sort of impair our ability to have the same level of interest and participation in the discussions," Izzo said.

Like the nuclear sector with the New York victory, consumer groups and environmental advocates that have criticized subsidies for reactors have a blueprint borrowed from the West Coast for how to address nuclear plants.

In California, Pacific Gas and Electric Co. announced in June that it would not seek relicensing for the 2,200-MW Diablo Canyon plant when its operating licenses expire in 2024 and 2025 ([EnergyWire](#), Aug. 12). PG&E would replace the generation with a mix of efficiency and renewables. The proposal, submitted jointly by PG&E, environmental groups and labor unions, requires approval by California regulators.

The proposal has already prompted questions about whether output from nuclear plants can be replaced with some mix of wind, solar and efficiency.

Kathleen Barrón, senior vice president of federal regulatory affairs and wholesale market policy for Exelon, urged legislators to look at the impact on consumers.

"You'll notice in that proposal there isn't a lot of detail on what that's actually going to cost consumers to replace all those megawatt-hours of carbon-free generation," she said.

Twitter: [@jefftomich](#) Email: jtomich@eenews.net

Source: <http://www.eenews.net/energywire/2016/08/15/stories/1060041574>

Nuclear fleet's future may be tied to market fix that includes coal

[Emily Holden](#) and [Rod Kuckro](#), E&E reporters

E&E Publishing: Monday, August 22, 2016

A successful redesign of the nation's organized electricity markets that helps preserve the U.S. nuclear generation fleet might be easier to accomplish if reforms also include coal-fired plants, according to FTI Consulting Managing Director Ken Ditzel. Ditzel led the firm's recent analysis of the effects of planned and potential nuclear plant retirements on state efforts to comply with U.S. EPA's Clean Power Plan ([E&ENews PM](#), Aug. 18).

Each Monday, **Power Plays** previews upcoming moves on the way to Clean Power Plan compliance and recaps the week's developments.

The analysis said EPA was "overly optimistic" in assuming the nation's aging nuclear reactors would stick around to help states comply with the Clean Power Plan because the agency "has failed to recognize that the nuclear industry has been under significant economic, regulatory, and political pressures."

While Ditzel hailed an effort by the Nuclear Energy Institute to have nuclear plants slash their operating expenses by 30 percent, it's going to take more if the carbon-free attributes of nuclear power are to contribute long-term to reaching the goals of the Clean Power Plan, he said.

Markets such as the PJM Interconnection need "to be redesigned to recognize the value of nuclear, paying it for performance, particularly in capacity markets to recognize the value that nuclear delivers in terms of reliability, clean energy, fuel diversity and price stability," Ditzel said.

"You want to develop mechanisms that reflect the benefits that all assets provide and I think nuclear and coal would be in the same boat there.

"It's not to create a regulatory mechanism that would favor one over the other. It would favor the characteristics that provide reliability, fuel diversity and price stability," he said.

"It's certainly a conversation that's needed" and one he hopes is at the beginning stages in the regional transmission organizations and at the Federal Energy Regulatory Commission.

Ditzel suggested the Clean Power Plan, should it survive legal challenge, could be amended to recognize the value of successful relicensing efforts by nuclear plant operators.

"EPA doesn't recognize that it's almost like bringing on a new plant to get a 20-year extension, and it's not being treated as a new plant. Even though it's extending an existing facility, it's a major investment that's required and one that's of the same magnitude of building a new plant of a different fuel type," Ditzel said.

Source: http://www.eenews.net/interactive/clean_power_plan/column_posts/1060041855

Japan builds ice wall to mend Fukushima

Published: Tuesday, August 30, 2016

Japan is building a massive subterranean ice wall in order to prevent radioactive waste from seeping from the still-impaired Fukushima Daiichi nuclear power plant.

Fukushima Daiichi, which suffered a triple meltdown after the massive 2011 earthquake and tsunami, continues to raise public health concerns in the island nation where nuclear developments have a harrowing past.

Groundwater is pouring into damaged reactor buildings at the station, where it becomes highly radioactive. The tainted water is impairing any efforts at a full shuttering of the nuclear site.

Five robots dispatched into the plant since the disaster have ceased functioning due to excess radiation.

Now, government officials hope the ice wall will seal off the reactor buildings and plug the groundwater.

The wall, made of frozen soil that scientists compare to artificial permafrost, cost the government \$320 million. Japan believes the ice wall will also halt radioactive water that is pouring into the Pacific Ocean.

But some researchers have expressed skepticism that the bloated barrier will even work. The ice wall is powered by electricity and may be as susceptible to natural disasters as the nuclear reactor itself (Martin Fackler, *New York Times*, Aug. 29). — **GD**

Source: <http://www.eenews.net/greenwire/2016/08/30/stories/1060042187>

Fukushima news. This is included as a case study for the types of issues that may develop in the case of an incident at a US reactor. The Fukushima Daiichi Reactors are identical to some US reactors and are the closest incident that has occurred to compare to US concerns.

Source: <http://www.hiroshimasyndrome.com/fukushima-accident-updates.html>

August 29, 2016

- F. Daiichi prepares for Typhoon Lionrock. The storm has winds of 140 km/hr, producing high wave action and torrential rains. Tepco staff is securing cables and hoses while awaiting the brunt of the typhoon, which is expected to hit tomorrow. All work with cranes will be suspended, as well as efforts in the port area. If the storm stiffens, all other outdoor work could be cancelled. Portable pumps are being installed to keep groundwater levels from increasing. Plant staff is also double-checking the new rainwater drainage channel that sends run-off to the inner port and the barriers around contaminated water storage tanks.
http://www3.nhk.or.jp/nhkworld/en/news/20160829_22/
- Fukushima Prefecture opens two bus stops inside Iitate village, which remains under Tokyo evacuation mandate. Most of Iitate will have its living restrictions lifted in March and residents are allowed to stay at their homes on a “trial basis”. So, the bus company has opened the stations to facilitate repopulation. The bus line runs from Fukushima City and Kawamoto Town to Minamisoma City, on the coast. The route has been passing through Iitate, but no stops have been part of the line until now. Iitate resident Masui Shoji, who has exploited the opportunity to go home with her husband, said, “Now we can go to the Haramachi district (of Minamisoma) in a casual manner” to go shopping.
<http://www.fukushimaminponews.com/news.html?id=715>
- Two major drills prove public evacuation is safe and workable. More than 7,000 residents from within 30 kilometers of Takahama station participated in an evacuation drill on Saturday, including Fukui and Kyoto Prefectures. Roughly 2,000 people in also took part destination-prefectures Shiga and Hyogo.

Participants living within 5 kilometers of Takahama station immediately left their homes upon being told a hypothetical earthquake had cut off all power to the nuke. Those in a 5-30 kilometer radius sheltered until an imaginary radioactive plume had passed, and then they began their evacuation. This was the first nuclear evacuation drill to include more than one prefecture. On Sunday, another drill was successfully staged for the Oi nuclear station. About 1,700 persons were involved. Only residents of Fukui Prefecture within 30 kilometers of the nuke were involved. Small parts of Shiga and Kyoto Prefectures are in the Emergency Planning Zone, but evacuation plans for both have yet to be completed, so they did not take

part. <http://mainichi.jp/english/articles/20160827/p2a/00m/0na/011000c> --

<http://the-japan-news.com/news/article/0003178439> --

<http://jen.jiji.com/jc/eng?q=eco&k=2016082700226> --

<http://jen.jiji.com/jc/eng?q=eco&k=2016082800113>

- A Fukushima City home was built atop bags of contaminated rural waste. The couple who built the home say the bags cannot be removed because the house might end up leaning. The owners believe the city is at fault for providing them with inaccurate sketches of the property. The couple says, "Far from admitting responsibility and apologizing, they haven't even tried to examine the site. They have also been reluctant to release information, and have acted extremely insincerely." The drawings showed the buried bags were located away from the center of the plot. The owners avoided the indicated burial spot when they built in 2013, but the bags were actually nearer the center of the land. A city official commented that the decontaminated soil was supposed to be removed quickly and the officials had not expected it to be there until the time a land transaction was made and a home built. The news report failed to state the radiation levels and the contamination concentration of the bagged material.

<http://mainichi.jp/english/articles/20160829/p2a/00m/0na/011000c>

August 25, 2016

- 10,000 tons of moderately contaminated water remains in F. Daiichi trenches. The water is believed to have come from the March, 2011 tsunami, and mixed with other contaminated waters from basement leakage and/or rain run-off. A Tepco official explained, "Compared with around 70,000 tons of highly contaminated water that remain in the basements of the reactor buildings, (the water in the trenches) has a low level of concentration and thus poses little threat in terms of radiation exposure and the environment." The water is in 17 cable trenches connected to the four damaged units, and eleven others that are not so attached. The Cesium radioactivity in the 28 trenches is as high as several thousand Becquerels per liter, but the radioactive level in the basements of the four damaged units measure in the millions of Bq/l range. There are roughly 40 additional trenches that cannot be sampled and analyzed because of debris blockage. It should be noted that Japan's Press continues to arbitrarily call any water containing detectible F. Daiichi contamination "toxic".

<http://mainichi.jp/english/articles/20160823/p2g/00m/0dm/074000c> --

<http://english.kyodonews.jp/news/2016/08/430011.html>

August 22, 2016

- Some Okuma evacuees make temporary returns to home. Residents were allowed to stay at home to celebrate the Buddhist “bon” holiday in the part of the town that is officially going to have restrictions lifted next year. Only 12 people from six families took advantage of the opportunity. Hitoshi Izumisawa, his wife, and son, stayed overnight at their home for the first time in five-and-a-half years. He said, "I believe my mother would have wanted to come home, too. Let's sleep together tonight." Izumisawa has made several prior visits to make home repairs and bring in household items, such as a refrigerator and microwave oven. He said he and his wife want to return home because it is cooler in Okuma than where they now live in Aizuwakamatsu.
<http://www.fukushimainponews.com/news.html?id=711>
- Kawamata Town to be fully reopened by April 1, 2017. Yamakiya District is the part of Kawamata closest to F. Daiichi, and the only part of the town still under government living restrictions. The municipal assembly asked Tokyo to lift the order. Tokyo official Osamu Goto gave Tokyo's draft plans to Kawamata Mayor Michio Furukawa and assembly head Hiromi Saito, and said, "We expect to see the living environment improved by the end of March 2017." Mayor Furukawa said. "The termination of evacuation is simply a first step. We will draw up measures together with the national government to prevent the daily living of returning residents from being adversely affected after the removal of the evacuation order." <http://www.fukushimainponews.com/news.html?id=710>
- <http://www.jaif.or.jp/en/ikata-3-npp-back-in-full-operation/>
- Another ex-Fukushima worker gets workman's compensation for low level radiation exposure. A man in his 50s worked at F. Daiichi for nearly four years. He developed leukemia in January, 2015, and applied for workman's comp. He received 54.4 millisieverts of whole body exposure over the time he was at F. Daiichi. The man was granted workman's comp because he satisfied the statutory criteria stipulated in the 1976 Industrial Accident Compensation Insurance Act. To be certified as an “industrial accident” associated with radiation, a claimant must have been exposed to at least an average of 5 millisieverts per year and have developed the illness more than a year after first being exposed. No requirement for a medical diagnosis relating the exposure to the contracted disease is needed. This is the second time a former Fukushima worker has been granted workman's compensation by Tokyo for low level radiation exposure while employed at F. Daiichi.
http://www3.nhk.or.jp/nhkworld/en/news/20160819_25/ -
<http://www.asahi.com/ajw/articles/AJ201608200036.html> -
<http://www.japaneselawtranslation.go.jp/law/detail/?id=1920&vm=04&re=01>
- An NRA panel member says Tepco's “ice wall” is failing. Nuclear Regulation Authority panel member Yoshinori Kitsutaka explained, “The plan to block groundwater with a frozen wall of earth is failing. They need to come up with another solution, even if they keep going forward with the plan.” The recent Tepco report upon which the NRA statement is based (covered here last week) shows that 99% of the “wall” allowed to be in operation by the NRA has frozen solid. But, 1% of the earth has yet to fully solidify. Regardless, the NRA

conclusion of failure is because anything less than 100% success is unacceptable. Tepco has said they will solidify the unfrozen locations with cement if they do not fully freeze.

<http://www.asahi.com/ajw/articles/AJ201608190060.html>

August 18, 2016

- Fukushima Prefecture is hosting a workshop to combat radiation misinformation. The “Radiation Protection Workshop in Fukushima 2016” opened on August 15, and will run through the 20th. The event is for high school students from Fukushima, Tokyo, and three countries other than Japan. Attendees include 12 high school students from Fukushima, 14 students from France, Malaysia and Indonesia, and, three from Tokyo. Instructors are teaching the students radiation measurement methods so they can visit all around the Prefecture and record exposure levels. They will also monitor foods produced in the prefecture for radioactivity. Fukushima hopes the event will help combat unrealistic fears and irresponsible rumor-mongering. <http://www.jaif.or.jp/en/fukushima-prefecture-turns-to-young-people-to-help-wipe-out-misinformation/>
- The Environment Ministry wants to build trust in Fukushima Prefecture. Minister Koichi Yamamoto said, "I want to visit Fukushima frequently and foster trust with local people," while accelerating decontamination and rural contaminated waste storage. She added, "Fukushima and other prefectures with radioactive waste are facing a variety of challenges. But slow reconstruction won't satisfy the public now that nearly five and a half years have passed since the accident." Yamamoto also hopes that laws will emerge to build flood-prevention barriers and evacuation plans for natural calamity mitigation. <http://jen.jiji.com/jc/eng?g=eco> (*Comment – If Tokyo would admit that the 2011 evacuation was an over-reaction to the accident releases, and power-bomb Naoto Kan for his arbitrary evacuation mandates, Fukushima would be in a much better situation.*)

August 15, 2016

- The F. Daiichi “ice wall” is progressing steadily. All of the in-ground temperature monitors for those sections being frozen are now at or below the freezing point. The six small sections not currently allowed to be frozen by the Nuclear Regulation Authority are the only locations where freezing has not occurred. The Press has not reported on it, so we have linked to the latest Tepco posting on the process. https://www4.tepco.co.jp/en/nu/fukushima-np/handouts/2016/images/handouts_160812_01-e.pdf
- Tokyo wants to gradually re-open the remaining Fukushima “no-go” zones; the locations designated as being “difficult-to-return”, where estimated whole body exposures were originally greater than 50 millisieverts per year. The government wants to set up strategic reconstruction bases (hubs) within the zones that remain in seven communities; portions of Iitate, Katsurao, Minamisoma, and Tomioka, and, most of Namie, Okuma, and Futaba. These zones had a population of about 24,000 before the state-mandated evacuation in 2011. If plans are enacted, residents will be allowed to return home when decontamination is completed and whole body exposures will be well-below the 20 mSv/yr evacuation criterion. Lifting of restrictions will no longer be delayed

until an entire zone has met the benchmark. The plan calls for “reconstruction footholds” to be established where workers and other citizens can be allowed to live. Tokyo wants all “no-go” zones eliminated by 2021.

<http://www.fukushimainponews.com/news.html?id=708>

- Less than 5% of the people affected by the July 12th lifting of restrictions in Minamisoma have actually returned home. Four hundred of the nearly 11,000 evacuees who were affected by the July 12th decision have gone home. The 400 number is more or less an educated guess because the city feels many who have returned home have not reported to the municipal office.

<http://www.fukushimainponews.com/news.html?id=707>

August 11, 2016

- A Tokyo court rules against Tepco over a dementia patient’s disappearance. The Tokyo District Court ordered the company to pay more than \$200,000 in compensation to the family of a woman who vanished from a Futaba hospital a few days after the earthquake and tsunami of March 11, 2011. The hospital staff left the facility on March 14th because of the Tokyo-mandated evacuation. Japan’s Self-Defense Force arrived on the 16th and was responsible for evacuating the patients. The woman was in the facility on the 14th, but was not there on the 16th. The front door was open because of the prolonged power blackout caused by the earthquake. The woman’s body has not been found. The court ruled that the hospital staff was “The woman died as a result of the emergence of exceptional circumstances which made it impossible for hospital staff to provide assistance to or keep an eye on the woman, because of the (nuclear) accident and because local residents left.” Presiding Judge Yuko Mizuno told the Press, “Staff at [the patient’s] hospital continued to keep a sufficient watch over her even after the Great East Japan Earthquake and tsunami struck, and her disappearance could have been avoided if the nuclear accident had not occurred.” Tepco had argued that “the confusion stemming from the quake and tsunami is primarily responsible for her disappearance, not the nuclear accident,” but the court rejected the company’s plea.

<http://www.asahi.com/ajw/articles/AJ201608110045.html> --

<http://mainichi.jp/english/articles/20160811/p2a/00m/0na/008000c>

It’s Official: F. Daiichi Unit #2 was not a Melt-Through

On July 28, 2016, Tepco posted a detailed handout showing Unit #2’s previously-molten fuel (corium) is re-solidified and remains inside the reactor vessel (RPV). This conclusion was drawn as a result of muon imaging, with a dark “shadow” covering the interior of the RPV’s bottom head. ⁽¹⁾ One obvious deduction is drawn by the Asahi Shimbun, which says that past speculations of a unit #2 melt-through are probably incorrect. ⁽²⁾ It says, “The latest finding negates past studies that have suggested that most of the nuclear fuel inside the reactor had melted through the vessel.” Unfortunately, the Asahi has been the only news outlet in Japan to make such a flat statement. Could the Asahi be incorrect?

On page four of the handout, we can see that most, if not all of the corium remains in the bottom head of the RPV. The image also shows that some of the damaged fuel is

still in the core area, where it was located before the March, 2011, tsunami-spawned nuclear calamity. If we compare the unit #2 core barrel image with the March 19, 2015, image of unit #1, we see a drastic difference. ⁽³⁾ Unit #1's core barrel showed brightly, indicating full meltdown and core relocation. The core was no longer there. However, the unit #2 image does not have a nearly as bright core barrel appearance. In fact, it is quite possible that a small-but-significant fraction of the original core remains in its original location. In fact, Tepco admits that at least 20 tons of material remains. Based on the relative density of the shadowing in the unit #2 core barrel region, with literally no brightness to indicate complete degradation from top to bottom, it is entirely possible that the maximum estimation of fuel (50 tons) remains in the core barrel region. Where do these numbers come from?

Page six of the handout states that of the 210 tons of fuel and support structures that originally comprised the undamaged core, 20-50 tons remain in the core barrel area and "about 160 tons" is collected in the RPV's bottom head. The inherently limited resolution with muon imaging compels an approximation of the respective masses. The 20-50 tons estimation leaves the door open for continuing speculation that as much as 14% of the core might possibly have worked its way through the bottom head and re-solidified on the base-mat beneath the RPV.

At this point we might ask... why leave the door of worst-case speculation open? If there had been any significant melt-through of the bottom head - and as much as 30 tons is pretty significant - the molten condition of the corium would possibly have cascaded through the breach. That there is a substantial pooling in the bottom head strongly suggests that if there were any melting-through, it must have been a mass much less than 30 tons. In fact, it suggests the possibility that there was no melt-through at all.

So why is Tepco leaving the door open for partial melt-through speculations?

Tepco has long-succumbed to Press and political pressure to accommodate worst-case scenario speculations. This is one time its "conservative" reporting has shown them to be timid and unwilling to draw a firm conclusion that flies in the face of their previous computer-based speculations. For more than three years, Tepco and the Nuclear Regulation Authority have made status reports that entirely cater to worst-case speculation, no matter how thin the evidence for such conjecture might be. In the case of the unit #2 muon image, worst case assumption ought to be rejected.

It is time for Tepco and the NRA to assert themselves and draw a conclusion that is most likely. When compelling evidence emerges that literally demands rejection of the low-probability worst-case scenario, there should be no room left for the worst-case scenario to perpetuate!

The Fukushima Daiichi Unit #2 muon scanning image virtually demands that we conclude that there was no compromise in the lower RPV head. It is likely that none of the corium, while still molten, made its way through the head or any of the penetrating control rod drive mechanisms (CRDM). To conclude otherwise make no sense to this reporter!

No Melt-through at F. Daiichi Unit #2 Suggests the Same with Unit #3

It can no longer be said that no-one knows where any of the F. Daiichi melted fuel is located. On June 30th, NHK World reported that the corium (formerly molten and re-

solidified fuel core) for unit #2 is in the reactor's (RPV) bottom head. ⁽¹⁾ High-tech muon imaging for unit #2 included the bottom head, which was not possible with the earlier imaging for unit #1. NHK reports the still-in-process image now shows a "large, black shadow" inside the 8-inch thick steel bottom head of unit #2, strongly indicating that the corium was contained. No melt-through, if you will.

When the unit #1 imaging was reported, it made major headlines across Japan and many popular news outlets world-wide. This was because the image showed, not surprisingly, that the entire unit #1 core was gone. Where it ended up is still a matter of debate, though it is this reporter's opinion that much, if not most of the corium remains pooled inside the unit #1 RPV bottom head. Unfortunately, the geometry of the scan for unit #1 could not include the bottom head of the RPV. So, the "nobody knows where it is" rhetoric was part-and-parcel to all news reports, continuing the uncertainty and doubt concepts historically common to reporting about nuclear power plants.

The new unit #2 discovery was reported by only one news outlet...NHK World. It is nowhere else to be found, neither inside nor outside Japan. We can be reasonably sure that if the unit #2 muon image showed the bottom head to be empty, it would have made headlines everywhere; especially in the Japanese press. But, with the exception of NHK World, the discovery of the contained corium hasn't seen the journalistic light of day!

Finding the re-solidified mass in the bottom head of unit #2 literally dashes the "nobody knows" speculations to ashes. We can be assured that we know where the unit #2 fuel core ended up, at the very least. Further, the unit #2 discovery suggests that unit #3's corium is also cooled and pooled inside its RPV bottom head.

Here's why...

According to operator records, Unit #2 fuel uncover began at approx. 4:30pm on March 14, and remained in a deteriorating condition until 7:54pm. Operator records for unit #3 say fuel uncover began at 4:15am on March 13, and recovery started at 9:25am. Even though unit #3's core appears to have been uncovered for about 100 minutes more than with unit #2, it seems unlikely that unit #3 would have experienced complete melt-through of the bottom head. On the other hand, unit #1's fuel core was probably uncovered for more than 10 hours. Also, with core uncover beginning about six hours after automatic shutdown (SCRAM), unit #1 had a higher decay heat rate than both units #2 and #3. Thus, the unit #1 notion of bottom head melt-through remains possible.

Finding the fuel core of unit #2 remaining inside its RPV, verifies one of this reporter's assertions late in 2012. (See – "Fukushima Melt-throughs: Fact or Fiction") I said that there was no way that unit #2 experienced a bottom head melt-through, and likely the same for unit #3. My 2012 prediction that unit #2 suffered a partial meltdown similar to Three Mile Island now seems incorrect. Unit #2 appears to have experienced a full meltdown. The same probably occurred with unit #3, but with no melt-through.

The point is that any further speculation of bottom head melt-through for F. Daiichi unit #2 must be ignored. The Muon imaging proves that it did not happen. Further, speculation of a unit #3 bottom head melt-through must be considered questionable.

Finding the mass of re-solidified corium with the Muon scan of unit #2 is the most significant news to come out of F. Daiichi this year. But, there has been an utter lack of Press attention given to the locating of unit #2's corium. It clearly demonstrates that the only "newsworthy" information is that which keeps Fukushima fear, uncertainty, and doubt (FUD) alive. Once again, some "good news" concerning F. Daiichi is intentionally ignored by the world's news media.

1. http://www3.nhk.or.jp/nhkworld/en/news/20160630_07/

August 8, 2016

- Seabed radiocesium contamination is not transmitted to fish. A team from Japan's National Research Institute of Fisheries Science ran a 70-day experiment to see if a typically-contaminated sea floor was being ingested by fish. They took actual sea-floor deposits from two Fukushima shore-line communities; Hirono and Iwaki. The seabed materials varied in radiocesium content, ranging between 140 and 220 Becquerels per kilogram. Two food fish were included in the experiment; Greenling and Marbled Sole. None of the fish were found to have more than 2 Bq/kg in them after 70 days in tank-simulated environments, and the concentrations remained constant throughout the experiment. <http://www.fukushimaminponews.com/news.html?id=704>
- A demonstration experiment on radiocesium removal from edible seaweed will begin. Fukushima Prefecture's Local fishermen have refrained from harvesting green laver from Matsukawaura lagoon in Soma City since the 2011 nuke accident. Before the seaweed can be reaped, the local fisheries want proof that the radioactivity is constantly less than 50 Bq/kg. This is half of the national standard of 100 Bq/kg. Fukushima wants to try an experimental drying process that should ensure safety and consumer confidence in order to return Matsukawaura to one of the largest green laver sources in eastern Japan. The methodology is going to be tested in the fall and resume marketing in the spring of 2017. The concern is that contamination in rivers and streams that feed the lagoon may be accumulating in the seaweed, causing an inability to market the foodstuff. <http://www.fukushimaminponews.com/news.html?id=703>
- Pacific coast kelp remains free of Fukushima contamination. Results of the fifth sampling period by Kelp Watch 2015 - a campaign headed by Dr. Steven Manley (Cal State – Long Beach) and Dr. Kai Vetter (UC Berkeley). None of the samples collected from March-to-June, 2016, contained Fukushima's "fingerprint" isotope, Cesium-134. Iodine-131 found in the latest samples from the Los Angeles and Long Beach ports was attributed to an as-yet unidentified local source. This was the fifth consecutive sampling period showing zero Fukushima-related results, so Kelp Watch 2015 has officially ended. <https://fukushimainform.ca/2016/08/04/update-2016-sampling-of-north-american->

[pacific-kelp-finds-no-signature-of-fukushima-contamination/](http://kelpwatch.berkeley.edu/Home) --
<http://kelpwatch.berkeley.edu/Home>

- The new Environment Minister vows to improve public relations with Fukushima Prefecture. Koichi Yamamoto said Friday he try to build trust with people in Fukushima Prefecture to speed up creating contaminated rural waste storage facility. The temporary (30-year) site covers 15 km² adjacent to F. Daiichi shared by both host towns – Okuma and Futaba. There are more than 2,300 landowners that will be affected by the large land-area, and only 234 have agreed to Tokyo's proposals. Yamamoto said, "I'm aware that getting landowners' consent is a very tough issue." Some uncommitted landowners are questioning the government's commitment because Prime Minister Shinzo Abe has changed environment ministers four times since he took office. Yamamoto says the turnover has been within the Liberal Democratic Party so there has been much continuity, but conceded, "I have to make efforts to go to Fukushima often to make stronger connections than [former minister] Marukawa did."
<http://www.japantimes.co.jp/news/2016/08/05/national/japans-new-environment-minister-pledges-build-trust-contaminated-waste-storage-facility-fukushima/#.V6XTz9Lr0dU>

August 4, 2016

- All fiscal 2015 marine products were found safe. Fukushima Prefecture announced the good news on Monday, July 25th, but no news outlets reported on it. The testing period ending in March, 2016, included 8,438 marine products existing within a 20km radius of F. Daiichi. This did not include the waters within the nuke plant's port area. Analysis revealed that all products were below 100 Becquerels per kilogram of Cesium, and 7,702 contained no detectible radioactive Cesium. The highest concentration of 94 Bq/kg was with stingrays, which is not a food fish. It is important to note that 21 species of fish remain banned for marketing, even though none of them have Cesium concentrations above Japan's highly-restrictive limit. (The international standard is 1,000 Bq/kg)
<http://www.jaif.or.jp/en/for-the-first-time-since-fukushima-accident-no-marine-products-show-radioactive-concentrations-above-the-reference-value/>
- Tokyo's antinuclear tent village will be forcibly removed. Five years ago, tents were placed outside the Industry Ministry in Kasumigaseki by antinuclear groups in order to hold a perpetual protest against nukes in Japan. METI filed for a court injunction, and a fine to pay for the use of public property, against the antinuclear village in 2012. A Tokyo court invoked the injunction in 2013, but the apparently well-heeled protestors have appealed at every level since then. On July 28th (one week ago), Japan's Supreme Court upheld the lower court ruling, and none of the popular Press reported on it. Not only will the tents be forcibly removed and protestors evicted, but those funding the antinuclear village will have to pay for land use. The fine will be about \$100 for each day the tents were on METI property, for a total of more than \$390,000 plus interest. The antinukes cried "foul", claiming that the government was violating their constitutional right to freedom of expression. <http://www.jaif.or.jp/en/japanese-government-wins-in-supreme-court-tents-of-anti-nuclear-groups-next-to-meti-ministry-building-to-be-forcibly-removed/>

- Re-use of radioactively-benign soil could save Japan as much as \$15 billion. Tokyo has declassified rural soil that has decayed below 8,000 Becquerels per kilogram, and plans to use it for public works projects. Critics want Tokyo to wait until radioactivity drops below 100 Bq/kg, which is the standard for recycling metals in the *Act on the Regulation of Nuclear Source Material, Nuclear Fuel Material and Reactors*. As such, the additional storage time would be about 170 years. The Environment Ministry argues that once the material is covered by pavements, the radioactivity at the surface would be well-below the limit. The ministry says, "Considering economic and social factors, it is appropriate to set the radioactivity concentration of recycled materials at several thousand Becquerels... it is difficult to (set the standards for reusing tainted soil) at 100 Becquerels from a realistic point of view." Instead of spending an estimated \$30 billion for 170 years of storage, the cost would be reduced to \$15 billion. <http://mainichi.jp/english/articles/20160803/p2a/00m/0na/014000c>
- Many local governments have worries about "indoor evacuation" (sheltering) plans. Those within a radius of 5 to 30 km would be told to initially stay indoors, then evacuate in stages if necessary. Temporary sheltering is intended to facilitate prompt evacuation of the 5km radius around a nuke accident. A survey conducted from mid-June to mid-July, covered 21 prefectural governments and 135 municipalities within a 5-30 km radius of nuke stations. Of the groups that responded, 71 expressed concern about the guidelines, while 22 said they were not worried. The concerned officials say that planning does not take into account the destruction of evacuation routes, bridges, and other buildings in the surrounding area, should sheltering not be enough to protect citizens. The NRA says local governments should not be concerned. One NRA official said, "Indoor evacuation will not be for a prolonged period. Gyms and other public facilities would be available for residents even if their homes were destroyed." <http://www.asahi.com/ajw/articles/AJ201608030068.html>

August 1, 2016

- Tomioka Town begins preparation for repopulation. Tokyo plans to begin temporary home stays for two zones in Tomioka, which is located between 5-12km south of F. Daiichi and inside the mandated evacuation zone. The government wants to lift the current restrictions by next April. Decontamination efforts are nearly completed, two convenience stores have opened, and a medical facility will provide medical services beginning in October. Some assembly members called for the full resumption of the Futaba Police Station's main office in Tomioka to dispel anxiety over public safety, while others requested the display of a town radiation dosage map showing radiation "hot spots". One "difficult to return" zone in the town will not be affected by Tokyo's repopulation plans. <http://www.fukushimaminponews.com/news.html?id=702>
- There is more than 700,000 tons of water in storage at F. Daiichi. Out of the roughly 707,000 tons in storage, nearly 670,000 tons have been run through the multi-nuclide removal systems, of which almost 189,000 tons have been further processed to remove detectible levels of Strontium-90 so that only biologically-innocuous Tritium remains. Because of a popular aversion to radiation and the mere possibility of exposure, the purified water storage problem continues to

amplify. One important point is that the current volume of water remaining in the basements of the four damaged units is roughly 60,000 tons, which is down from the 66,000 ton total in January. http://www.tepco.co.jp/en/press/corp-com/release/betu16_e/images/160729e0101.pdf --

http://www.tepco.co.jp/en/press/corp-com/release/betu16_e/images/160108e0201.pdf

- Iodine Jelly will be stockpiled for infant ingestion in the unlikely event of another nuke accident. The jelly is strawberry flavored, and can be dissolved in hot water or milk for consumption. There currently are about 115,000 infants within 30 kilometers of Japan's eleven nuclear stations. But, Tokyo will have 300,000 doses of the jelly stored around the nuke locations to cover a worst-case scenario. Previously, the plan was to have pharmacists dissolve iodine powder for infants after they have been evacuated. However, it has been decided that the protective measure could come too late for infants, whose thyroids are assumed to be more susceptible to small doses of radioactive iodine. The government has placed an order for the jelly and will begin distribution to municipalities in September. Tokyo will provide financial support for the communities to stock the medication.
<http://www.asahi.com/ajw/articles/AJ201608010008.html>
- Two more Press outlets report on unit #2's non-melt-through. On Friday, the Asahi Shimbun and Kyodo News posted articles on Tepco's unit #2 muon scan results. Kyodo News' report contained rhetoric steeped in doubt, while the Asahi report was definite and indubious. In fact, the Asahi stated that the findings disproved prior speculations of a complete melt-through, "Most of the nuclear fuel inside the No. 2 reactor at the Fukushima No. 1 nuclear power plant apparently did not melt through the pressure vessel as previously believed... The latest finding negates past studies that have suggested that most of the nuclear fuel inside the reactor had melted through the vessel." This brings the total number of Press outlets in Japan to report on finding the corium to four (out of more than 50). As yet, we have been unable to find any international Press coverage.
<http://www.asahi.com/ajw/articles/AJ201607290050.html> --
<http://english.kyodonews.jp/news/2016/07/423504.html>
- The Industry Ministry (METI) considers a new public fund for F. Daiichi decommissioning. Tepco will have repay any money to the national government over a long period of time. The scheme ensure steady progress in the decommissioning effort. It is estimated that total cost of decommissioning will be "tens of billions" of dollars. Tepco says they have been able to secure nearly \$20 billion and the public fund would cover anything over that amount. This should provide assurance of the recovery of Fukushima Prefecture. However, METI says the creation of the fund would require yet another Tepco management reformation. The ministry plans to submit their proposal to the Diet (national congress) next year. <http://asia.nikkei.com/Politics-Economy/Policy-Politics/Public-fund-may-help-decomission-Fukushima?page=2>

Information Notices

Unless otherwise noted, these are 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>

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<http://www.nrc.gov/reading-rm/doc-collections/gen-comm/reg-issues/2013/>.

To access these documents use the ADAMS Accession number listed with the title.

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Fermi 3

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