

The Week That Was: 2011-03-26 (March 26, 2011)

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The Science and Environmental Policy Project

PLEASE NOTE: The complete TWTW, including the articles, can be downloaded in an easily printable form at the SEPP web site: www.sepp.org.

Quote of the Week:

The reason for so much bad science is not that talent is rare, not at all; what is rare is character.
--Sigmund Freud, H/T William Readdy

Number of the Week: Approximately 31.6

THIS WEEK:

By Ken Haapala, Executive Vice President, Science and Environmental Policy Project (SEPP)

The reporting of the earthquake and tsunami in Japan continues with the sensationalism of the Fukushima Dai-ichi nuclear power plant dominating over the human suffering caused by the natural disaster. In the mid-week, three workers at Reactor # 3 stepped into a pool of water that was more radioactive than expected. Reports from AP, and others, speculated that the radioactivity of this water may indicate a breach in the steel reactor vessel. Adding to the fears, Reactor # 3 is fueled by a combination of plutonium and uranium. However, other reports stated that readings from the reactor instruments indicate no change in reactor pressure, which indicates no breach in the reactor vessel. As of this writing, the cause of higher than expected radioactivity in the water is unresolved.

Evidence increases that the automatic mechanisms shutting down the nuclear reaction at all reactors performed as designed and back-up power went on when the reactors were disconnected from the grid. (According to reports, thirteen other nuclear power plants were affected by the earthquake and functioned as designed.) As discussed in TWTW last week, it was the tsunami that followed, about one hour later, which created the emergency at Dai-ichi by destroying the back-up power required to pump cooling water through the reactors and the cooling pools. Reports are conflicting, but, apparently, the tsunami was up to 5 meters (15 feet) higher than anticipated in the design plan for the power plant and sea wall.

The placement of fuel assembly cooling pools on top of the reactor containment structures was a second major flaw in the forty-year-old plans. No doubt such flaws will be addressed in the future.

As the sensationalism of the nuclear incident in Japan diminishes, even as the human tragedy continues, the speculation is shifting to what will happen to the nuclear power industry in Japan and world-wide. In a single issue, the normally staid *Wall Street Journal*, published articles containing opposing views for Japan: one, no change; two, the industry is derailed. Similar conflicting views abound. Germany, apparently, has reversed course, again, and will shut down its nuclear industry. Italy stopped permitting for a year.

Other than completing construction of a US Tennessee Valley Authority plant started in the 1980's, the US has no nuclear plants under construction. The Federal government announced reviews of the current operating plants and the on-site storage of spent fuel and other waste. Of course, by closing down the nation's only engineered nuclear waste facility, at Yucca Mountain, the current administration created a trap for the US nuclear industry. The environmental industry will bitterly fight any new nuclear projects without an existing nuclear waste storage facility, even though the environmental industry bitterly fought, and succeeded, in preventing such a storage facility. (SEPP thinks spent fuel should be recycled, not buried.)

Although it declared to suspend approvals of proposed new projects pending further review, China is pushing forward in its quest to be the world leader in modern nuclear power.

According to reports, the estimated 27 power plants under construction (sources vary) include the following: 18 are advanced designs of the French Generation II pressurized water reactors, 5 are Westinghouse AP 1000 Generation III modular reactors, and 2 are Areva EPR (first called European Pressurized Reactor) which are Generation III plus. Only Finland and France have an Areva EPR under construction and both are experiencing delays and cost overruns. Yet, China is starting two.

In addition, in April, China plans to start construction on the first full-sized pebble bed, modular, nuclear power plant, the HTGR, that will use the inert gas helium, rather than water, for a coolant. (Similar reactors have been tried in Germany and South Africa, but abandoned.) China is calling its venture a necessary step to a Generation IV nuclear power plant.

As explained TWTW last week, Generation III plus reactors have passive safety features – no operators, external power or pumps, etc. are necessary to control the cooling in case of an emergency.

In addition, modular construction as in the AP 1000 and HTGR, with standardization of parts, should allow greater control of construction costs and time tables, reduction of costs with volume, enhanced quality control, and provide systematized maintenance. Many of these issues arise with US reactors that are in a variety of sizes and types.

As the West becomes more introspective, and politicians allied with the environmental industry call for their vision of “21st Century renewable power,” China is becoming the world leader in modern nuclear power.

(Please see articles under “China Leads in Nuclear,” “Calming Fears of Nuclear Energy,” “Fanning Fears of Nuclear Energy,” and “Responses and Issues Remaining.”)

Number of the Week: Approximately 31.6. Last week, in discussing the Richter scale, TWTW omitted explaining the second part of the Richter formula, which includes the square root of 10. Several TWTW readers alertly informed us of this error. By the Richter scale, an increase from 8 to 9 represents an increase in strength of an earthquake of about 31.6 times, rather than 10 times, as previously stated.

TWTW Corrections and Amplifications: Nuclear power experts David Manuta and Martin Hertzberg clarified last week’s discussion concerning the reaction of zirconium with steam. The reaction does not occur until temperatures reach about 1000 deg C or more, depending upon the zirconium alloy. After his investigation of Three Mile Island, Hertzberg advised the Electric Power Research Institute that the oxidation of zirconium produces additional heat, raising temperatures, intensifying the chemical reaction, making the combination unstable. Further, he stated that in concentrations above 8% the hydrogen can be an explosive, creating pressures of 140 psi and above. TWTW stands ably corrected.

As its power to regulate carbon dioxide emissions continues to be questioned by the US House of Representatives, the US EPA continues to march forward claiming additional powers and claiming extremely questionable benefits. EPA is proposing new regulations on mercury emissions from coal-fired power plants. EPA claims an additional 17,000 lives will be saved each year.

The New York Times takes up the EPA clarion call, announcing the 17,000 lives saved each year as definitive. Several days later, a study published in the New England Journal of Medicine demonstrates that mercury is not an issue in the United States for diseases speculatively associated with mercury. Although the study covered only cardiovascular and similar diseases from the injection of mercury from fish, one must ask, what is the basis for EPA claims so trumpeted by NYT?

Several US Senators are calling for an accounting of EPA claims. TWTW believes EPA claims will crumble before any honest investigation. (Please see referenced under “EPA and other Regulators on the March.”

A US Federal Government funded report stated that the BP Oil Spill was directly caused by the failure of the blow-out preventer to properly close after the explosion on the BP oil drilling rig. According to the report, the blow-out preventer came within 1.4 inches of shutting off the drill pipe, but the explosion of the well caused a shift in the position of the pipe that prevented the blow-out preventer from fully closing.

Now doubt, any engineering and human operating procedures errors causing this failure must be addressed. But shall the recourses be denied? According to reports 4.9 millions of barrels of oil escaped through this small opening. How vast is the field? The poor safety record of BP is no reason for the administration to stop oil exploration and development in the Gulf. (Please see articles referenced under “BP Oil Spill and Administration Control of Drilling.”)

For several years, the defenders of the orthodoxy, including the UN Intergovernmental Panel on Climate Change (IPCC), have claimed that they can succeed to defeat the few “deniers” if only they could communicate better with the public. Spending tens of millions of dollars, the defenders of the orthodoxy have engaged international advertising firms, pressure groups, Hollywood, etc.

In this process, the defenders of the orthodoxy have shifted from human-caused global warming, to climate change, to climate disruption, and, now, carbon pollution. All of these terms to mask what they desire: control of carbon dioxide – a non-toxic gas, essential for life, that cannot be verified as a toxin by standard scientific tests.

As Bob Carter, and others, boldly expressed, language is important. The defenders of the orthodoxy are manipulating language, as described by George Orwell. Things are made to seem what they are not. (Please see referenced articles under “Communicating Better by Changing Language.”

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ARTICLES:

For the numbered articles below please see: www.sepp.org.

1. Japan’s persistence prevails over panic

By Lana Spivak, American Council on Science and Health, Mar 21, 2011
No URL

2. Radiation Math: How Do We Count the Rays?

By Carl Bialik, WSJ, Mar 23, 2011
<http://online.wsj.com/article/SB10001424052748704461304576216820309494008.html>

3. We are walking greenhouse gas factories – will they come after us next?

By Joseph D’Aleo, ICECAP, Mar 23, 2011
<http://www.icecap.us/>

4. Five Questions for DOE Secretary Chu (so what has DOE R&D done for you lately?)

By Glenn Schleede, Master Resource, Mar 15, 2011
<http://www.masterresource.org/2011/03/five-questions-for-doe-secretary-chu/#more-14341>
[SEPP Comment: What is the return from spending \$150 Billion?]

5. Tsunamis of Information

By Gordon Crovitz, WSJ, Mar 21, 2011

<http://online.wsj.com/article/SB10001424052748704608504576208692948060656.html>

6. Utopian Policies Boosting Prices For U.S. Energy

By Victor Davis Hanson, IBD, Mar 24, 2011

<http://www.investors.com/NewsAndAnalysis/Article/567043/201103241709/Utopian-Policies-Boosting-Prices-For-US-Energy.htm>

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NEWS YOU CAN USE:

Climategate Continued

Hide the Decline: Sciencemag # 3

By Steve McIntyre, Climate Audit, Mar 23, 2011

<http://climateaudit.org/>

IPCC guru was a student when writing ‘authoritative’ reports

By Thomas Lifson, American Thinker, Mar 19, 2011 [H/t Catherine French]

http://www.americanthinker.com/blog/2011/03/ipcc_guru_was_a_student_when_w.html

Challenging the Orthodoxy

What Really Threatens Our Future?

By Willie Soon and Barun Mitra, Townhall, Mar 22, 2011

http://townhall.com/columnists/williesoon/2011/03/21/what_really_threatens_our_future

Global Greening Continues: Did We Cause It/

World Climate Report, Mar 23, 2011

<http://www.worldclimaterreport.com/index.php/2011/03/23/global-greening-continues-did-we-cause-it/#more-481>

More Climate Disruption Drivel

By Anthony Sadar and Stanley Penkala, American Thinker, Mar 22, 2011

http://www.americanthinker.com/2011/03/more_climate_disruption_drivel.html

U.S. Life Expectancy at All-Time High

World Climate Report, Mar 17, 2011

<http://www.worldclimaterreport.com/index.php/2011/03/17/us-life-expectancy-at-all-time-high/>

Communicating Better by Changing Language

Granholt: Clean energy campaign to steer clear of climate

By Andrew Restuccia and Ben Geman -, Hill, Mar 23, 2011

<http://thehill.com/blogs/e2-wire/677-e2-wire/151577-overnight-energy>

The Seas are Changing

Climate change-triggered high sea level led to more damage in Japan: Pachauri

By Staff Reporter, Hindu Times, Mar 23, 2011 [H/t WUWT]

<http://www.hindu.com/2011/03/23/stories/2011032356101000.htm>

[SEPP Comment: If the 17 cm (7.7 inch) increase in sea level during the 20th Century intensified the tsunami, what did the 400 foot increase in sea level from warming melting the Ice Age do?]

Education coordinator in sea level front page scare story in NJ Press ignores or distorts the facts

ICECAP, Mar 25, 2011

<http://www.icecap.us/>

[SEPP Comment: ICECAP's commentary is illuminating.]

Extreme Weather

Global Tropical Cyclone Activity

2010 is in the books

By Ryan Maue, FSU, Feb 2011

<http://www.coaps.fsu.edu/~maue/tropical/>

Tropical Storm Activity Hits A 40-Year Low – Possibly “Unprecedented”!

By P. Gosselin, NoTricksZone, Mar 21, 2011 [H/t Marc Morano, Climate Depot]

<http://notrickszone.com/2011/03/21/tropical-storm-activity-hits-a-40-year-low-possibly-unprecedented/>

Was 2010 the hottest ever?

By Jo Nova, Mar 23, 2011

<http://joannenova.com.au/2011/03/was-2010-the-hottest-ever/#more-13879>

Recent Weather Extremes: Global Warming Fingerprint Not

By Chip Knappenberger, Master Resource, Mar 21, 2011

<http://www.masterresource.org/2011/03/recent-weather-extremes-fingerprint-not/>

The Political Games Continue

Inhofe, Johanns Introduce Bill to Conduct Economic Analysis of EPA Rules

By Staff Writers, Power News, Mar 23, 2011

http://www.powermag.com/POWERnews/3540.html?hq_e=el&hq_m=2167440&hq_l=11&hq_v=5e660500d0

[SEPP Comment: Sorely needed!]

EPA and other Regulators on the March

CEI Study Challenges EPA Claim to Deliver \$30 in Benefits for Every Dollar of Cost

By Marlo Lewis, Global Warming.org, Mar 23, 2011

<http://www.globalwarming.org/2011/03/23/cei-study-challenges-epa-claim-to-deliver-30-in-benefits-for-every-dollar-of-cost/>

EPA's Utility MACT Proposal: Negative Economics for What?

By Scott Segal, Master Resource, Mar 17, 2011

<http://www.masterresource.org/2011/03/epa-utility-mact-proposal/#more-14408>

Long-Delayed Rules for Cleaner Air

Editorial, NYT, Mar 20, 2011

<http://www.nytimes.com/2011/03/21/opinion/21mon2.html?nl=todaysheadlines&emc=tha211>

[SEPP Comment: The Gray Lady accepts EPA numbers as unquestionable. Yet, much of the airborne mercury and other pollutants come from China and India which show no interest in such regulations. The question is: do emissions from coal fired power plants in the US cause increases in death from mercury poisonings? See below.]

Mercury Exposure and Risk of Cardiovascular Disease in Two U.S. Cohorts

Mozaffarin, Dariush, MD, et al., New England Journal of Medicine, Mar 24, 2011

<http://www.nejm.org/doi/full/10.1056/NEJMoa1006876>

[Conclusions: “We found no evidence of any clinically relevant adverse effects of mercury exposure on coronary heart disease, stroke, or total cardiovascular disease in U.S. adults at the exposure levels seen in this study”. (Funded by the National Institutes of Health.)]

Showdown in Texas over EPA climate rules

By Andrew Restuccia, Hill, Mar 24, 2011

<http://thehill.com/blogs/e2-wire/677-e2-wire/151739-showdown-in-texas-over-epa-climate-rules>

EPA Sets New GHG Reporting Deadline, Delays Water Intake System Rules

By Staff Writers, Power News, Mar 23, 2011

http://www.powermag.com/POWERnews/3539.html?hq_e=el&hq_m=2167440&hq_l=7&hq_v=5e66050d0

Texas Cites EPA Error in Testing of Wells

By Russell Gold, WSJ, Mar 23, 2011

http://online.wsj.com/article/SB10001424052748704461304576216683622068802.html?mod=ITP_pageone_1

Stealth-And-Trade

Editorial, IBD, Mar 24, 2011

<http://www.investors.com/NewsAndAnalysis/Article/567121/201103241838/Stealth-And-Trade.htm?>

EPA tackles acidic oceans

By Les Blumenthal, Olympian, Apr 4, 2010

<http://www.theolympian.com/2010/04/04/1194489/epa-tackles-acidic-oceans.html>

[SEPP Comment: A dated article that describes an issue coming to a head. The EPA is using its expanded powers under the Clean Air Act in which EPA claims carbon dioxide threatens human health and welfare to expand powers in regulating oceans.]

EPA tells states to consider rising ocean acidity

By Staff Writers, AP, Nov 16, 2010

<http://www.columbian.com/news/2010/nov/16/epa-tells-states-to-consider-rising-ocean-acidity/>

[SEPP Comment: Totally missed on how EPA expands its preemptive power.]

Cap-and-Trade and Carbon Taxes

Andrew Bold interview of Climate Commissioner Tim Flannery exposes the futility of carbon control (with Note from Bob Carter)

ICECAP, Mar 25, 2011

<http://www.icecap.us/>

Subsidies and Mandates Forever

Pull the Plug on Electric Car Subsidies

They are costly and don't do enough to protect the environment

May Margo Thorning, WSJ, Mar 24, 2011

http://online.wsj.com/article/SB10001424052748704050204576218541134110456.html?mod=djemEditorialPage_h

[SEPP Comment: May be behind a pay wall.]

Energy Issues

China Leads in Nuclear

Nuclear construction milestones at Haiyang 2

By Staff Writers, World Nuclear News, Mar 24, 2011

http://www.world-nuclear-news.org/NN_Nuclear_construction_milestones_at_Haiyang_2_2403111.html

China 210 MWe pebble bed reactor starts construction in April, 2011

By Staff Writers, Next Big Future, Mar 23, 2011

<http://nextbigfuture.com/2011/03/china-210-mwe-pebble-bed-reactor-starts.html>

A Radical Kind of Reactor

By Keith Bradsher, NYT, Mar 24, 2011

<http://www.nytimes.com/2011/03/25/business/energy-environment/25chinanuke.html?nl=todaysheadlines&emc=tha25>

Nuclear construction milestones at Haiyang 2

By Staff Writers, World Nuclear News, Mar 24, 2011

http://www.world-nuclear-news.org/NN_Nuclear_construction_milestones_at_Haiyang_2_2403111.html

US Restriction of Energy

Shouldn't Canada – our largest oil supplier – come before Brazil?

By Mark Tapscott, Washington Examiner, Mar 21, 2011

<http://washingtonexaminer.com/blogs/beltway-confidential/2011/03/shouldnt-canada-our-largest-oil-supplier-come-brazil>

Western Energy Alliance documents top 10 ways federal bureaucrats are suffocating U.S. energy

By Mark Tapscott, Washington Examiner, Mar 20, 2011

<http://washingtonexaminer.com/blogs/beltway-confidential/2011/03/western-energy-alliance-documents-top-10-ways-federal-bureaucrats>

Top Ten Ways the Federal Government is Preventing Onshore Oil and Natural Gas Production

Western Energy Alliance

<http://westernenergyalliance.org/wp-content/uploads/2011/03/Western-Energy-Alliance-IPAMS-Position-Paper-Top-10-Ways-Onshore-Production-is-Being-Prevented.pdf>

The new impossible energy no-fly zone

By Terence Corcoran, Financial Post, Mar 16, 2011

<http://opinion.financialpost.com/2011/03/16/terence-corcoran-the-new-impossible-energy-no-fly-zone/>

Calming Fears of Nuclear Energy

Nuclear Energy and Health, And the Benefits of Low-Dose Radiation Hormesis

By Jerry Cuttler, and Myron Pollycove, ASCH, Mar 27, 2009

http://www.acsh.org/publications/pubid.1790/pub_detail.asp

Fanning Fears of Nuclear Energy

The Worst Case: What If the Water Ran Dry in the Japanese Reactors?

By Eli Kintisch and Arian Cho, Science Insider, Mar 17, 2011 [H/t Toshio Fujita]

<http://news.sciencemag.org/scienceinsider/2011/03/the-worst-case-what-if-the-water.html>

Anxiety Up as Tokyo Issues Warning on Its Tap Water

By David Jolly and Denise Grady, NYT, Mar 23, 2011

http://www.nytimes.com/2011/03/24/world/asia/24japan.html?_r=1&nl=todaysheadlines&emc=tha2

Responses and Issues Remaining

Why what's happened in Japan should be an ENDORSEMENT of nuclear power

By Michael Hanlon, Mail Online, UK, Mar 19, 2011 [H/t Malcolm Ross]

<http://www.dailymail.co.uk/debate/article-1367289/Japan-earthquake-tsunami-Are-right-worry-nuclear-angle.html#ixzz1GyKvYYgy>

Top Nuclear Aide Sees No Slowing of Sector

By Norihiko Shirouzu, WSJ, Mar 25, 2011

http://online.wsj.com/article/SB10001424052748704050204576218470429152728.html?mod=WSJ_Energy_leftHeadlines

[SEPP Comment: May be behind a pay wall.]

Japan Nuclear Plans Derailed

By Mari Iwata, WSJ, Mar 25, 2011

http://online.wsj.com/article/SB1000142405274870451740457622232396671742.html?mod=WSJ_Energy_leftHeadlines

[SEPP Comment: May be behind a pay wall.]

Three lessons from Japan's nuclear crisis

Obama will wreck his energy plan if he fails to learn them

By Iain Murry, Washington Times, Mar 23, 2011

<http://www.washingtontimes.com/news/2011/mar/23/three-lessons-from-japans-nuclear-crisis/>

Germany makes plans to abandon nuclear power

By Staff Writers, AP, Mar 23, 2011

<http://www.washingtontimes.com/news/2011/mar/23/germany-makes-plans-to-abandon-nuclear-power/>

Japan Nuclear Crisis Revives Long U.S. Fight on Spent Fuel

By Matthew Wald, NYT, Mar 23, 2011

<http://www.nytimes.com/2011/03/24/us/24yucca.html?nl=todaysheadlines&emc=tha24>

Obama's nuclear negligence

Toying with waste storage exposes America to Japan-type disaster

Editorial, Washington Times, Mar 21, 2011

<http://www.washingtontimes.com/news/2011/mar/21/obamas-nuclear-negligence/>

Daiichi Prompts Renewed Scrutiny of Existing, New Reactors

By Staff Writers, Power News, Mar 23, 2011

http://www.powermag.com/POWERnews/3538.html?hq_e=el&hq_m=2167440&hq_l=6&hq_v=5e66050d0

Natural gas to gain from nuclear crisis

By Staff Writers, Energy Daily, Mar 22, 2011 [H/t Toshio Fujita]

http://www.energy-daily.com/reports/Natural_gas_to_gain_from_nuclear_crisis_999.html

America's Last Nuclear Hope

By William Tucker, American Spectator, Mar 2011

<http://spectator.org/archives/2011/03/21/americas-last-nuclear-hope>

It Could Happen Here

By Frank Von Hippel, NYT, Mar 23, 2011

<http://www.nytimes.com/2011/03/24/opinion/24Von-Hippel.html?nl=todaysheadlines&emc=tha212>

BP Oil Spill and Administration Control of Drilling

A preventable bankruptcy in the Gulf of Mexico

Opinion by Randy Stille, Washington Post, Mar 23, 2011

http://www.washingtonpost.com/opinions/a-preventable-bankruptcy-in-the-gulf-of-mexico/2011/03/19/ABnGs3KB.html?utm_source=Newsletter&utm_medium=Email&utm_campaign=Morning%2BBell

Device's Design Flaw Let Oil Spill Freely

Government-Funded Study Finds Blowout Preventer Couldn't Handle Worst-Case Scenario in Gulf; BP Gets a Small Boost

By Ben Casselman and Russell Gold, WSJ, Mar 24, 2011

http://online.wsj.com/article/SB10001424052748704050204576218653335935720.html?mod=WSJ_US_News_5

[SEPP Comment: Article may be behind a pay wall.]

California Dreaming

Judge places California's global warming program on hold

By Staff Writers, LA Times, Mar 21, 1011 [H/t Roger Cohen]

<http://latimesblogs.latimes.com/greenspace/2011/03/california-global-warming-program-put-on-hold.html>

Review of Recent Scientific Articles by NIPCC

For a full list of articles see www.NIPCCreport.org

Trends in Atlantic Tropical Cyclone Characteristics

Reference: Landsea, C.W., Vecchi, G.A., Bengtsson, L. and Knutson, T.R. 2010. Impact of duration thresholds on Atlantic tropical cyclone counts. *Journal of Climate* **23**: 2508-2519.

<http://www.nipccreport.org/articles/2011/mar/22mar2011a1.html>

Earth's Incredible Dissolving Corals

Reference: Silverman, J., Lazar, B., Cao, L., Caldeira, K. and Erez, J. 2009. Coral reefs may start dissolving when atmospheric CO₂ doubles. *Geophysical Research Letters* **36**: 10.1029/2008GL036282.

<http://www.nipccreport.org/articles/2011/mar/22mar2011a4.html>

The Response of Norwegian Sea Temperatures to Solar Forcing

Reference: Sejrup, H.P., Lehman, S.J., Haflidason, H., Noone, D., Muscheler, R., Berstad, I.M. and Andrews, J.T. 2010. Response of Norwegian Sea temperature to solar forcing since 1000 A.D. *Journal of Geophysical Research* **115**: 10.1029/2010JC006264.

<http://www.nipccreport.org/articles/2011/mar/23mar2011a1.html>

The Impact of Urbanization on Indian Monsoon Rainfall

Reference: Kishtawal, C.M., Niyogi, D., Tewari, M., Pielke Sr., R.A. and Shepherd, J.M. 2010. Urbanization signature in the observed heavy rainfall climatology over India. *International Journal of Climatology* **30**: 1908-1916.
<http://www.nipccreport.org/articles/2011/mar/23mar2011a4.html>

Other Scientific News

No joke; Air Force actually creates supercomputer from Playstations

By Anthony Watts, WUWT, Mar 23, 2011

<http://wattsupwiththat.com/2011/03/23/no-joke-air-force-actually-creates-supercomputer-from-playstations/#more-36520>

Other News that May Be Of Interest

G.E.'s Strategies Let It Avoid Taxes Altogether

By Kavid Kocienewski, NYT, Mar 24, 2011

http://www.nytimes.com/2011/03/25/business/economy/25tax.html?_r=1&nl=todaysheadlines&emc=thau2

[SEPP Comment: An unusual article usually reserved for Exxon Mobil and other oil companies. According to the article, GE considers its tax department as a profit center.]

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BELOW THE BOTTOM LINE:

We can help combat ocean acidification

By Rebecca Martin, Columbian, Mar 20, 2011 [H/t Bill Turlay]

<http://www.columbian.com/news/2011/mar/20/we-can-help-combat-ocean-acidification/>

Uncertain Future for Joshua Trees Projected with Climate Change

By Staff Writers USGS, Mar 24, 2010 [H/t WUWT]

<http://www.usgs.gov/newsroom/article.asp?ID=2723>

[SEPP Comment: What happened to the trees during the long warm period of 8000 to 5000 years ago?]

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ARTICLES:

1. Japan's persistence prevails over panic

By Lana Spivak, American Council on Science and Health, Mar 21, 2011

No URL

Ten days after a devastating 9.0 earthquake and tsunami wreaked havoc on Japan, engineers worked around the clock to successfully [restore](#) power to the cooling pumps in reactors No. 5 and 6 at the Fukushima Daiichi nuclear power plant. The partial restoration of electricity caused many to heave a sigh of relief as the threat of a nuclear meltdown became less and less likely.

But even though radiation levels have been reduced and stabilized, the aftermath following these combined natural disasters is overwhelming, with the death toll, recently estimated at 18,000, continuing to rise while another 452,000 displaced civilians currently live in shelters.

Public health organizations should continue to reiterate that the radiation levels as presently detected do not pose a health threat, says ACSH's Dr. Gilbert Ross. "In a disaster and tragedy of such historic proportions, it is easy for the fear of radiation exposure to divert valuable resources, time and energy from more important public health efforts."

While levels of radioactive iodine-131 in Japanese spinach have been shown to exceed safety limits by three- to seven-fold, Japanese food officials [say](#) that people would have to consume approximately one kilogram (2.2 pounds) of the leafy greens daily for the next year in order to experience any adverse health

effects. Iodine-131 and cesium-137 were also detected in small amounts in milk, but the radiation exposure from drinking the tainted milk for one year would be comparable to undergoing a CT scan, Japanese health officials say.

ACSH's Dr. Josh Bloom suggests that we keep exposure to small amounts of radiation in perspective. A recent report calculated that, while some radiation from Japan was [detected](#) on the West coast of the U.S., the amount of radiation found in the U.S. from the Japanese reactors was the equivalent to one-millionth of the dose we get from picking up a rock.

2. Radiation Math: How Do We Count the Rays?

By Carl Bialik, WSJ, Mar 23, 2011

<http://online.wsj.com/article/SB10001424052748704461304576216820309494008.html>

At the main gate of the heavily damaged Fukushima Daiichi nuclear power plant on Tuesday night, gamma radiation levels of about 240 microsieverts per hour were reported by the plant's operator, Tokyo Electric Power Co. About 75 miles southwest of the plant, Japan Atomic Energy Agency detectors picked up readings of up to 1,900 nanograys an hour. Meanwhile, spinach collected 60 miles southwest of the plant last Friday contained 54,000 becquerels per kilogram of the radioactive element iodine-131.

Keeping abreast of the nuclear news from Japan involves making sense of a dizzying array of measurements, most of which take their names from physicists who helped uncover the properties of radioactivity and its biological effects. All the numbers add up to a reassuring picture of very low risk from the radiation emitted from Fukushima so far, which is less than the amount people typically get from common sources such as the sun, medical tests and air travel. And scientists aren't convinced that there is any cancer risk from very low radiation doses. But that message can be obscured by the little-known units used to measure emissions.

The Numbers Guy Blog

- [Radiation Numbers in Damaged Japan Plant](#)

Becquerels, grays and sieverts all are internationally accepted units that quantify different aspects of radiation, while micro- and nano- are prefixes denoting one-millionth and one-billionth, respectively. Comparitively speaking, a becquerel is very little radiation, while a gray and a sievert are a lot, physicists say.

Adding to the confusion, some scientists, especially in the U.S., use the older terms curies, rads and rems to describe radiation. One sievert is equivalent to 100 rem. But physicists expect these units to gradually be phased out in scientific discourse, much as feet have given way to meters.

A becquerel constitutes one radioactive event per second. Becquerels are useful for describing the radioactivity of the source of emissions. But they don't indicate what kind of radioactivity is being emitted or how much radioactive energy and particles are present where people live, factors critical to determining how harmful the radiation will be.

Radioactivity detectors typically measure energy in terms of grays. A 132-pound person exposed to one gray has absorbed radiation energy equivalent to the amount of energy used by a 60-watt light bulb in one second.

Two radiation doses of equal amounts of energy might not be equally harmful, however. For example, radioactive energy from alpha particles, which are emitted when some kinds of uranium and plutonium

decay, are roughly 20 times more harmful than energy from beta or gamma radiation, the primary types emitted by the Fukushima reactor.

To distinguish between different levels of danger in similar quantities of radiation, scientists use a measure called a sievert. The advantage of sieverts is that they allow public-health experts to estimate how much harm the radiation has caused. By studying people who have been exposed to high doses of radiation, particularly survivors of the 1945 atomic bombs in Japan, scientists have derived a relationship between sieverts and the elevated risk of cancer. For every sievert a person absorbs, the risk of dying from cancer increases by about five percentage points.

But not everyone in the same place absorbs the same dose, partly because people who are indoors are protected by building materials; and younger people are more susceptible to radiation, as are those with certain genes.

Sieverts also don't take into account the duration of exposure. Many readings from Japan are stated in terms of sieverts per hour, and doses—and harm—accumulate over time. So, for instance, someone exposed to 240 microsieverts an hour over 1,000 hours would have an effective dose of 0.24 sievert, a significant amount. But scientists agree that the same dose is more harmful when delivered all at once, rather than spread out over many years, which gives the body a better opportunity to respond protectively. The risk of exposure to workers who deal with radioactive material is believed to be half that of someone who received the equivalent dose all at once.

Jacquelyn Yanch, a radiation physicist and senior lecturer at the Massachusetts Institute of Technology, says that assumption is an appropriate standard for the workplace but might lead to overly aggressive evacuations in the case of Japan, where the true danger from contaminated areas likely is lower than sieverts would suggest because the release of radiation has been drawn out.

Also controversial is whether low doses such as those currently encountered in Japan really do elevate cancer risk. Most scientists think that exposure to low doses of radiation causes a very small fraction of the total number of cancer deaths, making radiation fatalities very hard to measure.

Penelope Allisy-Roberts, director of the ionizing radiation department at the International Bureau of Weights and Measures in Sèvres, France, says that there is no scientific consensus that low doses pose any risk of cancer at all.

Researchers in the field "really, really do not know," she says.

3. We are walking greenhouse gas factories – will they come after us next?

By Joseph D'Aleo, ICECAP, Mar 23, 2011

<http://www.icecap.us/>

In recent testimony in congress the EPA administrator Lisa Jackson and friends depicted carbon dioxide as a health danger that needed regulation. They and the dimms on the committee referred to carbon dioxide at times in shorthand as carbon.

Rep. Joe Barton (R-TX) pointed out to Lisa Jackson, who with a background in Chemistry should know better, that she should refer to carbon dioxide not conflate it with carbon since carbon is so pervasive and critical to carbon based life forms like ours. It is also a component of most everything we eat or manufacture and value. "This table is made of carbon," Barton said "If you were wearing a diamond ring, Administrator Jackson, it would be made of carbon."

In actual fact the human body is 18% carbon. We breathe out carbon dioxide at 40,000 ppm over 100 times the ambient atmospheric levels. The human body is also 65% water by mass. We breathe out and evaporate from our pores water - more when the body is under heat stress as evaporation is a cooling process that all life forms use - one common example is a panting dog.

Water vapor and carbon dioxide are primary greenhouse gases. Some of us release methane in our flatulence (apparently not all - it is genetic believe it or not). Livestock do emit methane.

Watch out the EPA and the enviro groups might start focusing on us after they drive our power plants and factories out of business and ban meat.

4. Five Questions for DOE Secretary Chu (so what has DOE R&D done for you lately?)

By Glenn Schleede, Master Resource, Mar 15, 2011

<http://www.masterresource.org/2011/03/five-questions-for-doe-secretary-chu/#more-14341>

[SEPP Comment: What is the return from spending \$150 Billion?]

“If the guiding agency is less knowledgeable than the system it is trying to guide—and even worse, if its actions necessarily result in further undesired consequences in the working of that system—then what is going on is not planning at all but, rather, blind interference by some agents with the plans of others.”- Don Lavoie, *National Economic Planning: What is Left?* (Cambridge: Ballinger Publishing Company, 1985), p. 95.

Upon reading the latest letter from the Secretary of the Department of Energy, Stephen Chu, five questions came to mind. Perhaps he, a staffer, or *anyone else* can provide answers to see just how justified this part of DOE’s mission is during a time of fiscal challenge.

Question #1: Can Secretary Chu spell C-E-N-T-R-A-L P-L-A-N-N-I-N-G ?

Question #2: If there is “...deep energy expertise within the Department and our national laboratories...” how does one explain the minimal results from the approximately \$150 billion (2009\$) that has been poured into “energy R&D” (not counting money spent in basic sciences) by DOE and its predecessors?

Question #3: Has an energy technology promoted by DOE ever made it into unsubsidized commercial application? (Please list)

Question #4: Are the two key assumptions underlying DOE’s energy RD&D efforts — i.e., (i) more spending WILL overcome technology hurdles, and (ii) economies of scale WILL inherently bring down the price so that the technology will be competitive in commercial markets — really justified, recognizing the failure of these assumptions for every “winning” energy technology selected by the federal government during the past 45 years?

Question #5: Starting with 1973, how many different energy technologies have been picked as “winners” by federal officials (Administrations and/or Congress), only to have the technology fall by the wayside because of it proved to be (a) higher in cost, (b) lower in value, (c) technically impractical and/or (d) more environmentally unacceptable than its advocates claimed? (Please list.)

The letter that prompted the above queries concerns the call to update the annual DOE-Quadrennial Technology Review (QTR), as recommended by the President’s Council of Advisors on Science & Technology (PCAST).

From: Secretary Chu [<mailto:The.Secretary@hq.doe.gov>]

Sent: Thursday, March 10, 2011 6:14 PM

Subject: Department of Energy Quadrennial Technology Review

Dear Colleague,

At the end of last month, we released the Department of Energy's draft Strategic Plan for public comment. That document speaks to the full breadth of the Department, including the energy, basic science, nuclear security, and environmental cleanup missions and provides an articulation of our management principles. Additional reports and implementation plans will follow that provide greater detail about how each program line will accomplish our goals.

Our next step in energy will be to develop a DOE-Quadrennial Technology Review (QTR), as recommended by the President's Council of Advisors on Science & Technology (PCAST).

The DOE-QTR will focus on energy technology innovation and include:

- A description of the country's current energy landscape, identification of challenges to energy system transformation, and a clear vision of the Department's goals for energy innovation;
- A discussion of the roles of government, industry, national laboratories, and universities in energy system transformation;
- Roadmaps for advancing key energy technologies, including current status, historical pace of development and market diffusion, their technological potential, factors affecting their market prospects, and research and demonstration milestones;
- Principles by which the Department can judge the priority of various technology efforts; and
- The connections of energy technology innovation to energy policy.

A DOE-QTR will require strong input from many sources both inside and outside of the Administration. It will draw on the deep energy expertise within the Department and our National Laboratories, and we will need your input to establish strong and lasting results. We also plan to engage industry, business, state and local governments, nongovernmental organizations, and consumers as to how the Department can support energy technology innovation that enables energy transformation. The DOE-QTR will create a robust, multi-year energy technology roadmap with integrated views of short-, intermediate-, and long-term energy objectives.

I have asked Steve Koonin, Under Secretary for Science, to lead development of the DOE-QTR. He will announce the additional details of this effort soon. I have set an aggressive goal of having a draft document delivered to me by this July. Dr. Koonin's DOE-QTR team will coordinate closely with the CFO's Program Analysis & Evaluation team to coordinate data calls and share program responses as we start the formulation of the FY 2013 budget request. This will help couple the DOE-QTR effort to development of the FY 2013 budget request and minimize the demands on our program offices.

To allow Dr. Koonin to focus on this important task, for the duration of the DOE-QTR project, I am delegating Director of the Office of Science Bill Brinkman to serve in Under Secretary Koonin's role on several Department-wide executive boards. Dr. Brinkman will take on responsibility for issues coming before the Operations Management Council, the Information Management Governance Council, and the Energy Systems Acquisition Advisory Board.

In keeping with the President's commitment to transparency, the Department will adopt a policy of posting online all meetings with external parties that specifically discuss the DOE-QTR. Dr. Koonin will issue more detailed guidance on the transparency process soon.

You'll be able to follow the QTR project on PowerPedia at <https://powerpedia.energy.gov/wiki/DOE-QTR>.

We look forward to getting started on this project, which will help move us further down the path towards a clean energy future.

Sincerely,

Steven Chu

5. Tsunamis of Information

By Gordon Crovitz, WSJ, Mar 21, 2011

<http://online.wsj.com/article/SB10001424052748704608504576208692948060656.html>

Relying on records kept by Japanese monks in the year 869 to understand the impact of the undersea earthquake turned tsunami turned nuclear power-plant fiasco.

Those monastic records are the only surviving account of the last such powerful earthquake rupturing along this plate boundary, according to U.S. Geological Survey earthquake specialist Dave Applegate. Its location on the so-called Pacific Ring of Fire has long made Japan one of the most earthquake-prone places on earth, but even so, no one thought to build its nuclear power plants to the specifications based on the accounts of monks more than a millennium ago.

The plants were therefore built to withstand quakes of a magnitude 8.2, not the 9.0 that struck earlier this month. The difference sounds small, but given the logarithmic scale, this represents a 15-fold increase in force. The Japanese pride themselves on their engineering expertise, and despite the horrific scenes and leaked radiation, the engineering seems to have been fine. The plants would have withstood expected earthquakes and tsunamis. It was the assumptions about the risks of what might happen that turned out to have been faulty.

In this information-saturated era, we expect no surprises. Yet we are constantly surprised. We have huge amounts of data, so we assume that risks can be calculated and avoided. But we also have exceedingly complex systems. Just as weather is too hard to predict more than a few days out because of how many variables interact, it's hard to predict other complex systems. Consider credit instruments during the financial crisis, the global warming debate, or global epidemics. Thus an earthquake and tsunami, even in technologically advanced Japan, can kill tens of thousands, wipe out entire villages, and re-open questions about nuclear power.

We no longer believe in social engineering because we accept that human foibles make it hard to predict manmade outcomes. Physical science was supposed to be different. In 1974, when the social sciences

aspired to the apparent certainties of the hard sciences, Friedrich Hayek gave a lecture called "The Pretence of Knowledge," on the occasion of receiving the Nobel Prize in Economics. Hayek, the Austrian-born University of Chicago economist, made points that in retrospect help explain why tsunamis, hurricanes and earthquakes are more common than people expect.

"Unlike the position that exists in the physical sciences, in economics and other disciplines that deal with essentially complex phenomena, the aspects of the events to be accounted for about which we can get quantitative data are necessarily limited and may not include the important ones," he said. That makes it impossible to produce simple and reliable forecasts.

Hayek was not addressing nuclear power in particular, but his broader lesson helps put the Japanese events in context. "In the physical sciences it is generally assumed, probably with good reason, that any important factor which determines the observed events will itself be directly observable and measurable," he said. That is because the "great and rapid advance of the physical sciences took place in fields where it proved that explanation and prediction could be based on laws which accounted for the observed phenomena as functions of comparatively few variables—either particular facts or relative frequency of events. This may even be the ultimate reason why we single out these realms as 'physical.'"

But at least some physical systems turn out to be so complex that they resemble unpredictable social sciences more than the certainties of simpler physical science.

In short, should we be more fearful because the engineering at the Japanese nuclear facilities worked as planned, or because the plan assumed more predictability than was possible?

For social sciences such as economics, Hayek warned against "the belief that we possess the knowledge and the power which enable us to shape the processes of society entirely to our liking, knowledge which in fact we do not possess." He said that in the physical sciences, "there may be little objection to trying to do the impossible; one might even feel that one ought not to discourage the overconfident because their experiments may after all produce some new insights."

Technological advances such as nuclear power have risks, but we learn from them. More recently constructed nuclear plants have cooling systems that would have prevented or limited the damage. It's hard to remember in times of crisis, but the safety record of nuclear power is strong. Nuclear power has killed many fewer people in accidents than have coal mines, yet no one is panicking over coal mines.

Still, we fear what we cannot predict. This makes newer innovations such as nuclear power constant targets. It goes against the spirit of the age to accept that some systems are so complex that we cannot predict how they behave. We need to learn how to live with both new technologies and new uncertainties.

6. Utopian Policies Boosting Prices For U.S. Energy

By Victor Davis Hanson, IBD, Mar 24, 2011

<http://www.investors.com/NewsAndAnalysis/Article/567043/201103241709/Utopian-Policies-Boosting-Prices-For-US-Energy.html>.

Gas is well over \$4 a gallon in most places in California — and soaring elsewhere as well. But are such high energy prices good or bad?

That should be a stupid question. Yet it's not when the Obama administration has stopped new domestic offshore oil exploration in many American waters, curbed oil leases in the West, and keeps oil-rich Alaskan areas exempt from drilling.

Last week, President Obama went to Brazil and declared of that country's new offshore finds: "With the new oil finds off Brazil, President (Dilma) Rousseff has said that Brazil wants to be a major supplier of new stable sources of energy, and I've told her that the U.S. wants to be a major customer, which would be a win-win for both our countries."

Consider the logic of the president's Orwellian declaration: The U.S. in the last two years has restricted oil exploration of the sort Brazil is now rushing to embrace.

We have run up more than \$4 trillion in consecutive budget deficits during the Obama administration and are near federal insolvency.

Therefore, the U.S. should be happy to borrow more money to purchase the sort of "new stable sources of energy" from Brazil's offshore wells that we most certainly will not develop off our own coasts.

It seems as if paying lots more for electricity and gas, in European fashion, was originally part of the president's new green agenda. He helped push cap-and-trade legislation through the House of Representatives in 2009.

Had such Byzantine regulations become law, a recessionary economy would have sunk into depression. Obama appointed the incompetent Van Jones as "green jobs czar" — until Jones' wild rantings confirmed that he knew nothing about his job description "to advance the administration's climate and energy initiatives."

At a time of trillion-dollar deficits, the administration is borrowing billions to promote high-speed rail, and is heavily invested in the federally subsidized \$42,000 Government Motors Chevy Volt.

Apparently the common denominator here is a deductive view that high energy prices will force Americans to emulate European centrally planned and state-run transportation.

That conclusion is not wild conspiracy theory, but simply the logical manifestation of many of the Obama administration's earlier campaign promises.

Secretary of Energy Steven Chu — now responsible for American energy policy — summed up his visions to the Wall Street Journal in 2008: "Somehow we have to figure out how to boost the price of gasoline to the levels in Europe." I think Chu is finally figuring out the "somehow."

A year earlier, Chu was more explicit in his general contempt for the sort of fuels that now keep Americans warm and on the road: "Coal is my worst nightmare. ... We have lots of fossil fuel. That's really both good and bad news. We won't run out of energy but there's enough carbon in the ground to really cook us."

In fairness to Chu, he was only amplifying what Obama himself outlined during the 2008 campaign. Today's soaring energy prices are exactly what candidate Obama once dreamed about: "Under my plan of a cap-and-trade system, electricity rates would necessarily skyrocket."

Obama, like Chu, made that dream even more explicit in the case of coal. "So, if somebody wants to build a coal plant, they can — it's just that it will bankrupt them, because they are going to be charged a huge sum for all that greenhouse gas that's being emitted."

There are lots of ironies to these "Alice in Wonderland" energy fantasies. As the public become outraged over gas prices, a panicked Obama pivots to brag that we are pumping more oil than ever before — but only for a time, and only because his predecessors approved the type of drilling he has stopped.

The entire climate-change movement, fairly or not, is now in shambles, thanks to serial scandals about faked research, record cold and wet winters in much of Europe and the U.S., and the conflict-of-interest, get-rich schemes of prominent global-warming preachers such as Al Gore.

The administration's energy visions are forged by academics and government bureaucrats who live mostly in cities with short commutes and have worked largely for public agencies.

These utopians have no idea that without reasonably priced fuel and power, the self-employed farmer cannot produce food. The private plant operator can't create plastics.

And the trucker cannot bring goods to the consumer — all the basics like lettuce, iPads and Levis that a highly educated, urbanized elite both enjoys and yet has no idea of how a distant someone else made their unbridled consumption possible.