

NUCLEAR MONITOR

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A PUBLICATION OF WORLD INFORMATION SERVICE ON ENERGY (WISE)
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Dear readers of the WISE/NIRS Nuclear Monitor,

In this issue of the Monitor:

- We write about the escalating costs associated with the clean-up of the Waste Isolation Pilot Plant in the U.S. following the February 2014 underground explosion.
- Oliver Tickell writes about the UK government's decision to proceed with the Hinkley Point C reactor project.
- Bilbo Taylor writes about the Australia Nuclear Free Alliance's annual meeting and the struggles of Aboriginal people against uranium mining and nuclear waste dump proposals.
- Mary Olson writes about plans for 'interim' spent fuel stores in the US.

The Nuclear News section has reports on a study that finds that pro-nuclear countries are making slower progress reducing greenhouse emissions than non-nuclear countries; a study that found increased leukemia incidence near a Belgian nuclear facility; sorting fact from fiction regarding Germany's *energiewende*; Kuwait's decision to abandon plans for nuclear power; and more.

Feel free to contact us if you have feedback on this issue of the Monitor, or if there are topics you would like to see covered in future issues.

Regards from the editorial team.

Email: monitor@wiseinternational.org

WIPP waste fiasco could cost US\$2 billion

Author: *Jim Green – Nuclear Monitor editor*

NM830.4583 An analysis by the *Los Angeles Times* finds that costs associated with the February 2014 explosion in the world's only deep underground repository for nuclear waste – the Waste Isolation Pilot Plant (WIPP) in the U.S. state of New Mexico – could total US\$2 billion (€1.8b).¹

The direct cost of the clean-up is now estimated at US\$640 million (€573m), based on a contract modification made in July with contractor Nuclear Waste Partnership. The cost-plus contract leaves open the possibility of even higher costs as the

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clean-up continues and, as the *LA Times* notes, it does not include the complete replacement of the contaminated ventilation system (which failed after the February 2014 explosion) or any future costs of operating the repository longer than originally planned.

The lengthy closure following the explosion could result in operations extending for an additional seven years, at an additional cost of US\$200 million (€180m) per year or US\$1.4 billion (€1.25b) in total. Thus direct (clean-up) costs and indirect costs could exceed US\$2 billion. And further costs are being incurred storing waste at other nuclear sites pending the re-opening of WIPP.

Federal officials hope to resume limited operations at the WIPP repository by the end of this year, but full operations cannot resume until a new ventilation system is completed in about 2021.¹

The US\$2 billion figure is similar to the costs associated with the 1979 Three Mile Island disaster. The clean-up of Three Mile Island was estimated to cost US\$1 billion by 1993, or US\$1.7 billion adjusted for inflation today.¹

Yet another cost for the federal government was a US\$74 million (€66m) settlement paid to the state of New Mexico in January 2016.^{2,3} The negotiated agreement relates to the 14 February 2014 explosion and a truck fire that took place nine days earlier. It sets out corrective actions that Los Alamos National Laboratory (LANL – the source of the waste drum that exploded) and WIPP must take to resolve permit violations.

The US\$74 million settlement will be in lieu of fines imposed on the federal government by the state of New Mexico for the two incidents. The money will be used to improve roads in south-eastern New Mexico and around Los Alamos; to repair and improve water infrastructure in Los Alamos and improve regional water quality; to enhance training and capabilities of local emergency responders; to construct an offsite emergency operations center near WIPP; and to pay for independent, external triennial reviews of environmental regulatory compliance and operations at LANL and WIPP.^{2,3}

Government Accountability Office report

Given that the February 2014 fire and explosion exposed multiple levels of mismanagement and slack regulation, it was no surprise that the immediate response to the incidents was problematic. Everything that was supposed to happen, didn't – and everything that wasn't supposed to happen, did.⁴

And in light of the systemic problems with management and regulation, it is no surprise that clean-up operations over the past 2.5 years have been problematic. An August 2016 report by the Government Accountability Office (GAO) found that the federal Department of Energy (DOE) did not meet its initial cost and schedule estimates for restarting nuclear waste disposal operations at WIPP, resulting in a cost increase of about US\$64 million (€57m) and a delay of nine months.⁵

Worse still, mismanagement of the clean-up has involved poor safety practices. The GAO report states:⁵

“In May 2015, a DOE assessment found that pressure to achieve the March 2016 deadline contributed to poor safety practices in WIPP recovery efforts.⁶ In July 2015, DOE announced that it experienced delays in implementing the project baseline, including delays related to procuring equipment and delays related to correcting deficiencies in safety practices. As a result of these delays, the department announced that it would revise the WIPP project management baseline with the goal of developing a more realistic schedule. ...

“Nonetheless, the department still faces challenges in completing the recovery. For example, in March 2016, the Defense Nuclear Facilities Safety Board, which oversees DOE's nuclear facilities such as WIPP,

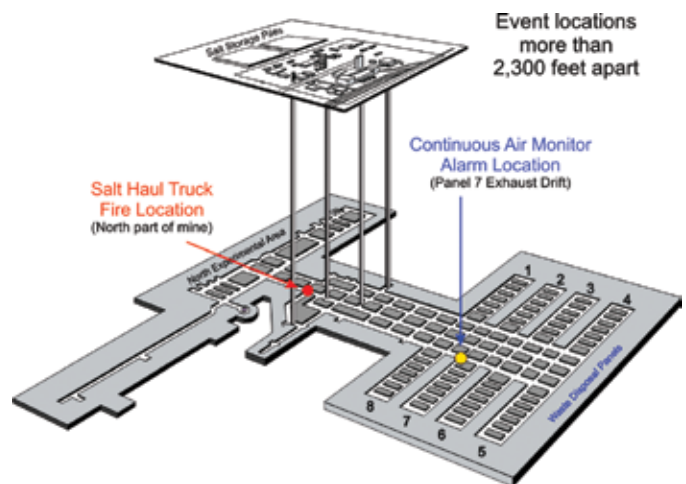


Diagram showing the locations of the 5 Feb. 2014 salt truck fire, and the 14 Feb. 2014 explosion in Panel 7 (which has now been sealed off).

reported⁷ that DOE had made progress in revising its nuclear safety plans at WIPP but additional work remained to address safety concerns to prevent a recurrence of the February 2014 radiological accident.”

Independent Office of Enterprise Assessments report

Last year, the DOE's Independent Office of Enterprise Assessments released a report that found that WIPP clean-up operations were being rushed to meet the scheduled reopening date and this pressure was contributing to poor safety practices.⁶

The report states: “The EA analysis considered operational events and reviews conducted during May 2014 through May 2015 and identified a significant negative trend in performance of work. During this period, strong and unrealistic schedule pressures on the workforce contributed to poor safety performance and incidents during that time are indicators of the potential for a future serious safety incident.”

The report points to “serious issues in conduct of operations, job hazard analysis, and safety basis.”

Specific problems identified in the report include:

- workers incorrectly changing filters resulting in five safety violations;
- waste oil left underground for an extended period despite a renewed emphasis on combustible load reduction;
- fire water lines inadequately protected against freezing;
- inadequate processes leading a small fire underground, followed by the failure of workers and their supervisor to report the fire;
- an operator improperly leaving a trainee to operate a waste hoist, the hoist being improperly used, tripping a safety relay and shutting down the hoist for hours;
- an engineer violating two safety postings to remove a waste hoist safety guard;
- workers removing a grating to an underground tank and not posting a barricade, causing a fall hazard;
- a backlog of hundreds of preventive maintenance items; and

- failing to properly track overtime such that “personnel may be working past the point of safety”.

The Office of Enterprise Assessments’ report concludes: “The issues discussed above could be leading indicators of a potentially serious incident in the future. Many more issues involving conduct of operations, maintenance, and inadequate controls also raise concerns about the possibility of a serious incident.”

Earlier this year, clean-up work in two underground areas was suspended for one month due to poor air quality. Work was stopped on February 22 after equipment detected elevated levels of carbon monoxide and volatile organic compounds.⁸

Radioactive contamination of the underground remains a problem, albeit the case that the size of the restricted area has been significantly reduced. “The facility was never designed to operate in a contaminated state,” said Don Hancock from the Southwest Research and Information Center. “It was supposed to open clean and stay clean, but now it will have to operate dirty. Nobody at the Energy Department wants to consider the potential that it isn’t fixable.”¹

Los Alamos National Laboratory at fault as well

While a number of reports have exposed problems at WIPP, others have exposed serious problems at LANL. An April 2015 report by DOE’s Accident Investigation Board (AIB) concluded that a culture of lax oversight and inadequate safety protocols and training at LANL led to the February 2014 explosion at WIPP.⁹

“If LANL had adequately developed and implemented repackaging and treatment procedures that incorporated suitable hazard controls and included a rigorous review and approval process, the [February 2014] release would have been preventable,” the AIB report states.

“The ineffectiveness and weaknesses in the oversight activities were at all levels,” said Ted Wyka, the DOE safety expert who led the investigation.¹⁰

The AIB report points to the failure of LANL to effectively review and control waste packaging, train contractors and identify weaknesses in waste handling. The board also found that LANL, contractor EnergySolutions and the National Nuclear Security Administration office at LANL failed to ensure that a strong safety culture existed at the lab.

The AIB found that workers did not feel comfortable raising safety issues and felt pressured to “get it done at all costs.” LANL employees also raised concerns that workers were brought in with little or no experience and rushed through an inadequate training program. “As a result,” the AIB report states, “there was a failure to adequately resolve employee concerns which could have identified the generation of non compliant waste prior to shipment” to WIPP.

The immediate cause of the 14 February 2014 explosion – mixing nitrate wastes with an organic absorbent (kitty litter) – was recognized as a potential problem in 2012, if not before. One worker told the AIB that when concerns were raised over the use of organic kitty litter as an absorbent, the employee was told to “focus on their area of expertise and not to worry about the other areas of the procedure.”

Workers noticed foaming chemicals and orange smoke rising from containers of nuclear waste at LANL, but supervisors told them to “simply wait out the reaction and return to work once the foaming ceased and the smoke subsided,” the AIB report states.

“Lessons were not learned,” the report states.

No doubt some lessons have been learned as a result of the underground explosion at WIPP. But Greg Mello from the Los Alamos Study Group points to a problem that is likely to recur. LANL receives bonuses from the DOE for meeting goals such as removing nuclear waste by a certain deadline. That deadline pressure was very much in evidence at LANL in the lead-up to the WIPP accident and it will likely weaken safety practices in future. “You can’t just say everyone has to try harder,” Mello said. “Mixing profit, deadlines and dangerous radioactive waste is incompatible.”¹¹

A February 2016 report from the DOE’s Office of the Inspector General (OIG) was equally scathing of LANL.¹² “Overall, we found LANL’s corrective action program did not always adequately address issues, did not effectively prevent their recurrence, and did not consistently identify systemic problems,” the report said. OIG auditors reviewed 460 issues cited between January 2009 and February 2014, and found “significant weaknesses” in the lab’s ability to analyze and document the root causes of problems – some of them significant health and safety issues – and find solutions.

LANL managers said they agreed with the OIG findings and were working to resolve problems. “The Laboratory is working closely with National Nuclear Safety Administration to address the findings of the audit report,” LANL said in a statement.¹³

But the National Nuclear Security Administration – a semi-autonomous agency within the DOE – is itself a big part of the problem of systemic mismanagement of nuclear sites.

National Nuclear Security Administration

A June 2015 Government Accountability Office report strongly criticized the National Nuclear Security Administration’s (NNSA) oversight of contractors who manage the nation’s nuclear weapons facilities.¹⁴ The report points to a litany of ongoing failures to properly oversee private contractors at eight nuclear sites, including those managing LANL. The report found that the NNSA lacked enough qualified staff members to oversee contractors, and it lacked guidelines for evaluating its contractors.

The *Santa Fe New Mexican* reported:¹⁵

“The GAO, which investigates federal agencies as requested by Congress, said the NNSA shortcomings stem from a 4-year-old experiment in reducing “overly prescriptive and burdensome” federal oversight of contractors by letting the private companies self-report their problems. NNSA staff told the GAO, however, that contractors aren’t always as self-critical as they need to be in assessing their own performance.

“The so-called “contractor assurance system” isn’t convincing the U.S. House Energy and Commerce

Committee that the management of the nation's nuclear facilities is improving. Committee leaders from both major political parties pointed to a leaking container of radioactive waste from Los Alamos that shut down a nuclear waste repository near Carlsbad last year as one of the incidents that prove the NNSA and the Department of Energy have a long way to go in improving oversight of private contractors.

"For nearly two decades, this committee has uncovered management challenges facing the DOE complex involving contractor oversight. For the past five years, DOE has experimented with a new approach to contractor oversight that is not ready for prime time,"

committee Chairman Fred Upton, R-Mich., and ranking member Frank Pallone Jr., D-N.J., said in a statement. "We saw the results of this experiment at the Y-12 security breach in Tennessee three years ago and more recently in oversight failures that led to a costly incident at the Waste Isolation Pilot Plant site."

Greg Mello from the Los Alamos Study Group was blunt in his criticism of the NNSA: "An agency that is more than 90 percent privatized, with barely enough federal employees to sign the checks and answer the phones, is never going to be able to properly oversee billion-dollar nuclear facilities of vast complexity and danger."¹⁵

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Hinkley C nuclear go-ahead: May caves in to pressure from France and China

Author: *Oliver Tickell – contributing editor, The Ecologist.*

NM830.4584 *The French and the Chinese may be celebrating the UK's decision to press ahead with the Hinkley C 'nuclear white elephant', writes Oliver Tickell. But the deal is a disaster for the UK, committing us to overpriced power for decades to come, and to a dirty, dangerous, insecure dead end technology. Just one silver lining: major economic, legal and technical hurdles mean it still may never be built.*

On September 15 the UK's energy department – the Department for Business, Energy & Industrial Strategy – announced the go-ahead for the controversial Hinkley Point C (HPC) nuclear power plant in Somerset.

Only weeks ago Prime Minister Theresa May's government delayed the signing of the deal with EDF

to confirm its subsidy package which is likely to cost UK energy users anywhere from £30 billion to over £100 billion (€35–117b; US\$39–130b) for 35 years after it opens.

The surprise move was widely welcomed due to a broad range of concerns about the HPC project, including:

- its very high cost, more than double the current wholesale power price and far more than the current cost of even high-cost renewable power from offshore wind;
- security concerns over China's involvement in core UK infrastructure;
- the lack of any single example of a working EPR reactor anywhere in the world;

- the severe delays, cost overruns and technical problems at all EPR construction sites;
- and the low value of HPC's contribution to UK energy supply in the new decentralised 'smart grid' era.

Pre-announcement spin indicated that the HPC deal would be subject to a number of "significant conditions" that would address these problems. But in the event energy secretary Greg Clarke is giving the go-ahead for HPC to almost precisely the same deal that was on the table before. The only difference to be found in the energy department announcement is that arrangements have been put in place to allow the Government to "prevent the sale of EDF's controlling stake prior to the completion of construction, without the prior notification and agreement of ministers."

In particular, the price remains unchanged.

Great for France, China – but what about the UK? The Brexit effect

Mrs May is known to have come under strong pressure from both French and Chinese governments to give HPC the go-ahead. Both governments have strong interests in seeing the project going ahead.

In the French case, the EPR reactor has cost EDF and Areva – both companies controlled and mostly owned by the French state – uncountable billions of euros. Four EPRs are under construction, in France, Finland and China. All are running very late and billions of euros over budget, while the French reactor at Flamanville may never open due to a faulty reactor vessel.

That means that HPC represents France's last chance to present the EPR as a viable reactor for the lucrative nuclear export market, re-establish credibility, and regain value for its so far utterly failed investment in the EPR.

The deal also offers EDF a very high return on investment of over 10% based on the expected construction cost of £24 billion (€28b; US\$31.3b), making it (and UK energy consumers) a valuable 'cash cow' for the highly indebted company for many decades to come.

China is also intent on capturing its share of the global export market for nuclear power and HPC is its 'way in' to it. As part of the deal, Chinese nuclear company CGN is to get preferential treatment to build a new nuclear power station at Bradwell in Essex to its new, untested 'Hualong' reactor design that it intends to promote to international buyers.

So, plenty of good reasons for China and France to want to progress the deal. But what's in it for the UK? Answer: Brexit. By sucking up to France, the government hopes to win over France as an ally in negotiating a better deal for the UK in Brexit negotiations.

And as far as China is concerned, the UK is desperate to reach a trade deal with what is now by some measures the world's largest economy and a major exporter to the UK. In particular the UK is seeking tariff-free access to the fast-growing Chinese economy for UK manufactures, and the powerful financial services industry.

We can be sure that both countries leaders and ministers put the frighteners onto Theresa May and her entourage at the recent G20 summit to go ahead with HPC – and that she succumbed to that pressure

at enormous cost to the UK, failing to win even the smallest concession on price.

Widespread condemnation

The UK's craven acceptance of the disastrous HPC deal has been widely condemned. Simon Bullock, senior climate campaigner for Friends of the Earth said: "Hinkley is a project from a dying era, which would saddle Britons with eye-watering costs for decades, and radioactive waste for millennia. Renewables, smart grids and energy storage are the fleet-footed mammals racing past this stumbling, inflexible nuclear dinosaur. The PM should act in Britain's interests and invest in a renewable, non-nuclear electricity grid – it will give us more jobs and less pollution, at lower cost. This is blatantly the wrong decision from the PM."

Caroline Lucas, co-leader of the Green Party, said: "It is truly absurd that the Government plans to plough billions of taxpayers' money into this vastly overpriced project, and has done so without informing Parliament of the true costs. It is even more absurd that they are doing so at the same time as reducing support for cheaper, safer and more reliable alternatives. Instead of investing in this eye-wateringly expensive white-elephant, the government should be doing all it can to support offshore wind, energy efficiency and innovative new technologies, such as energy storage."

Even Labour's energy spokesman Barry Gardiner – who has supported HPC against the wishes of Labour leader Jeremy Corbyn under pressure from big unions – complained that the price was "far too high" and that the guaranteed price of £92.50 per MWh (in 2012 British pounds – adjusted for inflation for 35 years after HPC opens) should be "tapered".

But Lucas retorted: "Labour's position on Hinkley is deeply disappointing. On the one hand they say that they want a decentralised energy system, yet they now back the building of this hugely overpriced, centralised piece of energy infrastructure. If Corbyn is serious about building an energy system for the future then he should reverse his party's support for this antiquated energy source."

It still might never happen

But despite the announcement there remains considerable uncertainty as to whether HPC will actually be built – among them legal challenges in the European Court to the unbelievably generous subsidy package for the project which appears to be incompatible with the EU's 'state aid' regulations.

In addition both EDF and CGN, poised to take a 33.5% share in HPC, are unlikely to commit significant further capital to HPC until the Flamanville situation is resolved, and there is at least one working EPR to demonstrate that the design is constructable and operable – something that is still years away.

The highly risky (if potentially very profitable) project is also widely opposed within EDF as if it fails to ever generate power, or to operate reliably, it is likely to bankrupt EDF. Also the company has yet to line up the £16 billion (or more) it will need to finance its share of the project.

"This decision is unlikely to be the grand finale to this summer's political soap opera," said Greenpeace

executive director John Sauven. “There are still huge outstanding financial, legal and technical obstacles that can’t be brushed under the carpet. There might be months or even years of wrangling over these issues. That’s why the Government should start supporting renewable power that can come online quickly for a competitive price.”

Richard Black, director of the Energy and Climate Intelligence Unit, added: “Despite this being called a

‘final decision’ to build Hinkley C, other hurdles, including technical and legal challenges, may well lie ahead for the project. French trade unions don’t like it, nor do some of the likely candidates for the French Presidential Election next year, EDF’s finances are not the healthiest, and the French nuclear regulator is examining flaws in steel used for a similar reactor being built in France. So it may turn out not to be quite as ‘final’ as it looks now.”

Reprinted from The Ecologist: www.theecologist.org/News/news_analysis/2988131/hinkley_c_nuclear_goahead_may_caves_in_to_pressure_from_france_and_china.html

Parking Lot dumps in the USA

Author: *Mary Olson from the Nuclear Information and Resource Service writes:*

NM830.4585 US Secretary of Energy Ernest Moniz was recently called to testify before the Senate Appropriations subcommittee on Energy and Natural Resources, now chaired by Lamar Alexander (Republican – Tennessee) and ranking minority member Diane Feinstein (Democrat – California).¹ These two have participated in rare bi-partisanship on Capitol Hill in their effort to support their mutual friends: corporations that generate nuclear waste.

Alexander is even getting good at promoting nuclear energy as the prime solution to the climate crisis and labeling anyone opposed to moving the irradiated fuel rods from the reactor sites as “climate deniers.” He has learned to speak of “signals” and that Congress and the Department of Energy (DOE) must signal that it will take the waste in order for corporations to decide to build more reactors, which he says are the only climate solution.

In answer to a series of questions from Feinstein, Moniz basically affirmed his DOE’s charade: that it can, unilaterally, move ahead on creating “consent-based” consolidated storage sites (what we call a Parking Lot Dump) identical to the technology in use for dry storage at reactor sites ... but out in the middle of the “nowhere” of Texas, New Mexico and South Carolina.

These areas have inhabitants, who have not been asked at all if they “consent” to taking the nation’s worst waste at sites that are designed for decades, at best, with no plan for how the waste will ever move again. It is the nuclear contractors who have “consented”! The people of the communities of Hobbs / New Mexico, Aiken / South Carolina, August / Georgia and Andrews County / Texas all have what Moniz does not: a future. Moniz and the entire Obama Administration gang will be exiting 1000 Independence Avenue by January 20, 2017.

So, not too much store should be given to the pronouncements in the hearing, nonetheless Moniz tipped his hand on a startling new theory: that the DOE can use its procurement authority to move ahead on contracting with private contractors to provide storage for commercial waste. While it may be true that the DOE has the ability to set up a contract, it remains unclear that it has the

authority to take ownership of the waste and move it. One can congratulate Moniz on his slippery answers to the good Senator from California since he said DOE would need more work on “transportation of the waste” without sending the signal (per Alexander) in public that a change in the Nuclear Waste Policy Act is needed.

Given the coming Lame Duck Congress it is entirely possible that the DOE intends, as has happened repeatedly in the past, to sneak some small wording to make this change into another bill. US readers living in major urban transport are encouraged to call your congress members and warn them of this possibility – and remind them that moving the waste would be a local Main Street issue.

“We all live in Nevada” was a cry of the 1990s; now we all live in the nuclear zones of Texas, New Mexico, South Carolina, or any other area at risk for consolidated storage, and also at all the closed reactor sites. We are one community. This is a value that we have built over the last four decades.

2017 is bringing other changes too: Harry Reid (Democrat – Nevada) is retiring. Harry has been a one-man “Yucca Mountain-Protector” who, I think, has made Corbin Harney, the spiritual leader of the Western Shoshone Nation (who passed in 2007), proud. Reid has done more than any other person to stop Yucca Mountain. Yucca is a site that would fail the mission of waste isolation and thanks to Harry and many of us, and so many others, including Presidents Obama and Clinton, thankfully no waste there. Reid retires when Congress adjourns and we encourage you to send a thank-you card! Senator Harry Reid, 600 East William Street #304, Carson City, NV 89701 USA.

We as a community must keep these commitments! There is a lot of work ahead. In June the Nuclear Information and Resource Service convened a group of “planners” for a radwaste summit. This event is not outreach – it is “in-reach” for activists who are committed (recently and long-term both) to finding ways to work together to prevent really bad waste plans. The event will be Dec. 2–4 in Chicago. For more information, contact the author (maryo@nirs.org, ph. 828-252-8409).

1. Sept. 14 hearing of Senate Appropriations Subcommittee on Energy and Natural Resources, video and posted written testimony: www.appropriations.senate.gov/hearings/hearing-titled-the-future-of-nuclear-power

Australia Nuclear Free Alliance annual meeting

Author: *Bilbo Taylor*

NM830.4586 The 19th annual meeting of the Aboriginal-led Australia Nuclear Free Alliance (ANFA) was recently held on Wongutha traditional lands in Kalgoorlie, Western Australia (WA) – the first time the annual event has been held in the west. ANFA was formed in 1997 at the height of the successful campaign to stop the Jabiluka uranium mine in the Northern Territory.

This year's ANFA meeting came on the back of three uranium mine assessments in WA and two nuclear waste dump proposals in South Australia. The meeting was eagerly awaited by local Traditional Owners as an opportunity to meet others fighting the uranium industry, to share experiences and collaborate on how we can best fight these proposals.

Over 60 delegates from across Australia attended the meeting, with representatives from 29 different First Nations, including Amanda Lickers, a young First Nation woman from the Haudenosaunee Confederacy in Canada, who presented a workshop on the fight to stop tar sands mining and gas fracking in her traditional lands. Amanda's traditional lands also contain all five stages of the nuclear industry including areas occupied by Cameco, the Canadian Nuclear Corporation which is trying to open two uranium mines in WA – Kintyre and Yeelirrie. Amanda's spoken word and video presentations about First Nations people taking direct action against these industries inspired the meeting. You can find out more information about these campaigns on Facebook – search for 'Reclaim Turtle Island'.

There was some good news on the uranium mining front this year, with the impending closure of the Ranger uranium mine on Mirarr traditional lands in the Northern

Territory and the WA EPA denying approval of Cameco's Yeelirrie uranium mine – a project that threatened to make several subterranean species extinct.

Four young Mirarr traditional owners spoke at the meeting about the Ranger mine closure plans, mine rehabilitation and concerns that the mining company ERA is still looking to expand the mine. The Mirarr delegates were adamant that the Mirarr's position of no uranium mining meant there is no possibility for any further mining in their traditional lands.

Traditional Owners from Yeelirrie spoke about the 40-year fight to stop the mine, seeing off three mining companies. They are waiting to see the decision of the state Environment Minister, who could still approve the mine despite the EPA's rejection of the application.

Two other uranium proposals, Wiluna and Mulga Rock, both in the Goldfields of WA, have just been given the green light by the WA EPA but both are now subject to appeals against the EPA findings. Vimy Resource's Mulga Rock proposal is contentious as the mining company is claiming that there are no Traditional Owners. The proposed mine is situated upstream from a Class A nature reserve at Queen Victoria springs and is inside the Yellow Sandplain Priority Ecological Community.

Janice Scott and Bruce Hogan, local Traditional Owners with ties to Mulga Rock, joined ANFA for the first time this year. Janice recounted stories of how her people, refugees from the Maralinga atomic bomb tests in South Australia, were moved to the Cundalee community close to Mulga Rock in WA. She spoke about how their families learned about that country and have been caring for it

2016 Australia Nuclear Free Alliance meeting in West Australia.



ever since and are now facing a second forced eviction. They spoke passionately about how beautiful and unique the plants and animals of the area are, about the burial grounds near the proposed uranium mine, and the appalling decision from Vimy Resources to totally ignore the local Aboriginal people and not consult with them.

Waste dump proposals

With the federal government targeting the homelands of Adnyamathanha traditional owners in South Australia (SA) for a national radioactive waste dump, and the state government promoting a plan for an international high-level nuclear waste dump, there was a large contingent of South Australian traditional owners at this year's meeting. SA has a long history of nuclear issues, from atomic bomb tests to uranium mining and radioactive waste dump proposals.

An earlier plan for a national radioactive waste dump was defeated by the Irati Wanti campaign, led by a group of senior Aboriginal women, the Kupa Piti Kungka Tjuta. Now Adnyamathanha traditional owners in SA are in the firing line and they spoke at the ANFA meeting about their determination to stop the dump and how they felt that the government and the nuclear industry have unfairly targeted Aboriginal communities. They also spoke about

how special the site is, a site that is prone to flooding and is next door to an Indigenous Protected Area.

One of the highlights of this year's ANFA meeting was the presentation from Dr. Christine Stokes about the findings from the Western Desert Kidney Health Project. The project incorporated arts, storytelling, medical research and community engagement to study the possible causes of the large kidney health problems in the area. One of the findings from the study was that the water in the region that has nitrates can cause a range of health problems. Where there are nitrates and uranium in water, the effects on kidneys are severe. Although there needs to be more study, the meeting was concerned that uranium mining could increase water contamination, further adding to what is already an epidemic of kidney health problems.

Australia has a long history of nuclear projects, and a long and often successful history of Aboriginal resistance to this dangerous and unwanted industry. This year's ANFA meeting reaffirmed this with strong talking, resilience and steadfast resistance to the industry. We all have a vested interest in ensuring that this uneconomic, unwanted and unnecessary industry is stopped and that Australia becomes nuclear free.

NUCLEAR NEWS

Pro-nuclear countries making slower progress on climate targets

An academic research paper reveals an inverse relationship in European countries between commitment to nuclear power and greenhouse emissions reductions. The research, by Andrew Lawrence, Benjamin Sovacool and Andrew Stirling, is published in the *Climate Policy* journal.

Phys.org summarizes the paper:

"A new study of European countries, published in the journal Climate Policy, shows that the most progress towards reducing carbon emissions and increasing renewable energy sources ... has been made by nations without nuclear energy or with plans to reduce it. Conversely, pro-nuclear countries have been slower to implement wind, solar and hydropower technologies and to tackle emissions.

"While it's difficult to show a causal link, the researchers say the study casts significant doubts on nuclear energy as the answer to combating climate change. Professor Andy Stirling, Professor of Science and Technology Policy at the University of Sussex, said: "Looked at on its own, nuclear power is sometimes noisily propounded as an attractive response to climate change. Yet if alternative options are rigorously compared, questions are raised about cost-effectiveness, timeliness, safety and security. Looking in detail at historic trends and current patterns in Europe, this paper substantiates further doubts. By suppressing better ways to meet climate goals, evidence suggests entrenched commitments to nuclear power may actually be counterproductive."

"The team say that the gigantic investments of time, money and expertise in nuclear power plants, such as the proposed Hinkley Point C in the UK, can create dependency and 'lock-in' – a sense of 'no turning back' in the nation's psyche. Technological innovation then becomes about seeking 'conservative' inventions – that is new technologies that preserve the existing system. This is, inevitably, at the expense of more radical technologies, such as wind or solar."

The *Climate Policy* article states:

"[I]t may be that persistent commitments to nuclear power as a large-scale, capital-intensive, 'lumpy', centralized 'baseload' thermal generating option can actually impede contemporary moves towards more liberalized, organizationally diverse, distributed, and networked systems of energy service provision, integrating supply and demand in innovative, more information-intensive ways. Nuclear commitments can have the effect of reinforcing institutional structures, market practices, and operating procedures that militate against a move to renewable energy technologies of kinds that arguably offer a more effective long-term basis for achieving low-carbon energy futures. ...

"It is well documented in many different contexts that attitudes of policy elites shaping nuclear energy planning and adoption are not informed solely by economic or technical factors, but from the outset have been driven by ideological, psychological, and political factors as well. It is in this light that the findings in this article might be understood. In short, the more

intense the general nuclear commitments, the greater the apparent overall suppressive effect on emissions mitigation and renewable uptake.”

But all is not lost, as the *Climate Policy* article states:

“The same understandings that underscore the importance of the self-reinforcing path dependencies discussed here also illuminate how they may be averted or reversed. In historical institutionalism, for instance, it is well recognized that there typically emerge periodic ‘critical junctures’ in which contingent events yield opportunities to relax the self-reinforcing pressures. If climate change imperatives are to be taken seriously in the context of wider energy policy criteria, then the contemporary emergence of alternative viable low-carbon energy strategies can – despite the sometimes-distorting lens of nuclearity – also exert strong pressures for reorientation. The current conjunction of a formidable new policy challenge and radical new strategic options can form just such a critical juncture.”

Andrew Lawrence, Benjamin Sovacool and Andrew Stirling, 2016, ‘Nuclear energy and path dependence in Europe’s ‘Energy union’: coherence or continued divergence?’, *Climate Policy*, Volume 16, Issue 5, www.tandfonline.com/doi/full/10.1080/14693062.2016.1179616

Phys.org, 22 Aug 2016, ‘Pro-nuclear countries making slower progress on climate targets’, <http://phys.org/news/2016-08-pro-nuclear-countries-slower-climate.html>

Belgium: raised leukemia incidence near Mol-Dessel nuclear facility

Young children (0–14 years) living within a 15 km radius of Belgium’s Mol-Dessel nuclear facility have 2–3 times more chance of contracting leukemia than children living elsewhere. The facility stored, produced and reprocessed nuclear material since the first nuclear reactors went online in Belgium in the 1970s.

Alarmed by a German study – the famous KIKK study¹ – that showed that children living in the vicinity of nuclear sites are at greater risk of developing cancer, researchers decided to undertake a similar study focusing on the area around Mol-Dessel. The study, published in the *European Journal of Cancer Prevention*, shows a statistically-significant correlation between children’s proximity to the Mol-Dessel nuclear site and leukemia.² There was evidence for a gradient in leukemia incidence with increased proximity, prevailing winds and simulated radioactive discharges, suggesting a potential link with the site. An increased incidence of acute leukemia in children aged 0–14 years was observed around one nuclear site that hosted reprocessing activities in the past and where nuclear research activities and radioactive waste treatment are ongoing.

The Belgian state’s nuclear watchdog, FANC, which was a partner in the study, immediately came out with a statement that “only a handful of children have been effected” and that further studies are required. Ignoring the consistency of the findings with a cohort of other studies, FANC pointed to the small sample size: “The number of people living in Dessel, Mol and the surrounding areas is so small that the number of cases

of leukaemia is also small. So you quickly arrive at a doubling or even a tripling. Follow-up research with a larger group is needed.”

Belgium’s Federal Health Ministry noted that it is aware of the research and finds it statistically significant enough to warrant further research. A follow-up study is in progress, the Ministry noted.

– *Peer de Rijk, WISE Amsterdam*

1. See Nuclear Monitor #812, 15 Oct 2015, <https://wiseinternational.org/nuclear-monitor/812/radioactive-spikes-nuclear-plants-%E2%88%92-likely-cause-childhood-leukemia>
2. *European Journal of Cancer Prevention*, http://journals.lww.com/eurjcancerprev/Abstract/publishahead/Childhood_leukaemia_near_nuclear_sites_in_Belgium,,99396.aspx

Understanding the anti-nuclear movement from the perspective of the pro-nuclear movement

Apparently anti-nuclear activists pose an incredible enigma for the pro-nuclear movement. For that reason the Youth Nuclear Congress organisation (IYNC) commissioned a report earlier this year to help their young followers understand the anti-nuclear movement.

In the report the IYNC cover the – according to them – four main arguments used by the anti-nuclear movement: economics, safety, waste and non-proliferation. Neatly leaving out several other arguments such as the time-sensitive argument that nuclear is simply too slow. At the end of the report the authors recommend that readers use pro-nuclear arguments by evoking passion and emotion, just as the anti-nuclear movement (allegedly) does.

Overall it is an entertaining read to see what the pro-nuclears think of the anti-nuclear movement. Although I do feel it misses its point completely. After reading it, I am ever more convinced that nuclear energy has no place in our future.

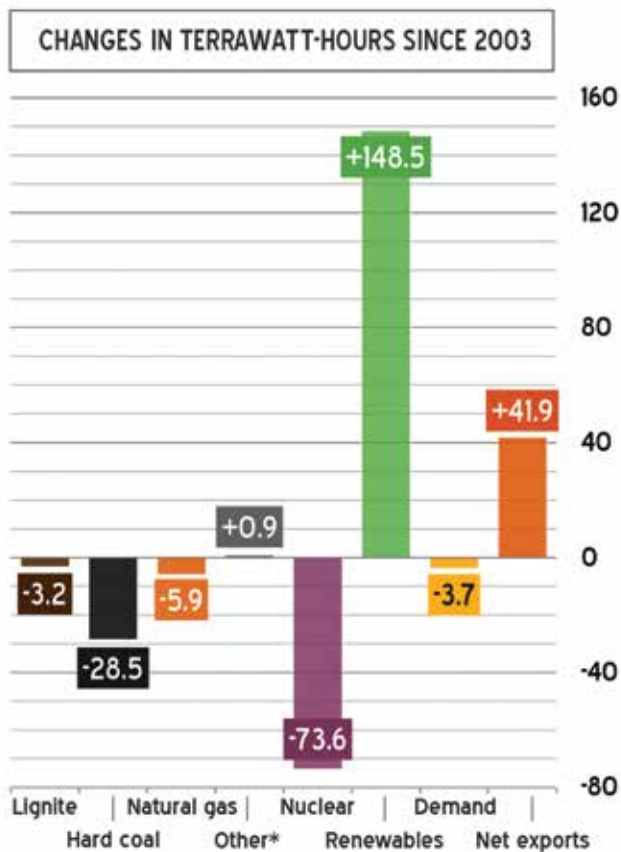
The report is posted at: www.iync.org/iync-presents-the-report-understanding-the-anti-nuclear-environmental-movement/

Thessa Meijlis – WISE Amsterdam

Germany already has more green power than it ever had nuclear

Craig Morris neatly sorts fact from fiction regarding Germany’s *energiewende* (energy transition) in a recent article.¹ In 2002, Germany adopted a plan to phase out nuclear by around 2022. Sceptics thought it would be impossible to offset nuclear power with renewables in such a short time. In fact, Germany hit that target in 2015 – seven years early.

Critics of Germany’s *energiewende* – including nuclear advocates – point to a “large increase” in coal. From 2010 to 2015, there was a rise of less than 1% in power generation from hard coal and around 6% for lignite. This was followed by smaller declines in the use of coal and lignite in 2016 – a year when the German population grew by more than 1% because of refugees. Moreover, net power exports reached a record high in 2015 at nearly 10% of total power supply – foreign demand for German power has increased domestic generation from fossil fuels. Add in the other fossil fuel,



Changes in power generation in Germany, 2003–2015.

natural gas, and there is an overall decrease – fossil fuel consumption in the power sector reached a 35-year low in 2014, even with rising exports.

Critics of the *energiewende* claim that carbon emissions are rising in Germany, but CO₂-equivalent emissions from energy were down 2% from 2010 to 2014. Overall German emissions were 28% lower in 2014 than in 1990.

Energy consumption rose overall in 2015 and the first half of 2016 – due, as the official explanation reads, to colder weather, economic growth, and the sudden population growth from refugees. Morris notes that the pro-nuclear camp mistakenly attributes a rise in emissions from oil and gas for heat supply to coal consumption in the power sector (which is flat to down).

Responding to New York Governor Andrew Cuomo, who recently cited alleged problems with Germany's *energiewende* to justify nuclear subsidies, Morris concludes: "In short, Germany is paying coal to shut down, ramping up renewables far faster than nuclear shrinks, and enjoying unparalleled power reliability – while New York fails to move with solar and wind, pays nuclear to stay on, and has as much downtime a month as Germany has in a year."

1. Craig Morris, 24 Aug 2016, 'Germany already has more green power than it ever had nuclear', <http://energytransition.de/2016/08/germany-already-has-more-green-power-than-it-ever-had-nuclear/>
2. <http://energytransition.de/2015/01/fossil-fuel-power-at-35-year-low-in-germany/>

Kuwait abandons nuclear power plans

Kuwait's Ministry of Electricity and Water has abandoned its plan to build a nuclear power plant. The Ministry said its decision to scrap the project was because studies proved it was unfeasible and high cost, in addition to having alternative projects that are better in production and cost such as solar energy and wind.

In 2009, the government formed the Kuwait National Nuclear Energy Committee and the Ministry said the following year that four power reactors would be built and would be operating by 2022. Economic feasibility studies and site surveys were conducted, and students sent abroad for specialist education.

<http://news.kuwaittimes.net/website/ministry-changes-plans-build-nuclear-plant/>

<http://248am.com/mark/news/kuwait-cancels-plans-for-nuclear-power-plants-going-solar/>

G20 renewables jump 70% in shift away from fossil fuels

The share of electricity that the world's 20 major economies are generating from non-hydro renewables has jumped by more than 70% in the space of five years.¹ G20 countries collectively produced 8% of their electricity from non-hydro renewables in 2015, up from 4.6% in 2010. Globally, non-hydro renewables generated 7.1% of all electricity in 2015, and hydro an additional 16.6% (compared to nuclear's 10.7%)

Seven G20 members now generate more than 10% of their electricity from non-hydro renewables, compared to three in 2010. Germany is in the lead with 36%; the UK (24%), Italy and France all generate more than 19%; while Australia and Brazil reached 11% and 13% respectively. For the 28 members of the EU, the number was 18%.

In October 2015, energy ministers from the G20 countries affirmed their commitment to renewable energy at the first-ever G20 Energy Ministers Meeting in Istanbul.² They endorsed an 11-point Communiqué, including the adoption of a renewable energy toolkit³, which provides options for G20 countries to take a long-term, integrated and sustainable approach towards enhanced deployment of renewable energy. The toolkit has five focus areas: driving down technology costs; exchanging good practices on enabling policy frameworks and power system integration; mobilizing finance through risk mitigation; technology potentials and roadmaps, and; accelerating the deployment of modern bioenergy.

"The G20 countries hold 75 per cent of total global deployment potential and 70 per cent of total global investment potential for renewable energy between now and 2030," said Adnan Z. Amin, Director-General of the UN's International Renewable Energy Agency.

1. www.ft.com/content/67b20418-60cc-11e6-ae3f-77baadeb1c93
2. www.irena.org/news/Description.aspx?NType=A&News_ID=424&PriMenuID=16&Mnu=Pri
3. www.irena.org/documentdownloads/Pressrelease/G20_Toolkit.pdf



Australian delegation to France blockaded by anti-nuclear activists

On the morning of September 1, an Australian delegation on a parliamentary inquiry into the management of nuclear waste, was blockaded in north-east France by anti-nuclear activists. The delegation was visiting the National Radioactive Waste Management Agency (ANDRA) facilities in the municipality of Bure, where an anti-nuclear movement under the banner of Bure Zone Libre (Bure Liberated Zone, BZL) has been burgeoning in recent years in an effort to prevent a nuclear waste dump being established there.

A group of about 20 masked activists dressed in white overalls and armed with water guns, drums and a sound system blocked the Australian delegation from entering

the ANDRA laboratory, forcing the delegation to turn around and leave.

“We’re here in solidarity with indigenous resistance to the planned nuclear facility in Australia,” said one activist. “Nuclear industry endangers life itself, and we will resist it everywhere.”

Aboriginal people in Australia are fighting plans for a national nuclear waste dump at Wallerberdina in South Australia’s Flinders Ranges, and also a plan to import 138,000 tonnes of high level nuclear waste as a commercial venture.

Earth First! Newswire, <http://earthfirstjournal.org/newswire/2016/09/05/australian-delegation-to-france-blockaded-by-anti-nuclear-activists/>

WISE/NIRS Nuclear Monitor

The World Information Service on Energy (WISE) was founded in 1978 and is based in Amsterdam, the Netherlands.

The Nuclear Information & Resource Service (NIRS) was set up in the same year and is based in Washington D.C., US.

WISE and NIRS joined forces in the year 2000, creating a worldwide network of information and resource centers for citizens and environmental organizations concerned about nuclear power, radioactive waste, proliferation, uranium, and sustainable energy issues.

The WISE / NIRS Nuclear Monitor publishes information in English 20 times a year. The magazine can be obtained both on paper and as an email (pdf format) version. Old issues are (after 2 months) available through the WISE homepage: www.wiseinternational.org

Subscriptions:

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