

NUCLEAR NETWORK AFRICA

THE WORLD OF NUCLEAR

TRUMP FIRES NUCLEAR REGULATORY BOSS

DUGGAN FLANAKIN

NUCLEAR WASTE STORAGE IS NOT A PROBLEM

DR KELVIN KEMM

AND MORE.....



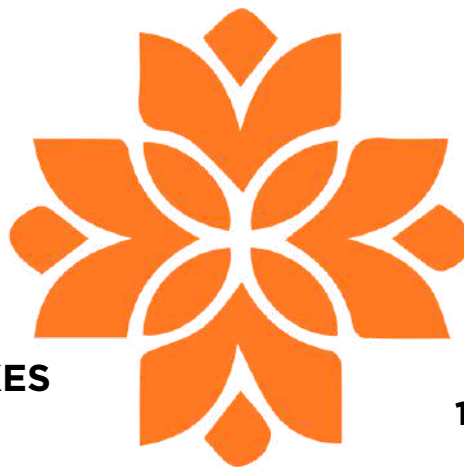
View from the Vaalputs rest camp near the Nuclear waste repository
100km away from the Town of Springbok

N²A HIGHLIGHTS



**04 TRUMP FIRES NUCLEAR
REGULATORY BOSS**
DUGGAN FLANAKIN

**07 NUCLEAR WASTE
STORAGE IS NOT A
PROBLEM**
DR KELVIN KEMM



**11 SMR DEVELOPMENT TAKES
ROOT ON GAUTENG'S
BORDER**

**12 ALOT TO LEARN
ABOUT NUCLEAR**

FROM THE EDITOR

Welcome to this edition of N²A Nuclear Network Africa, where we aim to inform, inspire, and challenge conventional thinking around nuclear energy. In a world grappling with the urgent need for clean, reliable, and scalable energy, nuclear power continues to be one of the most misunderstood and unfairly maligned solutions available to us.

This month, we bring you three compelling articles that strip away some of the most persistent myths surrounding nuclear energy. In “Nuclear Waste Storage Is Not a Problem,” Dr. Kelvin Kemm explains, with clarity and authority, why the issue of nuclear waste is not the looming disaster it’s often made out to be. His insight helps demystify decades of fear-mongering and puts the science back into perspective.

In “Trump Fires Nuclear Regulatory Boss,” Duggan Flanakin examines a bold political shake-up in the United States and its implications for the future of nuclear regulation. Whether you agree with the politics or not, the piece offers a sobering look at how leadership decisions can shape or stall energy innovation.

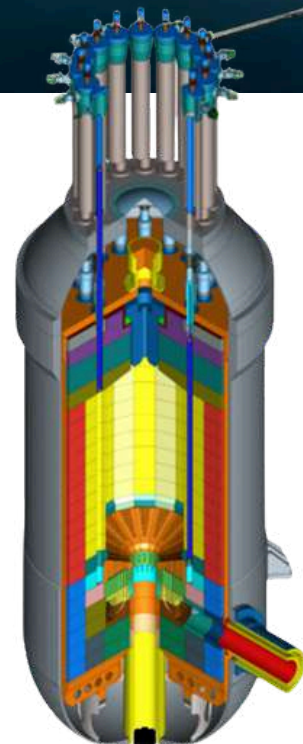
Closer to home, “Private Company Offers Site to Build a Small Nuclear Reactor on Gauteng Border” signals a transformative possibility for South Africa. Could this be the beginning of a new era in African energy security?

We encourage you to read with an open mind. It’s time to question the fear-based narratives and recognise nuclear energy for what it truly is: a safe, efficient, and essential part of our energy future.

Warm regards,

Heather Veldhuis

HEATHER VELDHUIS
EDITOR



TRUMP FIRES NUCLEAR REGULATORY BOSS

BY DUGGAN FLANAKIN

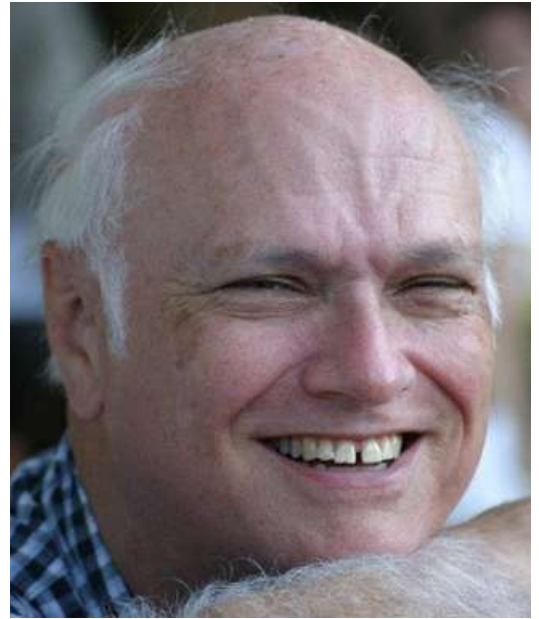
In what some have deemed an illegal move, President Trump abruptly fired Nuclear Regulatory Commissioner Christopher Hanson at the end of June. To date, there is no nominee to fill the now-empty position.

An irate Hanson threatened legal action, claiming his firing violated federal law and longstanding precedent. He justified his work at the NRC, stating his mission had involved "preserving the independence, integrity, and bipartisan nature of the world's gold standard nuclear safety institution." Speculation is that, despite glowing speeches about the increased NRC workload emerging from the nation's nuclear revival, he was not a happy warrior.

Did Commissioner Hanson object to President Trump's May 23 executive order directing the NRC to fast-track the permitting of new reactor designs and to review and replace its unreasonable safety limits for radiation exposure with science-based limits? Or that the NRC establish fixed deadlines for evaluating and approving licenses; of 18 months for constructing and operating new reactors, and 12 months for renewing existing licenses?

A more likely reason is President Trump's directive for the NRC to reform its culture and procedures to promote nuclear energy while ensuring reactor safety. The order requires the NRC to "consider the benefits of nuclear power to our economic and national security in addition to traditional concerns regarding safety, health, and environmental factors."

Hanson, who has a bachelor's degree in religious studies and master's degrees from Yale Divinity School and Yale School of Forestry and Environmental Studies, stated upon his firing that, "My focus over the last five years has been to prepare the agency for anticipated change in the energy sector, while preserving the independence, integrity, and bipartisan nature of the world's gold standard nuclear safety institution."



Duggan Flanakin is a senior policy analyst at the Committee For A Constructive Tomorrow (CFAT) based in Washington DC.

Predictably, the anti-nuclear Union of Concerned Scientists issued a statement from Edwin Lyman, its director of nuclear power safety, that Hanson's firing and other Trump actions "could have serious implications for nuclear safety." He bluntly added that the NRC should (over) protect health and safety "without regard for the financial health of the nuclear industry."

For a deeper dive into Hanson's philosophy of nuclear energy management, consider a speech he gave in March 2024 at the NRC's 36th annual regulatory information conference.

Noting that the NRC "is laying the groundwork for things like technology-inclusive licensing, regulation of fusion energy, and microreactors," Hanson boasted that the NRC and other regulators worldwide "will have more work to do than we have had in a while".

CONTINUED ON PG 05

Hanson bragged that the “sustained, strong safety performance” of America’s operating nuclear reactors had bolstered nuclear energy’s credibility and provided the foundation for its near-certain coming expansion. While just five years ago, “projected shutdowns and decommissioning [were] becoming a regular part of the discussion,” for the first time in history, the NRC was evaluating a request to reactivate a shut-down reactor. Is that not evidence that these reforms are so urgently needed?

Hanson went on to tell the assembled bureaucrats that “we need to be ready for emerging needs and seek opportunities for process improvements” at a time when the NRC’s workload projections are increasing rapidly. “We are projecting an influx of new power uprate applications –muscles we haven’t exercised in over a decade,” Hanson told the gathering. Those “sore muscles” were, amazingly, able to shrink approval timelines for risk-informed programs at operating reactors, and even get through “more complex reviews.” Perhaps Trump’s reaction to Hanson was that he appeared to speak more as a gatekeeper for regulatory control than as a partner in building a nuclear future for America. For 50 years, the NRC had acted as “Dr. NOPE,” thwarting efforts by determined scientists and engineers who were eager to supply the US with abundant, reliable nuclear energy.

Even though he had spent 25 years in the private sector, Hanson seemingly was, in the President’s view, prouder of the NRC’s 50-year history of stifling the development of nuclear energy in the US than of its opportunity to partner with scientists, engineers, and others to redesign its regulatory framework to facilitate rapid growth of safe and affordable nuclear energy for America’s future.

What President Trump says he needs is a referee, not an opposing head coach.



A LOT TO LEARN IN NUCLEAR THE ATOMIC MUSEUM



There is a nuclear weapons development museum in Nevada in the US, called the **National Atomic Testing Museum**, or **Atomic Museum** for short. It is a national science, history, and educational institution that tells the story of America's nuclear weapons testing program at the Nevada Test Site.

The Museum uses lessons of the past and present to better understand the extent and effect of nuclear testing on worldwide nuclear deterrence and geopolitical history. It provides exhibits and learning activities for greater public understanding and appreciation of the world in which we live.

The Atomic Museum showcases some of the rarest of artifacts relating to the US atomic testing program. From Atomic Age culture to scientific and technological advances, the Museum illustrates 70 years of nuclear testing.

The Museum today plays a role in training first responders from across the US who go there to learn about the nuclear materials terrorists might use.

The National Atomic Testing Museum (NATM) is operated and maintained by its parent organization, the Nevada Test Site Historical Foundation (NTSHF),



NUCLEAR WASTE STORAGE IS NOT A PROBLEM

DR KELVIN KEMM

The European Commission's scientific body, the Joint Research Centre, released a report in April 2021 which stated that nuclear power is classified as 'green' because it does not emit any carbon dioxide gas. This is important because nuclear then qualifies for a 'green' investment label under the EU green finance taxonomy.

But the anti-nuclear lobby immediately objected. Currently, nuclear power accounts for a quarter of EU electricity. Of course, it is also stable electricity, which is available all the time and not dependent on the weather. So why do the extreme greens object to nuclear when it emits no CO₂? Well, one reason is that extreme green elements want to curtail all electricity production, and also do not want inexpensive electricity.

They argue that if there is plentiful, inexpensive electricity, then mankind will make more cars, more TVs, more air conditioning, and so on. For that, more factories will be built, roads made, telecommunications extended, and so the list goes on. They don't want that. They want GDP growth to slow down, or ideally stop. They advocate a simple lifestyle in which flying in aeroplanes and eating red meat is frowned upon.

So they don't like the idea of inexpensive, reliable nuclear power, particularly if it becomes available in African countries.



Vaalputs



Dr Kelvin Kemm is a nuclear physicist and is Chairman of Stratek Global (Pty) Ltd, a nuclear project management company based in Pretoria. Dr Kemm is past Chairman of Necsa. He has given guest presentations in many places across the world ranging from London to Paris, Washington DC, Moscow, New York, Hanoi, Windhoek, Sochi, and in the bush in southern Angola and Sekhukhuneland.

He currently serves as a Councillor on the South African Council for the Non Proliferation of Weapons of Mass Destruction.



CONTINUED ON PG 08

CONT.... FROM PG 07

So now that the EU says that nuclear is 'Green' from a CO₂ point of view, "the greenies" are desperately looking for another angle to use to oppose it. One that they are grasping at is nuclear waste.

Let me state clearly that nuclear waste disposal is not a problem. A far larger problem is the disposal of old wind turbines and solar panels.

The first thing to take note of is the volume difference. There is a huge volume of wind turbines and solar panels that have to be disposed of in due course. But the amount of high-level nuclear waste is tiny.

Koeberg nuclear power station uses only one truck-load of nuclear fuel per year. That then powers all of Cape Town and half of the Western Cape. Only one truck-load in a year! When you burn coal, it turns into other stuff, like coal ash, carbon dioxide, and other gases. Mountains of ash. But if you look at a nuclear fuel element before it goes into a nuclear reactor, and then when it comes out again, two years later, it looks the same. Some uranium atoms inside have been changed into other atoms, but nothing like ash or gas is produced. Nothing! All you have to dispose of is the original truckload. One per year. Only individual metal assemblies, no gas, no ash, no anything else.

So we must ask: Are these used fuel elements dangerous? The answer is emphatically yes. If you were to walk past an unprotected used one, it would kill you. But you can also die from sleeping pills, brandy, skydiving, or driving a car; if you do not take due care. If you want a good night's sleep, you can take an entire bottle of sleeping pills. You will never wake up! But people generally do not do stupid things with products, or with actions, which can be dangerous. Nuclear professionals do not do stupid things with spent fuel elements either.



A south African-fabricated nuclear fuel element for Koeberg. Engineer Knox Msebenzi is in the picture. Before a fuel element goes into the nuclear reactor it is quite safe to be near one. Such a fuel element stays in the reactor for about two years.



Drums of Low Level Waste being stored at Vaalputs. The HQ building is in the background.

CONTINUED ON PG 09

CONT.... FROM PG 08

When anti-nuclear activists accuse nuclear professionals of not taking nuclear waste into account, that is plain stupid. Can you seriously imagine professional nuclear engineers designing a nuclear power station and forgetting to make provision for handling spent fuel elements?

South Africa possesses one of the largest and oldest nuclear waste repositories in the world. It is called Vaalputs, and is about 100 km inland from the remote Northern Cape town of Springbok. Vaalputs is the size of 20 000 football fields. South Africa is the same size as the whole of Western Europe, so we are fortunate to have ample space to choose a place 100 km from human habitation.

Currently, only lower levels of nuclear waste are stored underground there. Items like lab coats, paper towels, old pipes, and so on, which were used in a nuclear facility and which may contain some nuclear residue. The government has not yet authorised the permanent storage of the spent nuclear fuel there. All the spent fuel, from 40 years of operations at Koeberg, is still on site, either underwater in a pool or lined up outside in special protective casks. That is how little there is. If you want to sit next to one of the casks and eat your lunch, it is quite safe to do so.



An aircraft landing at Vaalputs Airfield

The 'extreme greens' attempts to demonize nuclear waste are plain silly. Even sillier is to try to claim that waste storage is beyond the ability of nuclear professionals to deal with.

There is no problem with nuclear waste when it is handled by professionals, per the stringent rules of procedure which are in place.

Nuclear power is by far the best green energy for Europe, and even more so for all of Africa.



Engineering, Risk and SHEQ Services

Main Projects:

- France - Nuclear Waste Repository
- Rwanda – Lake Kivu Biogas Power Station - 56MWe
- South Africa and Australia – New Nuclear Pebble Bed Power



- Accounting Services • Payroll Services
- Company Registrations
- Tax Planning • Formation of Trusts • Business Plans • Cash Flow Projections

A LOT TO LEARN IN NUCLEAR NEVADA TEST SITE



The Nevada National Security Sites in the US, popularized as the Nevada Test Site (NTS) until 2010, is a reservation of the United States Department of Energy located in the southeastern portion of Nye County, Nevada, about 105 km northwest of the city of Las Vegas.

Formerly known as the Nevada Proving Grounds of the United States Army, the site was acquired in 1951 to be the testing venue for American nuclear devices.

The first atmospheric test was conducted at the site's Frenchman Flat area by the United States Atomic Energy Commission (USAEC) on 27 January 1951. The US stopped its underground nuclear testing in 1994, but by then some 928 nuclear tests had been conducted there.

The site consists of about 3,500 km² of desert and mountainous terrain with 640 km of paved roads and 480 km of unpaved roads, connecting 1100 buildings in 28 areas. There are ten heliports and two airstrips.

The site is privately managed and operated on behalf of the National Nuclear Security Administration (NNSA), by Mission Support and Test Services LLC, a joint venture of Honeywell, Jacobs, and Huntington Ingalls.



THE NEVADA TEST SITE SHOWING CRATERS FROM UNDERGROUND NUCLEAR TEST EXPLOSIONS.

SMR DEVELOPMENT TAKES ROOT ON GAUTENG'S BORDER

In a significant milestone for South Africa's energy innovation sector, Stratek Global has announced it will establish a Small Modular Reactor (SMR) at the Zilkaats Estate on the Gauteng–North West border. The project represents more than just a technological advance; it signals real progress in positioning South Africa as a serious player in the global nuclear energy landscape.

The estate, a privately owned development valued at R5.7 billion, has offered a strategic site for the construction of the HTMR-100 reactor, a helium-cooled, gas-based modular design that requires no large water source. Its location, near the Necs nuclear facility at Pelindaba, is ideal for such an installation, which occupies less space than a football pitch and delivers 35 MW of electricity from 100 MW of heat.

This marks a return to South Africa's nuclear development roots. Decades ago, the country was the first in the world to launch development of a commercial SMR. Stratek Global's HTMR-100 is a refined successor to the original Pebble Bed Modular Reactor, and it is already attracting international attention.

"This is not just a power solution for the Zilkaats development," said Stratek Global Chairman Dr Kelvin Kemm. "It is an opportunity to demonstrate our global leadership in advanced nuclear technology. We have received enquiries from around the world."

The development promises more than just electricity. It could become a manufacturing hub for future SMRs and potentially host a nuclear fuel facility, with long-term plans to export reactors across Africa.



The Kudu Design of the HTMR-100 nuclear reactor, as designed for Zilkaats Estate.

Credit: JKDA Architects



Stratek Global Director of Finance; Francois Reyneke, holds a nuclear fuel ball for the HTMR-100 nuclear reactor.

Half a dozen of these balls will supply all the electricity for a family of four for ten years.

Credit: Stratek Global

CONTINUED ON PG 12

Zilkaats CEO Allan Culverwell highlighted the strategic vision behind the partnership: “We see the vast potential of the African SMR market. This project is a gateway to a larger industrial ecosystem.”

Pending regulatory approval and financing, construction could begin within two years. Both partners have emphasised a strong commitment to safety and public engagement, in alignment with the National Nuclear Regulator (NNR) and International Atomic Energy Agency (IAEA) standards.

For South Africa, this is more than an energy project. It is a practical step towards industrial advancement, regional power independence, and a revitalised nuclear manufacturing industry with global reach. As momentum builds, the Zilkaats site may soon be recognised as the birthplace of Africa’s nuclear future, quietly but confidently reshaping the continent’s energy story.



L to R Francois Mellet, Stratek Director: Operations, Allan Culverwell, CEO, Zilkaats Dr Kelvin Kemm, Chairman: Stratek Global in the road by the allocated site. Credit: Stratek Global



Aerial view of the proposed site Credit: Zilkaats Estate

RELATED ARTICLES

“Stratek Global eyes private SMR project near Gauteng border”

<https://www.energize.co.za/article/stratek-global-eyes-private-smr-project-near-gauteng-border>

NUCLEAR NETWORK AFRICA

THE WORLD OF NUCLEAR

Any person who has influence and a role to play in representing any Nuclear-Related Developments to advance nuclear power in Africa. or in any international entity, which can contribute to the development of Africa's nuclear energy capability is encouraged to be part of this great journey.

Any company, ranging in capability from a nut and bolt to the most sophisticated piece of equipment, should join the journey now.

Tailor-made advertising solutions

Maximise your exposure, and build your reputation.

Rachel Gitari

Sales and Marketing

Email: boselemedia@outlook.com

Cell: +27 (0)72 651 9541



Rachel has been involved with Stratek Global and our nuclear projects for over 10 years. She handles sales and marketing functions related to conferences, meetings, brochures and publications like **N²A**

N²A is published by
Stratek Global (Pty) Ltd.

www.stratekglobal.com

Editor: Heather Veldhuis

Email: heather@stratekglobal.com

Cell: +27 (0)83 625 0316

Submit your article or topic for
consideration in our next **N²A** edition.

heather@stratekglobal.com

