

EARTHLIFE AFRICA JOHANNESBURG'S VICTORY AGAINST RUSSIAN NUCLEAR POWER

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I. INTRODUCTION

The struggle against Russian nuclear power in South Africa was a success and the purpose of this paper is to document and analyse that struggle. In April 2017, the Russian and South African governments' push for over one trillion rand worth of nuclear power was dramatically halted in the Cape Town High Court.

Earthlife Africa Johannesburg was at the forefront of that court case, which was the culmination of over a decade of active campaigning. Earthlife was often a lone anti-nuclear voice in the wasteland of South African energy policy. But the lessons, both positive and negative, of the victorious campaign against nuclear power are in danger of fading into obscurity.

We don't document our struggles. New generations of activists frequently have no history to refer to. And as the cliché goes, those who are ignorant of history are doomed to repeat it. While this paper is focused upon nuclear power, many of the tactics of the campaign are applicable to other struggles against mega-infrastructure projects. There are, I believe, commonalities between fighting a coal-fired power station and a nuclear station.

Fundamentally, a campaign against nuclear is not about a particular way of generating electricity or a technical cost benefit analysis: it is about politics. Nuclear power is a political issue and politics today is more in line with Machiavellian domination than with the musings of Plato's wise philosopher kings. The decision to build nuclear plants is the culmination of private interests competing for power and resources: it is not the end result of rational decision-making on the basis of technical and detailed research. If rational argument won the day, we wouldn't be facing catastrophic climate change or watching as our neighbours starved.

However, as you may have guessed, this paper is a personal reflection on the nuclear struggle and not an objective piece by an impartial academic. Since I was the Project Coordinator¹ of Earthlife Africa Johannesburg, I was involved in the nuclear campaigning in South Africa and for far too long to have any kind of objectivity at the present. This paper is an insider's reflection on the nuclear struggle and his analysis of the future of anti-nuclear campaigning in South Africa.

'No nukes, no way, no how, not here, not anywhere' was pretty much my political orientation.

¹ Project Coordinator is NGO-speak for Director

We often forget that people run civil society campaigns, and activists have all the negatives and positives of any human being. A rare few are saints, some are only in it for the money, but most are trying to make the world a better place in whatever small way they can.

On a personal note, all those years of campaigning against nuclear power, fundraising, putting together the recent court case, and managing the competing interests in the campaign burnt me out, which is not surprising. A small and underfunded non-governmental organisation (NGO) was fighting not only its own government and the state utility (Eskom) but also Vladimir Putin's Russia: the human toll was immense. The exhaustion was so great that I had to leave Earthlife Africa Johannesburg in 2016 and watch the court drama from the side lines. I was okay with that, but there is a lesson here, one of many in this paper: committed NGOs often don't take care of their staff. Somehow, individuals are supposed to be activists rather than people and end up working themselves to death like Boxer, the horse in George Orwell's *Animal Farm*. You know, the struggle above all else and you're lucky to be paid.

That attitude is contrary to a successful campaign. Organisations—and by extension donors—need to provide support and care for their employees and volunteers. People, not expendable robots, campaign.

And lastly, before getting into the impacts of the court case, the history of the struggle and a view on future anti-nuclear campaigning in South Africa, I'd like to thank all of my former comrades at Earthlife Africa Johannesburg: defeating the recent push for nuclear power was a team effort.

II. ABOUT THE AUTHOR

Dr Tristen Taylor was Energy Policy Officer at Earthlife Africa Johannesburg in 2006. From 2007 to 2016, he was the Project Coordinator (Director) of Earthlife Africa Johannesburg's Sustainable Energy and Climate Change Project (SECCP). For a quarter of his life, he's been campaigning against nuclear power in South Africa, from the Pebble Bed Modular Reactor (PBMR) to the recent push to procure six light water reactors.

He was also the Africa representative on the Steering Committee of the International Coal Network from 2013 to 2016. Before joining Earthlife Africa Johannesburg, he was the Apartheid Debt and Reparations Coordinator at Jubilee South Africa. He's currently a postdoctoral fellow in philosophy at Stellenbosch University and occasionally publishes in *Business Day*, *The Star* and the *Daily Maverick*.

III. THE IMPACT OF THE COURT CASE

Overview

About four or five years ago, I walked into Angela Andrews's office at the Legal Resources Centre and told her that we were taking the gathering nuclear procurement process to court. There was a reason I was speaking to Angela: she was one of the two lawyers who took government to court on the Environmental Impact Assessment (EIA) for the Pebble Bed Modular Reactor (PBMR), filing papers in 2003, winning the case in 2005. She had also been working with me on the EIA for the new nuclear build.

Angela looked at me as if I was insane and promptly told me that we would need Adrian Pole, the other lawyer on the PBMR case, now in private practice. At that point, there wasn't a defined legal case or any kind of budget. And, generally, there wasn't much in the way of support from the wider

legal community: the general opinion was that legal action was premature, would be unsuccessful, or wasn't important.

Moreover, funding for anti-nuclear activities was scarce at the best of times and existing anti-nuclear donors weren't exactly keen to hand over taxpayers' money to lawyers. Overseas Development Aid (ODA) and charitable giving is supposed to be geared towards the poor and marginalised, not advocates.

Nuclear power can be a very technical subject and the law surrounding it is quite complex. Not only does domestic law have a bearing, but so do international law, treaties and obligations. Legal work on nuclear power is a distinct specialisation and very few lawyers in South Africa have the skills and knowledge to do strategic litigation on nuclear power. We were going to have to pull Adrian out of private practice and that would mean paying for his time and costs. In the end, his practice suffered as he became absorbed, at tremendous financial risk, in the nuclear case.

But I told Angela that we'd find the money - kinda lied through my teeth since I had no idea how we were going to raise the cash - and said we had better get to work on building a case. The South African judiciary is very wary of ruling on policy decisions and would be unlikely to overturn a political decision to build new nuclear plants. No judge was going to say we should build renewables instead of nukes. That kind of decision was for the executive and parliament to make, not the judiciary.

So, if we were going to use the courts to halt Russian or French nuclear power in South Africa, we'd have to use administrative law. We'd need to show that the executive and/or Eskom had failed to follow all the legal steps required to purchase new nuclear stations. The major problem we had was

that we didn't know how government procured a pencil, let alone a trillion rand worth of nukes.

Angela and Adrian began the long and arduous task of writing letters to various government departments - asking questions, making formal requests for information, warning of potential legal problems - and thus setting up the foundations of the case. At the same time, Earthlife Africa Johannesburg conducted research into procurement, built an alliance with a Russian NGO (Ecodefense) and continued on the other aspects of its anti-nuclear campaign (see Section V below).

The trigger point for legal action came when Ecodefense and Earthlife Africa Johannesburg leaked a copy of a secret deal between the South African and Russian governments to build nuclear plants in South Africa. The *Mail & Guardian* ran the story on 13 February 2015. The secret agreement and the serious intention to buy Russian nuclear power stations meant that court action was now inevitable. The Rubicon had been crossed.

The lawyers picked up the pace, a high-powered team of advocates was assembled (working off a mixture of reduced rates and contingency), papers were filed with the court, and I raised money - about R1.3 million. The sad truth is that the law is for the rich: the protection of rights and the rule of law does not come cheap.

On 26 April 2017, the Cape High Court ruled that the procurement process was illegal since it had not followed all the legal requirements. The judge also threw out the nuclear cooperation agreements with Russia, the USA and Korea as they had not been tabled in Parliament correctly. In effect, and on the basis of administrative law, the Court told government that it would not only have to start the entire procurement process from scratch but would also have to renegotiate international agreements on nuclear power.

The entire procurement process was halted and sent back to square one.

Impact of the Court Case

As illustrated above, the court case stopped the trillion rand procurement of nuclear power in its tracks. But does that mean nuclear power is dead in South Africa? Couldn't government and Eskom simply restart the procurement process and do it in accordance with the law?

After all, South Africa is rapidly becoming a kleptomaniac state under President Jacob Zuma and the Gupta family: corruption is bleeding the country dry and a trillion rand offers a multitude of opportunities for dodgy tenders and kickbacks. Serious money is on offer from the nuclear industry, both above and under the table.

To build a nuclear reactor takes about ten years. South Africa's current nuclear power station (Koeberg in the Western Cape, commissioned in 1984 and 1985) will probably be decommissioned somewhere between 2024 and 2034. The oldest operational commercial nuclear reactor (Beznau-1, Switzerland) is currently 48 years old and most commercial reactors are decommissioned around the 40 year mark.

Unless the South African government makes an in principle decision to abandon nuclear power, it faces the prospect of having had nuclear power and then being unable to continue a nuclear programme. A serious loss of prestige and pride.

While the future is uncertain, especially in politics, and despite the above-mentioned push factors, government will probably be unable to reboot the procurement process anytime soon. The procurement process for nuclear power stations takes time and time is probably not on the side of the pro-nuclear faction within the governing African National Congress (ANC). To procure anything in government is a lengthy process and

nuclear power is perhaps the longest and most detailed procurement process. A host of government departments, Cabinet, the National Nuclear Regulator (NNR), the National Energy Regulator of South Africa (NERSA) and Parliament all have to sign off on one part or another. Not to mention agreements with other countries and nuclear vendors. After all of that, a tender must be launched and the various bids assessed.

In April 2017, the Department of Energy received a new minister, Mmamoloko Kubayi. She hasn't appeared to do anything on the nuclear programme besides deciding not to appeal the April 2017 court decision. At the time of writing this paper, there are rumours that Minister Kubayi will be replaced in a Cabinet reshuffle, the twelfth since President Zuma came to power in 2009. New ministers take time to get up to speed.

A new procurement process is predicated on efficient administrative capacity within government, which at the moment is a somewhat doubtful proposition. Over the last two years, the payment of social grants, which 17 million South Africans rely upon, has been incompetently managed and is rife with suspected corruption. If government has battled to run its social grant programme, arguably the most important function of government and the bulwark against poverty, starvation and chaos, can it run a successful nuclear procurement process?

On the energy policy front, administrative chaos seems to be the order of the day. Eskom has put on hold electricity procurement from independent renewable energy power producers, despite companies having been awarded tenders from the Department of Energy. Nobody really knows when or if Eskom will sign power purchasing agreements with these producers. What we do know is that solar and wind technology are now cheaper and quicker to install than nuclear could ever be. The

cynical say that Eskom is removing nuclear's competition.

Additionally, Eskom is mired in a corruption scandal over its coal contracts and doesn't seem to be able to build the Medupi and Kusile coal-fired power stations: costs continue to rise and the completion dates keep on being pushed back. Whether Eskom has the capacity (or the will) to run a complicated nuclear procurement process successfully is an open question.

Simply put, and even with faultless administrative actions, to restart the procurement process will take at least a year, possibly two.

The ANC is approaching a leadership contest in December 2017 and national elections in 2019, and the principle political supporters of nukes (led by President Zuma) are going to be absorbed with issues other than nuclear power. The ANC's December 2017 electoral conference is shaping up to be a bitter and divisive contest with the Zuma faction fighting for its political survival and the maintenance of patronage networks. Whomever emerges victorious at the electoral conference will almost certainly be the next president of South Africa.

Pro-nuclear politicians are probably not going to have the political capital and/or time to drive through the purchase of nuclear reactors, especially in a manner that will satisfy legal requirements. Moreover, the ANC has not been and is not united on nuclear power. One of the suggested reasons behind President Zuma's sacking of Finance Ministers Nhlanhla Nene (9 December 2015) and Pravin Gordhan (31 March 2017) was their active and sustained opposition to nuclear power.ⁱ The second deputy general secretary of the South African Communist Party (SACP), Solly Mapaila, had the following to say about Gordhan's removal as Finance Minister:

[Gordhan] refused the Guptas and the Russians to get the nuclear deal. Last week the court ruled that the way in which the nuclear deal was handled was unlawful and unconstitutional and they reversed that decision. So Gordhan was right all along. He's being punished for being right.ⁱⁱ

Both Nene and Gordhan are now embroiled in an internal ANC political struggle against the Zuma faction, in which nuclear power is both a real and a proxy issue.

Zooming out a little bit, the ANC contests elections with its partners in the Tripartite Alliance, the Congress of South African Trade Unions (COSATU) and the SACP. COSATU has firmly and repeatedly come out against nuclear power and the Russian deal. For example, on 1 October 2014:

COSATU is therefore extremely concerned at reports, just three months later, that a deal may have been signed between South Africa and Russia on nuclear co-operation, which include building nuclear power stations.

The federation has a congress resolution emphatically rejecting nuclear power as a solution and therefore objects in principle to its use.ⁱⁱⁱ

The SACP isn't that keen on Russian nuclear power either. On 29 May 2017, the SACP stated:

Once more, we call on President Zuma to step down in the interests of the ANC, in the interests of the Alliance it should be leading, and of our country as a whole.

Over the past week a barrage of fresh information and analysis has emerged underlining what we have long argued, that a parasitic-patronage network linked to the Gupta family has effected a

significant level of state capture, with certain Cabinet ministers being little more than Gupta functionaries. Billions of rand of public money are being siphoned off...Our democratic national sovereignty is being auctioned off to petro-dollar feudalists in Dubai, to NASDAQ listed companies like Net1, and to the Russian nuclear moguls.^{iv}

With allies like these....

The pro-nuclear faction will have to force nuclear procurement through a divided party and hostile electoral allies. Over the last twenty years, state power has been used to push nuclear power and the nuclear industry is effectively nothing but an arm of the state. The key questions are how powerful within the state are the pro-nuclear forces versus the anti-nuclear forces and which faction emerges from the ANC's 2017 electoral conference?

Even if the pro-nuclear faction manages to win the conference and grasp state power, it will have to procure nuclear power in the face of widespread opposition. South African media, over the last five years or so, has become increasingly anti-nuclear, especially in regards to the proposed fleet of Russian reactors. The *Mail & Guardian* has changed its editorial position from being agnostic about nuclear power to taking a stance against the recent attempted procurement.

The National Union of Metalworkers of South Africa (NUMSA) and other trade unions not affiliated to COSATU are also not in favour of the nuclear procurement process. For example, NUMSA has stated:

Numsa is totally opposed to the opportunistic introduction of new nuclear power stations in South Africa by the ANC government. Numsa is dismayed by this

rash and senseless act of implementing the nuclear deal at all costs.^v

Public opinion has also shifted: Russian nuclear power has become synonymous with corruption and expense. Civil society, at least in the environmental and energy sectors, is united and rejects nuclear power. Key academic institutions like the University of Cape Town's Energy Research Centre (ERC) have produced reports stating that nuclear energy is not a wise option for South Africa.

In a 2015 report², the ERC concluded that a fleet of six reactors could decrease economic growth, raise electricity prices 20% higher than a non-nuclear future, and shed 75,000 jobs.^{vi} On the expanded definition of unemployment, South Africa's unemployment rate is currently about 36%.

Opposition parties have taken positions against the nuclear build. The largest opposition party, the Democratic Alliance (DA), states, "The DA has staunchly opposed the nuke deal since it was first revealed...."^{vii}

The Economic Freedom Fighters (EFF), always good for a quote or two, states, "...this deal was secured in secret as it was not about the enhancement of the livelihoods of our people but a means to further the interests of a corrupt government...."^{viii}

Even organised business is against the idea. Back in 2007, I was sitting in a meeting at NEDLAC (National Economic Development and Labour Council) and listening to the Department of Energy rap on about an energy bill. A real dog of a bill. When it came to nuclear, Lorraine Lotter, the bagman for Business Unity South Africa (BUSA),

² Earthlife Africa Johannesburg funded that report. An objective report? Your call. One way or another, funding it did result in academic back-up for our campaign. The media picked up on the report, adding to the drumbeat of the nuclear build would bankrupt the country

said, “Eskom can’t afford nuclear on its balance sheet.”

Lorraine Lotter’s financial assessment still holds. South Africa’s State Owned Enterprises (SOEs) are in a mess and Eskom is no exception. Eskom carries about R320bn of debt, has been downgraded to junk status, has exceptional leadership problems, is embroiled in a corruption scandal involving coal contracts and the infamous Gupta family, and is struggling to finish the Medupi and Kusile coal-fired power stations. The cost overruns at Medupi and Kusile are about R146bn and Eskom will have to borrow significant amounts to finish construction.

Basically, Eskom is surviving on commercial paper, increasing tariff hikes, and government loans and guarantees. Without government support, Eskom would collapse. Moreover, Eskom’s debt is ultimately dependent on South Africa’s credit rating, the growth of domestic product (GDP) to debt ratio and economic growth. Growth is effectively 0%, GDP to debt ratio is a worrying 48%. Fitch Ratings and Standards & Poor’s have downgraded the country to junk status. The situation has got so bad that the new Minister of Finance, Malusi Gigaba, is now talking about a loan from the International Monetary Fund (IMF).

Therefore, and even if the pro-nuclear faction manages to drive through nuclear in the face of administrative incompetence and widespread opposition, government and Eskom probably couldn’t afford nuclear power unless vendors front the capital costs, which they may not be able to do. Commercial banks don’t give loans for nuclear power.

The current balance of forces and the objective conditions are against a revised, serious and successful nuclear procurement process.

IV. RUSSIAN NUCLEAR POWER

The following description has been reproduced and adapted from: Vladimir Sliviyak, *Russian Nuclear Industry Review* (Earthlife Africa Johannesburg, 2014), pg. 14-15. Published under copyleft.

Rosatom remains one of the largest nuclear energy producers and reactor suppliers in the world. However, very serious concerns exist with regard to Russia’s ageing reactors, which have been given 15-year license extensions when their original operating life expires. Some of the old reactors do not have a secondary containment, which is unacceptable under modern safety requirements. With the current policy of extending the operation of old reactors, the risk of new nuclear accidents is growing.

As for its new projects, Rosatom is promoting its new reactor design, the VVER-TOI³, to international customers even though this design has never been tested in practical operation in Russia. No assessments of this design have been done by independent experts.

Existing Russian reactors, likewise, do not demonstrate a high level of safety. Over a dozen incidents and failures have already occurred at the newly built VVER at the Kalinin nuclear power plant, including one involving a hydrogen explosion. The Russian fast breeder reactor – the only commercial unit of this type in the world – has in its over 30 years of operation experienced almost as many various accidents, including fires involving radioactive substances and coolant leaks. Eleven old RBMK⁴ units – all variations on the Chernobyl design – still remain in operation in Russia.

Rosatom continues to reprocess spent nuclear fuel at the disastrous Mayak facility. Not only is the

³ Vodo-Vodyanoi Energetichesky Reaktor Tipovoi Optimizirovanniy Informatizirovanniy

⁴ Reaktor Bolshoy Moshchnosti Kanalniy

stockpile of extracted plutonium growing, but there is also a constant significant increase in volumes of radioactive waste resulting from reprocessing. Russia has no realistic and viable plan for the disposal of radioactive waste.

With vast resources and solid state support at its disposal, the Russian nuclear industry remains under almost no external control and is marked by a lack of transparency, widespread corruption, failure to demonstrate high levels of safety, and unresolved waste and decommissioning issues.

V. EARTHLIFE AFRICA JOHANNESBURG'S NUCLEAR CAMPAIGN

When Earthlife Africa was born in 1988, “anti-nuclear” was stamped on the birth certificate. In September 1992, the organisation held an international conference on environmental justice at the University of Natal. Two of the presenters at that conference, the anti-nuclear activist David Fig and pro-nuclear engineer Andrew Kenny, represented a dialectic that has continued to this day: Earthlife Africa vs the nuclear industry.

Since liberation in 1994, the anti-nuclear vs nuclear struggle has flowed in and out of energy planning and policy, the public discourse, political discussions and the courts with Earthlife Africa being one of the main protagonists. After twenty-nine years, the whole nuclear issue is more like a grudge match between two old boxers: Andrew Kenny is still promoting nuclear power, David Fig is still involved in the anti-nuclear struggle.

The only thing the two sides can agree upon is that continuing with coal-fired power stations is a bad idea. The anti-nuclear camp has a green vision of a South Africa powered overwhelmingly (if not 100%) by renewable energy, mostly solar and wind. The pro-nuclear camp wants nuclear power

to dominate the energy mix like it does in France, call it the glow-in-the-dark vision if you will.

Between these two visions, these two strands within the South African body politic, there is no middle ground. Neither side is able to concede. There can be no negotiated solution for the contest is a zero-sum game: either another reactor is built or one isn't. Just one new reactor is sufficient for the pro-nuclear camp, given that it will lock South Africa into 40 more years of nuclear power.

If a reactor isn't built before Koeberg is retired, then South Africa and nuclear power will have departed ways. Therefore, Earthlife Africa's objective is to prevent the construction of another nuclear reactor at all costs. Although, the term 'objective' is a somewhat weak description. Earthlife's reason for existence, the core of its identity and purpose, is to defeat nuclear power: to paraphrase the immortal words of the Iron Lady, there is no alternative.

Put another way, if another reactor is built in South Africa, then Earthlife Africa should be cremated, possibly in the same fire as the country's finances.

Until very recently, the balance of forces has been with the nuclear industry. Nuclear power is state power. The Atomic Energy Board was set up in 1949 and the apartheid government built atomic weapons in the 1970s and 1980s. A French consortium built the Koeberg power station, with the French banks providing 82% of the financing. The SAFARI-1⁵ research reactor at Pelindaba was supplied by the United States of America in the 1960s.^{ix}

Just as in any other place in the world, nuclear power in South Africa can only exist with strong support from the state. Pro-nuclear elements can draw upon state resources, including but not limited to financing, media outreach and security

⁵ South African Fundamental Atomic Research Installation 1

services. The nuclear industry is secretive and protected from external enquiry. While there is some rationale for the secrecy - you don't want people building bombs and the like - it makes oversight very difficult and the nuclear industry tends to become a law unto itself.

As South Africa has a long history of nuclear power and a degree of nuclear skills, the momentum is towards maintaining its nuclear status. Given that post-liberation South Africa is functionally a one-party state because of the ANC's continuing electoral dominance, some of the usual democratic impediments to nuclear development are missing. If the ANC wants to, it has the political power to push through nuclear power, despite what any opposition party thinks.

Furthermore, the nuclear industry has an in-built advantage regarding discussions on nuclear power. Nuclear technology is complex and involves some complicated physics: as Albert Einstein once said, "Nuclear power is one hell of a way to boil water."

Statistics on the effects of radiation vary widely: for example, the death toll from Chernobyl ranges from 49 to 1,000,000 people, depending on who you ask. So, it's easy for nuclear scientists to claim the knowledge high ground. After all, they are the government sanctioned experts. Who will decision-makers listen to? A nuclear scientist with two decades of experience in the industry or me with my doctorate in Ancient Greek philosophy?

Traditionally, both the public and the media have been ambivalent about nuclear power in South Africa. The industry didn't face strong public opposition for years and had the support of both President Mbeki, who favoured the PBMR and the French European Pressurised Reactor (EPR), and President Zuma, who favours Russian nuclear power.

All of the above suggests that the nuclear industry should have put through a new nuclear build, especially in the 1990s. Why not? It's not like plans for a massive nuclear expansion didn't exist.

The PBMR was a disaster for the nuclear industry. In 1999, the PBMR company was founded and in 2010 it was closed down without building a single reactor, wasting R9.2 billion. The PBMR was supposed to be a small-scale Generation IV reactor (165MWe⁶) cooled by helium. Both Germany and the USA tried to build versions of the PBMR (High Temperature Gas Reactors (HTGR)) and failed.

On 26 January 2005, and with Earthlife Africa as the applicant, the Cape High Court overturned the EIA for the PBMR and that was the beginning of the end. Moreover the history of commercial nuclear power has pointed to large reactors as being commercially viable. Essentially, the nuclear industry took a punt at building a new type of reactor and failed. Treasury, representing an anti-nuclear faction within the ANC, ultimately had enough and cut its losses.

Talk about an own goal.

My job, from 2006 to 2010, was to make sure the PBMR was dead, which was basically a death watch. Not the hardest of tasks as both Angela Andrews and Liz McDaid had done all the work in the early 2000s. I got the pleasure of crowing in the media and taunting the Minister of Public Enterprises, Alec Erwin: he loved the PBMR.

The nuclear industry didn't even pause to lick its wounds. In 2007, Eskom put out a tender for new conventional light-water reactors. Areva's EPR (two 1600MWe reactors) and Westinghouse's AP-1000 (three 1,134MWe reactors) were short-listed. In December 2008, Eskom declared the bids too expensive and cancelled the tender. It was probably Eskom's last rational decision.

⁶ Megawatt electric

In 2008, Earthlife Africa Johannesburg had a stroke of luck. The organisation was in disarray and severely underfunded, basically hanging on by the skin of its teeth. My focus was on rebuilding the organisation and we had no effective campaign against nuclear power. If Eskom had accepted one of the bids - at the time, the French were the odds on favourites with the EPR - then nuclear plants would be under construction presently, perhaps even in operation.

Just over two years later, the push for nuclear power was back on. Earthlife Africa Johannesburg was in better shape. We had financial stability, more staff and a clearer direction. One of the lessons from the experience was that organisations cannot campaign effectively unless they sort their internal structure, finances and human resources.

While we had a clear position - no nukes - we didn't have much in the way of funding for nuclear campaigning. Most donors won't touch nuclear power. Maybe because it's a long campaign, maybe they are agnostic about or even like nukes, or maybe they are scared. Never really figured it out.

The majority of our donors funded us for climate change, gender, energy policy and grassroots mobilisation. All good and worthy causes but not Earthlife Africa's core mandate. So, in order to keep the anti-nuclear campaign alive, I cross-subsidised the campaign from other resources. For example, folks who were hired as climate change campaigners were told to work on nukes and I, on top of my duties as the fundraiser, nominal boss and chief clerk, took on nuclear as a mission from God.

Heck, I would have thrown the Finance Officer into the fray if she would have let me.

France's Avera fell out of favour as the preferred vendor and Russia's Rosatom became the darling under President Zuma's administration. Perhaps it

was South Africa's foreign policy realignment towards the BRICS⁷ grouping, maybe it was Zuma and Putin's special relationship, maybe it was graft but I was happy. Russian nukes equals Chernobyl, one of the easiest media messages in the world. Additionally, the Fukushima disaster focused media and public attention on the safety aspects of nuclear power.

Our overall strategy was delay and delay and delay the nuclear programme using every possible avenue and forum. Nuclear power is expensive and takes a long time to build. We thought that if we could prevent concrete from being poured for long enough, Eskom would have to seek other forms of electricity generation to offset the coming decommissioning of its coal-fired power station and the economics of nuclear power would get worse, especially in relation to solar and wind. Nuclear power is one of the few technologies that gets more expensive over time, mostly because safety measures continue to increase.

As an illustration of how we used indirect methods to slow down the nuclear programme, we opposed electricity tariff increases - South Africa does not have a liberalised energy market and prices are set by NERSA - as a tactic to undermine Eskom's ability to afford nuclear power. If the tariffs rose high enough, Eskom would be able to afford the R/kWh price of nuclear power.⁸

At a 2010 NERSA tariff hearing, I gave a presentation to the energy regulators and blasted Eskom with everything I could think of. Comrades protested outside of hearing until they got arrested for indecent exposure whilst fully dressed. Stephen Grootes, writing for the Daily Maverick, took the mickey out of me:

After a reasonable lunch, the greenie beanies took over. If Eskom claims we're all gonna die without the price hikes, it'll

⁷ Brazil, Russia, India, China and South Africa

⁸ Rand per kilowatt hour

be Eskom that kills us. Earthlife Africa and Greenpeace Africa had a good old rail against the machine moment...Earthlife felt the need to end their presentation with a slide of Chernobyl. Nothing like the soothing, grand gesture.*

After I read that article, I phoned Stephen and congratulated him: I found it really funny. Since then, he's been quite amenable to covering Earthlife's propaganda. Working with the media is about developing relationships with individual journalists. For example, I'd been talking to Lionel Faulk of the *Mail & Guardian* for over a year before we leaked the secret agreement between Russia and South Africa to him. We gave him an exclusive and, after he had checked it out, he ran with the story. The impact was huge: that story became the turning point in the campaign.

I subscribe to the Joseph Goebbels school of propaganda: keep it simple and repeat it often. Not to say that you must lie like Goebbels did or promote genocide and racial hatred, just keep the message short and say it every chance you get. We had two messages that became rote.

The first was that the planned nuclear build would cost one trillion rand. We got that figure from the ex-Minister of Energy, Dipuo Peters, in 2011. Even though she quickly walked back on it, we had our figure and kept on repeating it until it became the standard cost. Luckily enough for us, subsequent research told us we were in the right neighbourhood. Of course, until Eskom buys the plants and finishes building them, nobody really knows. And hopefully we will never know because South Africa's nuclear programme won't happen. A trillion rand is a nice, round figure and is in the realm of possibility.

The underlying message is that 9.6 gigawatts (GW) of nuclear is not only really expensive but that also costs more than other options. The costs of

Medupi and Kusile (combined capacity of 9.6GW) coal-fired power stations, currently being built, has climbed to R400 billion^{xi}. Despite Eskom's gross mismanagement of their construction, Medupi and Kusile are still considerably cheaper than a nuclear fleet.

The second message was that the nuclear deal was corrupt. We managed to hit on the gestalt of the time. As mentioned before, corruption has become the major hallmark of President Zuma's administration. Newspapers catalogue tender fraud, dodgy deals and outright theft on an almost daily basis. A trillion rand is a lot of money and it is not like Russia is noted for its anti-corruption measures.

These two messages represented a major shift in the messaging of the campaign. We didn't really push the safety aspect or harp on too much about the dangers of nuclear waste, we hammered home on the finances. Why are so many popular songs about love and sex? Almost every adult has had sex or has fallen in love, we all have those two things in common. Most people don't want to see a lot of money disappear into the hands of the corrupt or get just plain wasted. People would rather see their taxes spent on education, housing, healthcare and other social services.

The financial aspect was also used to frame the issue of a nuclear accident. The Japanese utility, TEPCO⁹, is facing bankruptcy from the Fukushima meltdown. According to Greenpeace, the cost estimates of the disaster range from 440 to 629 billion dollars.^{xii} If Koeberg has a meltdown, we'd lose the Western Cape as a productive economic zone and obliterate what is left of our economic health.

Another reason we adopted a financial angle was that it negates the scientific advantage of nuclear physicists and the like. We aimed to change the

⁹ Tokyo Electric Power Company

discourse, the site of conflict if you will, to something we could control. As Sun Tzu once said, "And therefore those skilled in war bring the enemy to the field of battle and are not brought there by him."

The other way we sought to negate the scientific advantage was to bring in our own experts, in particular Professor Steve Thomas from the UK and Vladimir Sliviyak from Russia. Apart from being the world's foremost nuclear economist, Steve is also the inventor of Baileys Irish Cream. So, he knows his stuff and isn't anti-nuclear: he simply ground out the numbers and came to the conclusion that both the PBMR and a nuclear fleet were uneconomical for South Africa. His basic position is that utilities should use natural gas instead of nuclear.

Vladimir has fought nuclear for years and even managed to stop a reactor in Russia. He received a great deal of media attention in South Africa during the campaign. He had a fair amount of gravitas, since he knew far more about Russian nuclear power than the proponents of nuclear in South Africa did.

The last major part of the campaign was alliance building. We worked with COSATU, NUMSA, the churches, community organisations and fellow NGOs. On the quiet, we spoke to both the DA and the EFF. We talked to people within the ANC whenever they would listen. Alliance building is a long-term endeavour, it takes years and years, and often rests upon personal relationships. For example, some of us had contact with the unions (even stretching back to the 1980s) before joining Earthlife and shared a common political ideology.

The South African Faith Communities' Environment Institute (SAFCEI) would later join the court case as co-applicants. By this time, Liz McDaid had left Earthlife Africa Cape Town and was driving forwards energy policy advocacy

within SAFCEI. One of the reasons I was keen for SAFCEI to join the case is that they gave us cover: at least on paper, SAFCEI represents South Africa's religious community and thus gives a wider legitimacy to the case. South Africa is a deeply religious country so the optics were good.

The non-legal elements of the campaign laid the foundations for the legal case. Judges read newspapers and the public mood does make a difference. Additionally, Earthlife's long history of campaigning against nuclear power forged personal contacts that made the case happen and not just in terms of the lawyers but also in terms of donors. Raising money via cold calling a foundation or development agency is usually unsuccessful. Knowing a person inside a donor organisation helps a lot, even better if you've had a beer with them or shared a meal. In many ways, raising money in the NGO sector happens in a relatively closed, small and competitive world.

The first phase of the legal aspect of the campaign wasn't the procurement process but rather the EIA for a generic nuclear plant at Thyspunt in the Eastern Cape. Angela Andrews and I (mostly Angela, to be honest) tried to throw up every argument we could think of to delay and delay the awarding of the EIA. The longer the approval took, the greater the costs to Eskom were and the more time for renewables to be built.

I thought that the EIA would be the terrain of legal struggle until the nuclear procurement process hit a higher gear. The focus shifted to procurement and through a combination of the lawyers working their hearts out, a fair amount of luck, a changing public mood, and government's inability to follow administrative law, we got a legal ruling that stopped President Zuma's nuclear ambitions in their tracks. Andrew Kenny must have been particularly annoyed.

To reiterate, the Court's favourable ruling in April 2017 was the product of decades of campaigning. A long war that sometimes felt like (and still does) perpetual war for perpetual peace. There is, however, a darker side to the campaign. At the 1992 Earthlife Africa conference on environmental justice, ANC stalwart Ben Turok stated:

It is not enough to say that the individual must behave better. We, as social organisms, have to behave better. Do our organisations relate to each other without rivalry? Are we worried about being competitive for funding?^{xiii}

Over two decades later, NGOs aren't behaving better and the nuclear campaign was laced with rivalries, limited funding and some hard internal politics. Put another way, the external war against the nuclear industry was concurrent with a small-scale internal conflict within Earthlife Africa and civil society in general.

As an old-time nuclear activist once told me, the problem with the anti-nuclear campaign is anti-nuclear activists. There's something about nuclear power that brings out the crazies on both sides of the debate: please note that I'm not excluding myself from that assessment. Anti-nuclear campaigning tends towards conflicts based on egos, personalities, politics and media messaging, all of which are exacerbated by extremely limited donor funding.

I cringed whenever I saw protestors wave around pictures of deformed babies: not only were the activists playing on the scientific terrain, they were diluting the powerful messages of nuclear is expensive and the Russian nuclear build is corrupt. Instead of reasoned but simple arguments, campaigners often drifted into emotional and factually dubious claims.

I think another reason why the anti-nuclear community often fought each other with great

ferocity is that it is easier to fight the war at home than the war outside. Taking on a rival organisation or individual isn't quite as daunting as fighting Mother Russia.

Civil society often claims the moral high ground. Activists are supposed to represent the public good and to oppose what is ethically wrong and promote what is morally good. Saving whales is a good thing to do because it is the right thing to do. Feeding hungry children is a moral duty. Activists are moral agents in an immoral world.

Yet, civil society reflects all the moral failings of human society. Petty conflicts abound, individuals seek power within organisations, the acquisition of funding is treated as a zero-sum game, gossip is endemic and political disputes are common, all of which are sometimes underlain by a 'who is having sex with whom' dynamic.

Since funding for anti-nuclear activities is limited and while campaigning is expensive, I knew that funds would have to be consolidated within one organisation, i.e. Earthlife Africa Johannesburg, to be effective. So, I worked hard to gain donor funding and, in the end and as far as I can tell, garnered the bulk of the available funds for anti-nuclear activities. I also did what I could to consolidate my own position within Earthlife Africa Johannesburg.

When combined with cross-subsidisation (money is fungible), Earthlife Africa Johannesburg was in a position of strength. With money comes power. Not only could it do more activities and protests than anyone else, we could afford to ignore opposing viewpoints and difficult individuals within the wider anti-nuclear community. After all, and despite any differences, other anti-nuclear activists would support Earthlife Africa Johannesburg's campaign. What were they going to do? Cheer for Rosatom?

In terms of both maintaining the direction of the anti-nuclear campaign and dealing with internal civil society dynamics, I was fairly ruthless and took the approach that the ends justified the means. Ben Turok is right, NGOs and activists often act in immoral ways and they should change the way they operate...but Machiavellian politics work.

Campaigning is a political activity and politics is the dirtiest of all games.

VI. LESSONS FROM THE NUCLEAR CAMPAIGN

Here are some of the key lessons I learnt from the campaign:

- 1) Spend time on organisational structure and finances. Pass your audit, write reports, hire the right people, and get rid of dead wood. In order to campaign, your organisation needs to be solid. Failing organisations don't win campaigns.
- 2) Prioritise fundraising. Even though it may feel like prostitution, you need to raise money all the time. No money, no campaign.
- 3) Have a clear campaign objective and stick to it.
- 4) You need luck. Earthlife Africa Johannesburg had a few lucky breaks, some of them we'd rather not have had: the Fukushima accident, South Africa's slide into kleptomania, and the financial crash of 2008 all helped the campaign.
- 5) Keep your messaging short and simple. Repeat often.
- 6) Build relationships with journalists. Go for a drink with them. If you get bad coverage, don't complain, it doesn't do any good. Dealing with the media is like holding onto a tiger's tail. Sometimes it swings in your favour, sometimes not. Accept that.
- 7) Figure out who your key allies are and work with them. If you want them to join your battle, be prepared to join their battle. Take the long view and be patient.
- 8) Try not to burn out. Where possible, try to put in place human resource measures that alleviate stress and strain.
- 9) Campaigning against nuclear power is a long-term activity. The nuclear industry is entrenched and tenacious. Be prepared for a very lengthy and bitter struggle.
- 10) Have a holistic campaign. Research, media, advocacy, mobilisation and legal actions and tactics all reinforce each other.
- 11) Try to ensure that the conflict plays out on your chosen field of battle. If you attempt to argue the finer points of nuclear technology with nuclear physicists, you're likely to lose. Get other nuclear experts to make your arguments.
- 12) Read. Despite the point above, nuclear power is a technical subject. You need to understand how the technology works, the different reactor types and the industry's history, present and future. You need to know about waste streams, the effects of radiation, the costs of capital, nuclear financing, industry regulations, safety measures and international agreements and agencies. Figure out what nuclear vendors are up to. You'll also need to know a fair amount about non-commercial nuclear power: research reactors, military reactors and nuclear weapons.

- 13) Try to avoid internal conflicts or at least minimise them. They take time and effort away from fighting the real enemy.
- 14) Since fighting nuclear power will absorb a lot of your life, try to have some fun doing it.

VII. SUGGESTIONS FOR THE FUTURE

While much of the above suggests that nuclear power is dead in South Africa, to act as if that is the case could be a grave mistake. Nuclear power has a zombie-like quality, it never really dies. Given that government has not made an in principle decision to abandon nuclear power, there is the possibility that a serious procurement process will be revived. Noting that there is a difference between a general desire or notion for nuclear power and a concerted attempt to purchase reactors.

My analysis that nuclear is finished could very well be wrong. In order for the South African nuclear industry to survive, both the Koeberg commercial reactor and the SAFARI-1 research reactor at Pelindaba will have to be replaced in the coming decades. Since building reactors takes time - ten years or so - the clock is now against the nuclear industry, which will get increasingly desperate.

International pressure from not just Russia but also from France, China and South Korea to purchase reactors is unlikely to cease. Nuclear vendors need to sell plants, and perhaps alternative financing arrangements could be made: for example, Russian technology backed by Chinese money.

Perhaps President Zuma's ex-wife, Nkosazana Dlamini-Zuma, becomes the next president of South Africa. If so, she may well attempt to buy Russian reactors. Eskom will also have to start replacing its ageing fleet of coal-fired power stations soon: it could seek nuclear over renewables and gas.

The question then is, how do anti-nuclear organisations make sure nuclear power doesn't come back to life? The first step is to avoid complacency. A great victory has been won, a true David vs. Goliath battle, and organisations and donors may move on to other areas such as climate change or fracking or coal. Heavens knows that there are enough environmental problems in South Africa: throw a rock and the chances are it will hit a toxic sludge pile.

Crucial human resources skills will be lost, as nuclear campaigners, experts and lawyers find other work, retire or die. Internal organisational capacity and memory will degrade if campaigns are not kept active: skills won't be transferred to a new generation of anti-nuclear activists. Donors will allocate funds away from nuclear and towards other areas.

A related danger has to do with individual and organisational exhaustion. Long periods of intense campaigning wears down people and organisations. Becoming complacent can be a coping method or even a necessary response to the burnout. Additionally, organisations could have received cash injections from donors to support their campaigns. When the campaigns end, so does the funding, which then causes problems within the organisations.

If the above happens, then organisations and donors may miss the crucial beginning stages of a new procurement process (or not have the resources to engage) and only 'wake up' to the danger far too late. As stated above, this is the exact scenario that Earthlife Africa Johannesburg found itself in 2007, when Eskom put out a tender for new conventional reactors. Earthlife Africa Johannesburg was completely unprepared and, owing to internal organisational chaos, unable to resist Eskom's plans. Luckily enough, Eskom decided it couldn't afford the plants and the tender process was shelved temporarily.

Based on Earthlife Africa Johannesburg's prior experience and the current objective conditions, the best way to avoid complacency and a new procurement process from sneaking up is to campaign against other aspects of nuclear power. Koeberg is an ageing plant, it will have to be decommissioned sometime, and organisations should push for a safe decommissioning process and highlight the coming expense.

Likewise, waste disposal plans are still in their infancy in South Africa. Organisations could similarly make noise and engage in the various policy processes to keep the issue of nuclear waste alive. And the current subsidies from Treasury to nuclear agencies (such as the Nuclear Energy Corporation of South Africa) need to be questioned, along with which individuals are benefiting. Anti-nuclear forces need to keep tabs on the NNR, Department of Energy, the International Atomic Energy Agency (IAEA), NERSA, Eskom, Department of Public Enterprises, Cabinet and Parliament.

In fact, campaigning on anything to do with nuclear power - for example costs, waste storage, corruption and safety - helps to keep the negative aspects of nuclear in the public domain and keeps

organisations focused on the nuclear industry and government thinking. Then, if another serious push for new nuclear plants comes, organisations will be able to engage early and with the requisite capabilities.

And not lose sight of the overall objective, which is a nuclear-free South Africa. To achieve this objective, a public and political consensus must be built. The ANC and other political parties need to adopt anti-nuclear positions. The recent procedural victory against nuclear procurement has brought about public distaste on nuclear and has gained time for a political victory to occur.

Enough solid and credible research exists, from both inside and outside South Africa, which shows nuclear power is not the best option for South Africa. Basically, we don't need nuclear power and there are cheaper and safer options. Given finite resources, organisations and donors should use existing research materials and prioritise political actions because campaigning on nuclear power isn't just a mere technical issue, it isn't a matter of science or rational policy, it is and always will be a matter of politics.

All articles published on this website have been independently written. The views and opinions expressed by the author are therefore his own and do not necessarily represent those of the Rosa Luxemburg Foundation.

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