

NFLA Policy Briefing No.197



Date: 11th March 2020

Subject: The impact of radiation on women and the importance of women in dealing with the Chernobyl disaster – the views of Linda Pentz Gunter and Linda Walker

1. Introduction

This report is a distillation of two talks given by Linda Pentz Gunter of Beyond Nuclear International and Linda Walker of Chernobyl Children's Project UK. These were given at a Greater Manchester and District CND meeting close to International Women's Day. The talks were on the subjects of the impacts of radiation on women and the positive role a number of women have played in the aftermath of the Chernobyl disaster. Beyond Nuclear International is a dynamic new web platform that tells the story of those affected by nuclear power or nuclear weapons from a humanitarian perspective. The Chernobyl Children's Project UK was founded 25 years ago this year following a special conference held by the host Council of the NFLA, Manchester City Council. A commemorative civic reception for the charity is being hosted by the Lord Mayor of Manchester on April 27th, the day after the 36th anniversary of the Chernobyl disaster.

The NFLA Secretariat would like to thank Linda Pentz Gunter and Linda Walker for permission to reproduce the text of their talks to the meeting. The NFLA also thanks GM&D CND for organising the meeting. Please note these talks are opinion pieces and the views of the authors.

2. Talk by Linda Pentz Gunter, Beyond Nuclear International "So long as there is a woman alive" – the impact of radiation on women

I am going to talk about why and how nuclear power discriminates against women and the children we care for and what we can do about it. And this is a very good place to have that conversation. Manchester has given birth to so much rebellion — the trade unions, the heroic cotton blockade during the US Civil War, Peterloo, the start of the cooperative movement, the suffragettes, the largest gay village in Europe. The list I am sure goes on!

It was also, of course, the place where the atom was first split, by Ernest Rutherford. So Manchester is also where all that trouble started, as well.

We will succeed, said Emmeline Pankhurst, "so long as there is a woman alive to hold up the flag of rebellion". So here we are — and not just women — holding up that flag again. We need to keep holding it, and holding it higher.

You may have heard of the landmark lawsuit in the United States which changed the law to rule that people — and not just women — cannot be discriminated against on the basis of sex. Ruth Bader Ginsburg, now a famous US Supreme Court justice, and the lawyer who won that case, won it on behalf of a man. It was clever because it opened men's eyes to unfairness and discrimination, even against them! And it changed a law that in the end has largely of course benefited women.

But discrimination on the basis of sex of course continues. We usually associate this with things that happen in the work place related to promotion and equal pay.

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We probably *don't* readily associate it with being contaminated by radiation released from nuclear power plants. If we are exposed, then surely we are all equally at risk?

But, as it turns out, radiation is not an equal opportunity poisoner.

Women and children, and especially pregnant women, are more vulnerable — meaning they suffer more harm from a given dose of radiation than the harm a man suffers from that same dose.

Let me quickly add that despite what you might hear from the pro-nuclear propagandists, scientists still agree that there is no completely safe dose of radiation. This is why, when a dose is described as safe, it doesn't mean harmless. It means something called “As low as reasonably achievable”, which means as safe as we are prepared to protect for — or, really, as safe as the nuclear industry is prepared to pay for.

So not really safe then, and when they say safe, the question women must ask is: safe for whom?

I am not sure about the situation here in the UK, but in the US, the “allowable” radiation exposure standards are based on something they call Standard Man.

Who is Standard Man?

Well for the more young and hip here, that might be Kit Harrington or Harry Styles. For us older crowd maybe a younger Colin Firth or Brad Pitt.

In other words, the amount of radiation exposure that is considered safe for an individual, is based on what would be safe for a healthy, robust, 20-30-something white male. And again, I am using ‘safe’ very much in quotation marks here.

But this exposure standard is not necessarily OK for any of us women here in the room. Because what they don't look at in making these calculations is specific things like damage to the placenta or stem cells. They don't look at a fetal dose but at a dose to the uterus — which is not developing cells. They do not look at oestrogen impacts. They do not account for pregnancy.

All this is discrimination on the basis of sex. Against women.

These standards are the result of a mathematical calculation which combines all of us and then creates an average. So the more vulnerable, like women, children, the elderly and infirm, are mixed in with healthy males and a dose is established which definitely is NOT safe for these more vulnerable groups.

That's discrimination, because when regulatory authorities or governments set standards for allowable exposures, they should take into account not only everybody who might be living in the exposure pathway, but the most vulnerable among us, and protect for them.

No one really knows why women are more susceptible to damage from radiation exposure. With children, embryos and fetuses, it is more clear-cut as their cells are still rapidly dividing. With women, it could be that radiation functions as an endocrine disruptor. And we certainly have much larger reproductive organs than men.

But if we don't yet know the why, we do know what happens. Cells, when exposed to radiation, get damaged in a way that they cannot always repair. This leads to diseases such as cancer.

These concerns have been borne out, for example, by the studies that show elevated rates of leukemia among children 5 and under living close to nuclear power plants. The closer they live, the higher the rates. Again, women and children are being discriminated against, asked to take a higher risk than the male members of their community by living close to a nuclear plant that will harm them more readily than it will harm men.

But there are no signs around nuclear facilities warning us of these dangers. There are no laws that say women and children should not live within say five miles of an operating nuclear power plant.

In Japan, since the 2011 Fukushima nuclear disaster, the allowable exposure rates have been raised from 1msv a year to 20 msv a year. That is the allowable annual dose for a nuclear power plant worker in Europe.

Why did they raise it? Obviously, human beings didn't suddenly become more resistant to radiation. Rather it was the fact that Japanese authorities will never be able to clean up the contamination back down to the 1msv a year level. So they just decided to make the level they are likely to be able to clean up to the safe level. For everyone. This is basically criminal.

It's not surprising then, that when you look at who has been pushing back against this — in Japan especially — speaking out, rallying in front of parliament, testifying and so on, it has been almost entirely led by women. Although it IS a bit surprising, given how historically patriarchal Japanese society has always been.

The first group who came to the US to speak about the Fukushima disaster soon after it happened in 2011 was a group of Japanese women, all mothers, and two of them farmers.

It was a group of mothers from Japan who went to testify before the UN Commission on Human Rights in Geneva, to launch an appeal for the rights of nuclear refugees. And it's been mothers bravely speaking out on street corners, week after week.

But here is what is happening to some of those mothers and their children. There have been elevated instances of thyroid cancers in people who were children at the time of the Fukushima disaster. The reasons are threefold: (1) iodine-131 is the fastest traveling radioactive gas released during a major nuclear accident so the first to arrive. (2) Iodine-131 affects the thyroid (3) the public were not issued potassium iodide pills which can protect the thyroid if taken immediately.

However, we've since learned that almost 80% of the patients with thyroid cancer, all of whom were exposed as children, and who were part of the Fukushima Health Management Survey, had cancers which metastasized, most of them to the lymph nodes. Yet these patients, whose information is being held at Fukushima Medical University, have no access to their own data. They are denied access to their own medical records.

Why is this information being kept from them?

Because the Japanese government does not want its own people - or the world - to know the truth about the harm caused by nuclear power plants and especially by the Fukushima disaster, a major black eye.

It wants to go on manufacturing nuclear power plants and selling them abroad — because its nuclear corporations have a reputation to maintain.

And it is still trying to re-start some of its closed reactors in Japan — so they don't want the public to know why this is a dangerous proposition.

Do you think their medical data would have been suppressed if it had been caused by anything other than something nuclear? Or, dare I suggest, if it had affected the reproductive capability of adult men?

These children are paying the price for corporate and government greed and a false sense of prestige surrounding all things nuclear.

Next week we will have two stories about this on our Beyond Nuclear International website. (1) I think we should take inspiration from those fearless women in Japan, because if it's hard to get our voices heard here, it is infinitely more so, there. It is in fact taboo to talk publicly about radiation and contamination.

There are women everywhere doing this. A group of mothers in the suburbs of St. Louis Missouri, waged a year's long battle to get radioactive waste that was illegally dumped in their community cleaned up.

The waste was a product of Cold War activities when a St. Louis-based firm, Mallinckrodt, processed uranium from the Belgian Congo as part of the Manhattan Project. That waste seeped into creeks, and spread into parks where children play and even into homes. Unsurprisingly, there are abnormally high rates of cancers in these communities. These mums went to public meetings, they went door to door, they went to Washington, and they gathered at their kitchen tables in a relentless campaign to get the radioactive waste in their community cleaned up.

And they won, at least a partial victory, as the US environment agency has finally agreed to remove 67 percent of the radioactive waste. It wasn't the 100% removal they wanted, but without these women it would have been zero.

There is a very good film about this called 'Atomic Homefront'.

So how hard IS it still for women's voices to get heard? When we were preparing for this talk, GM CND's Jacqui Burke asked me the question: How many times do we women find ourselves chairing a panel rather than speaking on it when the subject is nuclear?

Have we made progress? I had a previous career as a tennis reporter back when the women's circuit slogan was "You've come a long way, baby." It was actually the slogan of its sponsor, Virginia Slims, a cigarette targeted specifically at women. Imagine! Even the phrase is sort of patronizing sounding now although I guess it was considered a rallying cry of sorts back in the 1970s.

So have we come a long way? I live in a country, the United States, where the prospect of a woman president is still a point of discussion. Incredible really.

But I do think things are changing. And that change is being made by having women in decision-making positions.

I spent the better part of 14 weeks going each Friday to Capitol Hill in Washington DC to a climate rally and protest organized by Jane Fonda. It would have been easy to have taken the cynical approach and just assumed this was another celebrity grandstanding for a cause. But I have to say I came away with immense respect for what Fonda did. And with a few temporary marks on my wrists from those plastic handcuffs.

Because every week, she made sure that most of the speakers were women and, not only women but young women, and women of colour and indigenous women and, I'd say, girls, with some of them 14, 15 and 16 years old.

And they were by far the most powerful and inspirational and moving speakers of all. Sure it was cool to see Joaquin Phoenix and Lily Tomlin but they weren't who rocked the house. They just helped get the house there.

This contrasted dramatically with many other events I have attended or spoken at where the majority of speakers are men - often "experts" - the guy with the tie and the PhD! I don't mean to denigrate them as they do excellent and important and essential work. But what organizers don't seem to ask often enough — and what we women don't push enough — is, "was there a woman who could have filled one, or two or even half of those slots?" We tend to defer to the usual suspects.

We need to be in there deciding because men will leave us out — and not necessarily intentionally. It's just that old habits die hard. And so it's our job to provide a gentle — or even a not-so-gentle — reminder about considering some women in the mix.

And we are getting a little help now from the #MeToo movement. I don't agree with everything about it, but I think #MeToo has helped to heighten awareness and sensitivity, and create greater receptivity. So there is an opportunity here to be listened to.

That's especially needed when it comes to the testosterone-laden topic of nuclear weapons. I once attended a nuclear weapons conference at Yale — focused on imagining a world without nuclear weapons. The only women in the room were me and Dr. Rebecca Johnson, who you may know, was at Greenham Common and is with the Acronym Institute. Rebecca was a speaker, and I'd say she was actually, as a presenter, by far the best speaker. It's hard to believe there aren't any more Rebecca's out there who they could also have invited.

I asked a question at that conference about why there weren't more women in the room and if nuclear weapons policy would look any different if there were more women in leadership positions.

Before I tell you what responses I got, I want to quote Emmeline Pankhurst again, a Mancunian!, who said "The militancy of men, through all the centuries, has drenched the world with blood, and for these deeds of horror and destruction men have been rewarded with monuments, with great songs and epics."

She went on to say: "The militancy of women has harmed no human life save the lives of those who fought the battle of righteousness."

Luckily she didn't live long enough to see that thoroughly disproven by the likes of Margaret Thatcher, for one. And it was Margaret Thatcher, and Golda Meir and Indira Gandhi whose names came up in answer to my question at Yale. They came up as examples of women in power who, whether by choice or necessity, had to become, as Dr. Henry Higgins might have said, "more like a man".

Personally, I tend to think that the more women's voices we have in this arena, the less likely we are to use nuclear weapons. As the late, great actor and comedian, Robin Williams, once said in one of his standup monologues: "If women ran the world we wouldn't have wars, just intense negotiations every 28 days."

But I'd like to end on a more serious note than that. Because I think more and more we are seeing young women especially step up and take the lead, particularly on climate.

So we need to think in this room very hard about how we can draw more women, and especially young women, and especially minority women, to take up the cause on ridding the world of nuclear power and nuclear weapons. And both of these are of course integrally related to the challenge of the climate crisis. So hopefully we can inspire young women to join us by making that connection also.

So, to quote Sister Suffragette from Mary Poppins — and not that line about men, being, as a group rather stupid - "From every corner of the land womankind arise!"

(1) <https://beyondnuclearinternational.org/2020/03/09/the-half-lives-of-the-abandoned/>

3. **Linda Walker, Executive Director, Chernobyl Children's Project UK Women and Chernobyl**

Three great women writers have done so much to tell the story of Chernobyl. Not the accident itself, but its impact on the people of Belarus and Ukraine.

Alla Yaroshinskaya

When reactor No 4 at the Chernobyl Nuclear Power Plant blew up in the early hours of 26th April 1986 it threw millions of curies of radioactive materials into the air, forming a 2km high plume.



Amongst the most dangerous isotopes it realised were iodine 131, caesium 137 and strontium 90.

But according to Alla Yaroshinskaya, a journalist whose tenacity was responsible for revealing much of the subsequent cover up, the most dangerous substance to escape from the mouth of the reactor did not appear on the periodic table. It was Lie-86, a lie as global as the disaster itself.

She visited towns and villages in northern Ukraine 18 months after the accident. The head of the local department of child health told her that they had not found any problems linked to radiation, or any thyroid problems. She had just visited doctors who told her that 80% of the children in their district had thyroid problems.

On land contaminated to less than 15 curies sq/km agriculture continued as normal. The land in the UK from which farmers could not sell their lambs was contaminated to less than 1 hundredth of this level.

People who continued to live on contaminated land were given extra money for food and free medical care and better pensions. Sometimes called the 'coffin allowance'. Villagers in Ukraine signed an undertaking not to drink milk from their cows, but they were not provided with any clean milk or meat.

In the early years many people believed that land outside the 30 km exclusion zone was safe. In 1989 Pravda issued a map showing that there were some areas of heavy contamination up to 300 kms from the plant.

The Government in Moscow claimed it was weeks or even months before they fully understood the extent of the disaster. But Alla Yaroshinskaya was able to reveal that this was not true.

When children were allowed to spend all day out in the streets for the May Day parade, party bosses knew that the radiation levels were very high.

Yaroshinskaya's newspaper would not publish her stories but eventually she managed to get them accepted and people were so impressed with her struggle to show the true effects of the disaster, that she was overwhelmingly elected to the Supreme Soviet in 1989. This gave her greater access to official papers.

The committee headed by Gorbachev, which was dealing with the accident and its aftermath, issued many secret protocols.

Protocol number 9, issued less than three weeks after the accident, dealt with radiation levels, adopting new levels 'which can be tolerated by the population ten times higher than before, and in some cases 50 times higher. Thus we can ensure the continued health of people of all ages, even if the ambient level of radioactivity stays the same for two and a half years.'

Protocol 32 was about the distribution of contaminated meat. The Ministry of Health ordered that it should be distributed as widely as possible and made into sausages and pies. There was a similar one covering milk.

When the main factory in Rogachev was found to be producing contaminated milk, they simply changed the labels on the cans so no one knew where the yoghurt or sour cream milk had come from.

Svetlana Alexeivich

Svetlana Alexeivich won the Nobel Prize for Literature in 2015 for her powerful and moving oral histories of war and tragedy in Russia.



She interviewed hundreds of people who had been affected by Chernobyl – soldiers, firefighters, doctors, scientists, people who had been evacuated, and people who had stayed in the contaminated areas. Some of the most memorable testimony became her book: 'Voices from Chernobyl' later re-published as 'A Chernobyl Prayer'.

Many of her interviews were used to frame the story of the 'Chernobyl' series on HBO. The most powerful and distressing story was Ludmilla Ignatenko, the wife of a fireman whose body was disintegrating before her very eyes in a Moscow Hospital.

The first great stress for families, was being evacuated. In many cases they were told they would be back in a few days or weeks, but then were never allowed back. Many Belarusians had lived in the same village all their lives and their parents and grandparents were buried there. It was very hard to leave their land and be consigned to high rise flats in the cities.

In some villages they were allowed back, just one day a year, to remember their departed relatives. But other villages no longer existed.

During the Second World War, the Nazis destroyed 619 Belarussian villages, along with their inhabitants. As a result of fallout from Chernobyl, the country lost 485 villages and settlements. 70 of them have been buried underground by clean-up teams of liquidators.

The nuclear industry likes to blame many of the illnesses found in Belarus and Ukraine on the stresses of evacuation and on 'radiophobia'. But this is cruel nonsense. Certainly mothers were under great stress trying to make sure their children had clean food if they still lived in contaminated areas, and if they had been evacuated, worrying about their children being bullied at school, their husbands being unable to get jobs and their parents grieving every day for the homes they had lost.

For many mothers there was soon a lot more to worry about as their children fell ill, initially with thyroid cancer or leukaemia.

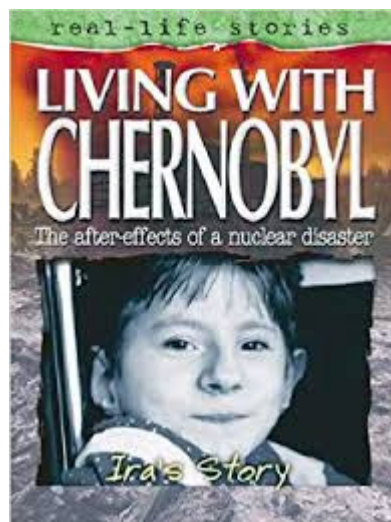
It is usually the mothers who spend many months in hospital with their child, seeing them suffer and wondering if they are going to make it through the treatment.

This is why we invite mums with their young children as soon as possible after the treatment has finished to give them both a boost.

There was a very significant rise in the numbers of children born with disabilities in the months after the accident. 80% rise in Gomel region, despite a huge number of abortions and miscarriages.

Whenever a child was born with any obvious problem doctors would tell the mother that they should leave him or her in the hospital. He would probably die and if not he would be well looked after in an orphanage. They should go home and get on with their lives. Whenever a mother decided not to do that, but to keep her child, in the majority of cases the father would leave.

Fifteen years ago we produced a book about Ira. She had been abandoned as a baby and was growing up at Zhuravichi. When Ira was interviewed she said she always dreamed about meeting her mum. When Ira was 20 her mother took her back home. Natasha had been a teenager when Ira was born with tiny arms and legs, and she believed the doctors who told her that her child would die. After her younger daughters had grown up and left home, she found Ira and is so happy to have her back at home.



Some doctors still do this, so we employed psychologists recently in some of the maternity hospitals to discuss with mothers the support which is available to them and increase their confidence in looking after their children.

Many associations were set up after Chernobyl to support families with children with cancer, diabetes or with disabilities. These were mostly led by woman, with largely active women members. At that time there was very little state support to help care for a disabled child and no educational opportunities at all for the more severely disabled.

The family associations lobbied their local authorities constantly for more support and combined with the work of foreign charities like ours, this has made a great difference. There is more state support, almost all children get some form of education and less fathers are leaving their families.

When we set up our first Home Hospice team 20 years ago, most of the families they supported consisted of a mum and if they were lucky a grandma, looking after the child or children.

But today almost all the families have a father present, even if the vast majority of the care is given by the mother.

And now for the third writer who has done so much to illuminate the effects of Chernobyl.

Kate Brown

Professor Kate Brown is a Nuclear and Environmental Historian. She spent ten years researching in the archives in Belarus and Ukraine and speaking to doctors and scientists to try to understand the extent of the nuclear cover-up which followed the disaster.



She found that in early 1990 there were plans for the World Health Organisation to work with the Soviet Ministry of Health on a long term study, similar to that carried out on Hiroshima and Nagasaki survivors.

But when the 'International Chernobyl Project' was set up it was very firmly led by the International Atomic Energy Agency (IAEA) a body set up to promote nuclear power.

They sent a team of scientists into Belarus and Ukraine in the summer of 1990. The Belarusian Academy of Scientists told them about the growth of blood disorders and serious thyroid problems. The IAEA scientists chose not to believe them as they thought the doses were too low. Before they could look at the evidence the computers containing detailed information on the health of 130,000 people were stolen from the Institute of Radiation Medicine. Possibly the KGB keeping information away from Western spies, but the files have never been recovered.

The IAEA came to the conclusion that the doses people had received were low and so any health issues could not be related to Chernobyl. They ignored the doctors who explained to them that many people ate large amounts of mushrooms, wild berries and wild game, which all contained high amounts of radiation. Or that thousands of people lived in marshes where the soil transferred the radionuclides more readily into the food. And the fact that radiation ingested is far more dangerous than sources outside the body

And they ignored much of the data from Soviet Scientists as they did not trust their methods of enquiry.

When contaminated parts of the country were compared to cleaner parts, the investigators forgot that contaminated food had been sent all over the Soviet Union to be made into pies and sausages, spreading high doses of radiation around the population.

And comparisons with other countries are complicated by two facts. The Chernobyl radiation spread across Europe and beyond and affected Poland, Austria and Germany particularly badly.

There were an additional 3,200 stillbirths across Europe following the Chernobyl fallout and many children born with life limiting disabilities.

And the atmospheric nuclear bomb tests have affected the health of people all over the world. One of the highest levels of childhood cancer can be found in Australia, undoubtedly affected by the Pacific Island tests.

Americans received massive doses of radioactive iodine from the Nevada desert tests. The US Nuclear Cancer Registry eventually estimated that these tests caused somewhere between 11,000 and 200,000 thyroid cancers in America.

But in 1990 this had not been proven. And the Americans were desperate to draw attention away from the effects of their testing, and possible litigation by its victims. So all possible efforts were thrown at discrediting the obvious rise in thyroid cancer following Chernobyl.

Kate Brown describes all this brilliantly in her book and pays tribute to the work of Dr Keith Baverstock without whom the exponential rise in thyroid cancer might have remained secret.

Whenever I visit Belarus I am often struck by the heroism of women I meet and work with - Anna Gorchakova who set up the Hospice Movement in Belarus; Natasha who runs our Mayflower Respite Care centre, who has a disabled daughter of her own and remains unfailingly cheerful and supportive of all the parents and children who visit; some of the mothers in the cancer hospital who maintain their strength and hope in such difficult circumstances; mothers of profoundly disabled or terminally ill children who struggle to give them the care they need.

The effects of the Chernobyl fallout are likely to affect the health of the people of Belarus and Ukraine for many years to come and it will continue to be women who bear the brunt of the stress and heartache that will cause.

To find out more about the work of Chernobyl Children's Project (UK) go to its website:
<https://www.chernobyl-children.org.uk/>