NH #561 - March 22, 2022 - 3\_23\_22, 10.37 AM

Libbe HaLevy

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Nuclear Ukraine week four, the radioactive remains of the Cher noble nuclear power plant. Continue to be a hotspot of concern in the ongoing Russian invasion of Ukraine. While everyone from the Russian military to officials at rose, Otum the Russian state nuclear corporation to the international atomic energy agency, loudly deny any claims that she noble has killed or harmed more than a handful of people. It takes an award-winning author and historian of environmental and nuclear history who did her own research at 27 Eastern European medical archives on your Nobles health effects. And she tells you

Kate Brown

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When they found catastrophic results, which was a major epidemic of children with thyroid cancer, very rare cancer among kids, one in a million normally get it suddenly in a small area of Northern UK, they had 20 kids and the Soviet doctors handed the foreign experts, 20 biopsies. They didn't believe that this could possibly be thyroid cancer among so many kids. They brought 'em home to have examined and sure enough, they found that these were cancers, but then in their report, they said, we heard some rumors about thyroid cancer among children. And we found those rumors to be anecdotal in nature. But what they were sitting on was hard evidence and they had other evidence of 30 more kids in Belarus. And that indeed turned out to be the tip of the iceberg of what became a big epidemic and thyroid cancer among kid.

Libbe HaLevy

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And that is just the start. So when Kate brown author of manual for survival, Acher noble guide to the future, not only tells you this, but so very much more. You begin to realize that not only in Northern Ukraine and Belarus, but everywhere on this planet, there is a giant uncomfortable seat that unfortunately we all share

Announcer

00:02:00

You clear seat. What are those people thinking? New, clear, hot seat. What have those boys been drinking? New Claire hot seat. The is sinking. Our time to act is shrinking, but the activists are licking new Claire hot it's Deba.

Libbe HaLevy

00:02:31

Welcome to nuclear. Hotsy the weekly international news magazine keeping you up to date on all things, nuclear from a different perspective. My name is libi Hala. I am the producer and host as well as a, of the nuclear meltdown at three mile island from just one mile away. So I know what can happen when those nuclear so-called experts get it wrong. This week, we continue coverage of the nuclear aspects of Russia's invasion of Ukraine taking an historic look at tri noble, how bad it was before this war began and what its health impacts have already been to give us a sense of how much worse it still could be. Under current circumstances, we revisit an interview with Kate brown author of the best selling manual for survival Acher noble guide to the future to gain her insights into the ongoing aftermath of that deadly nuclear disaster.

Libbe HaLevy

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We'll also hear from author activist, Harvey Waserman on how activist across different platforms can assist each other in getting our talking out to the public, as well as an upcoming event where we learn to do just that we will also have nuclear news from around the world, numb nuts of the week for outstanding nuclear bone headedness and more honest nuclear information. Then we will ever get out of a Russian oligarch. All of it coming up in just a few moments today is Tuesday, March 22nd, 2022. And here is this week's nuclear news from a different perspective. Starting with this late breaking story out of Ukraine, Russian military forces have destroyed a new laboratory at the chin noble nuclear power plant that among other works to improve management of radioactive waste. This according to the Ukrainian state agency, responsible for the tri noble exclusion zone, the laboratory contained quote, highly active samples of radio nuclides that are now in the hands of the enemy, which we hope will harm itself and not the civilized world.

Libbe HaLevy

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The agency said another worrying development Ukraine's nuclear regulatory agency said on Monday that radiation monitors around the plant had stopped working. There is additional concern because forest fires broke out around the Cher noble nuclear site on Monday, March 21st, raising fears, raising fears of radi contamination and spread in the smoke from the burning of contaminated plants, at least seven fires within the plant's exclusion zone were observed on satellite imagery from the European space agency. Lawmakers blamed the Blas on Russian forces that captured the site in February Ukrainian officials and fire fighters could not carry out their usual functions in the area to extinguish the fires because of Russian control of the plant. It warned that fires within a 10 kilometer or 6.2 radius of significant radioactive waste and contamination could pose particular damage. Nuclear experts said could also threaten critical electricity transmission lines, which were recently repaired according to Edwin Lyman, director of nuclear power safety at the union of concerned scientists, the facilities themselves greatest vulnerability is a loss of power.

Libbe HaLevy

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An NAGO Adam Ukraine state. One nuclear company said that Russia's seizure of the area meant crews were no longer able to monitor radiation levels there. According to Reuters, Argo, Adam also stated radiation levels in the exclusion zone and beyond including not only Ukraine, but also other countries could significantly worsen. If there is any good news out of Tru noble. It's the fact that on Sunday, March 20th, after about 600 hours inside in a hostage situation, 64 people were allowed to leave the Tru noble nuclear power plant. After more than three weeks, without a break, 50 shift workers were among those allowed to go. And they were replaced by 46 employee volunteers from Ukraine, this amounts to about half the staff at the site that actually runs the safety systems at the facility. As yet, it is UNC clear when or whether the remaining workers will be able to rotate out the state nuclear regulatory inspectorate of Ukraine has said that some maintenance and repairs at she noble could not be carried out because of quote, the psychological moral and physical fatigue of the personnel anonymous.

Libbe HaLevy

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The online on hacktivist group has hacked into the website of rose AUM, defacing the website, but also putting out the assurance that I have not put the operation of any nuclear reactor at risk will have links up to several articles on Ukraine, including what comes after Russia's attack on a Ukrainian nuclear power station by Carnegie, senior fellow mark Hibbs, nuclear information service, joining Ukrainian calls for sanctions on Russian nuclear industry. Russia's energy cloud. Doesn't just come from oil and gas. It's also a key nuclear supplier and a key article from the New York times as Russia in what's the risk of nuclear war quote. It's not zero. And in Japan on March 16, a pair of earthquakes hit the Fukushima region, a magnitude 7.3 followed by a slightly weaker quake. It hit offshore in the same area as the 2011 earthquake and tsunami. The tsunami alarms did go off, but the two that hit were both under one meter in height and did no further damage.

Libbe HaLevy

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Current reports from the quake are one death, 88 injured and 2 million homes that lost power. A series of radioactive waste containers stored outdoors at Tecos Fukushima site were and tilted by the earthquake eight one meter square containers. Toppled over four of them were damaged and the contents exposed as low dose used protective clothing. The coolant pumps for spent fuel pools were shut down at the number one and number three reactors with pump operations recovered after two hours, warping of a panel opening in a door at the number one reactor building that releases pressure in emergencies to prevent hydrogen explosions. And what has been described as a fist sized space in that panel opening, but quote, no radioactive substances were confirmed to have leaked. According to TECO. I just question their use of the term. Not confirmed there, we'll have this week's featured interview in just a moment, but first the baby has arrived.

Libbe HaLevy

00:09:35

Clear hot seats, new website is up and running, and I think it's terrific, faster, way more searchable. And now with transcripts, there's a more robust and flexible player for each episode, a media section, even a humor page. This revamp has required close to a year planning and more than six months of work because you can't use a cut and paste template for a website with 560 recordings and counting more importantly, we've installed state of the art behind the scenes functionality to help the show its topics and interviews be found on Google's first page search engine optimization on steroids. Now it's still a work in progress so far. We've loaded episodes back to January of 2021, along with transcripts. And there are some of our classic cornerstone shows up as well. The rest will be rolled out over the coming weeks and yes, we will be proofreading too, especially the scripts needed, but the site will function as an oral archive of our history told in weekly updates over the past 11 years and become a roadmap to find the people issues and actions that make up the community of those who think nuclear is not exactly a good idea.

Libbe HaLevy

01:10:56

I don't think I need to tell you how important this is or how expensive it's been, not only design and implementation, but the monthly charges. We now need to maintain the site, which have at least doubled. So if you've ever thought about donating to nuclear hot seat, do it now, nuclear hot seat.com and click on the smaller, but still red donate by any amount can help. And you can set up a sustaining donation for as little as $5 a month help us. So we can help you to understand nuclear issues on a weekly basis and know that whatever you do to help, I am deeply grateful that you're listening and that you care. Now, here's this week's featured in, in looking at the future. We must understand the past and there is no more important place to do that right now than in Ukraine. And specifically at Cher noble, while everyone from roseum to the international atomic energy agency are downplaying the dangers there, especially to health.

Libbe HaLevy

01:11:56

Some people know more about your Noble's truth. And this week we have one of the best of them. Kate brown is the author of the award winning manual for survival Acher noble guide to the future. Arguably one of the best books on sure. Noble that has ever been written. She is an historian of environmental and nuclear history at MIT and the author of Pluto Topia, which won seven major awards here. She shares information that is as timely now as it was when we spoke on Monday, April 15th, 2019, Kate brown. I am so thrilled to have you here today on nuclear hot seed.

Kate Brown

01:12:36

It's great to be here, Libby. Thanks for inviting me,

Libbe HaLevy

01:12:39

Figuring out the truth about Cher. Noble was an enormous complex mind boggling project. What drew you to this area of research in the first place and how did you get started?

Kate Brown

01:12:50

Originally? I was interested in the nuclear security state. And so I started, I wrote a book called Pluto Topia about the first two cities in the world to produce plutonium. And while I was working that story, these I wasn't interested in, in health or environment, but these farmers who lived down wind and down river from these two plutonium plants, the Soviet and American one were telling about their health problems and they thought it very similar strain health problems and similar across this huge divide between the Siberian Soviet site and the Eastern Washington American site. And I, so I started working to try to figure out what that meant to if they were right, what scientists thought. And I got a little bit into that story when I, in that book, Pluto, Topia, but I felt like I didn't really get the, so this is almost a sequel.

Kate Brown

01:13:38

And I thought, well, Cherno was a civilian site. It wasn't a military site. So it was more, more open. It, it exposed far more people and it was later, it was in the 1980s rather than the, you know, the forties and fifties and sixties. So I went into the archives and found his sort of Kandi of health records in many points. I was the first to check out these records cause it was pretty amazing. They went, you know, right after the accident they went in and they, and they took measurements. They measured air and water and soils, but they also measured people's bodies and food. And we don't really have many records like that, even though, you know, in the 20th century history, we've had a lot nuclear episodes and a lot of nuclear spills and intentional admissions, but we haven't had too many people curious about what happens next when all this radio activity goes into the environment. So the Soviets did that and they kept pretty good records, you know, in the five years after the accident, those records, you know, I I'm arguing my book manual for a survival are pretty unique.

Libbe HaLevy

01:14:37

They are because it seems like that five year period of time is what gets ignored. Primarily. It happened after Hiroshima and Nagasaki. It took five years before that longevity study was put into place and no attempt was made after three mile island as well. And of course there's been no real long term study after Fukushima though, that's just getting started from your perspective, why was this data not used to put forth the truth about what was happening as a result of true noble, meaning the health impact of the radiation on people?

Kate Brown

01:15:15

At first it was a censored topic. So the Soviets, you know, set out these rules, they said, you know, we don't want anyone talking about levels of radio activity, health problems. You know, they had a whole list of sort of no go areas for Soviet employees and people in, in hospitals and who were dealing with cleanup of the accident. And then that story broke into the around 19 89, 19 90, and the leaders of Villa, Russ and Ukraine, which had the most, most impacted by the accident came forward and said, you know, we can't handle this problem anymore. We need help. And they appealed to the UN for help internationally. And that got the leaders in Moscow really nervous. They had been saying all along, this isn't really a problem. The doses aren't that high, everybody can just, you know, stay the course. And increasingly I see in the, in the classified records that the, the leaders, especially the people in, in the public health field in Ukraine and risk were getting increasingly nervous and more and more researchers were coming forward saying, you know, we see here a big problem.

Kate Brown

01:16:18

I mean, by 1990, a KGB general, who was a medical doctor who ran a clinic in Kiev. And he had 2000 patients who had been exposed to Chino and he writes, and he says, you know, nobody's got a study like mine. I have the best equipped hospital. I have doctors who can actually know how much exposure their patients got. And after our, you know, four years of study, we have found that perfectly healthy people when exposed chronically to low doses of radiation have a whole host of health problems. And he lists and he recommended, this is a KGB general. He recommended that the zone alienation the, the, the area that should be depopulated, be extended from 30 kilometers to 120. And that would've gone right up to the beautiful ancient city of Kiev, where he lived. That's how alarmed he was. So why didn't this story come into the public?

Kate Brown

01:17:09

The Soviet union fell apart. It was starting to fall apart. 90 collapsed completely in 1990 on and the Soviet leaders to try to stave off this problem, asked first the world health organization to come in and do an independent assessment with foreign experts. World health sent in three guys. They traveled around for about 10 days. They came out and they said, you know, we don't see any problems. We think you could double or triple the permissible dose, and everybody would be fine. No one believed that study. You know, what can three guys do in in 10 days? So then the Soviet leaders asked the international Tomic energy agency to come in and they brought in more scientists between 102 hundred scientists. They worked for about 18 months. They looked at levels of radio activity. They had a medical section that looked at about 1200 people, very small study.

Kate Brown

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When you consider that 4.5 million were exposed and they came away and said, you know, we did this study. We see a lot of illness in this area, but nothing from exposure to Cheral contaminants. And we don't to see any detectable health problems in the future. Other than a few cases of childhood thyroid cancer, what they weren't saying is that they designed a study for the study to finally catastrophic results. And when they found catastrophic results, which was a major epidemic of children with thyroid cancer, very rare cancer, or among kids, one in a million normally get it suddenly in a small area of Northern Ukraine, they had 20 kids and the Soviet doctors handed the foreign experts, 20 biopsies. They didn't believe that, that they, this could possibly be thyroid cancer among so many kids. They brought 'em home to have examined and sure enough, they found that these were cancers, but then in their report, they said, we heard some rumors about thyroid cancer among children.

Kate Brown

01:18:56

And we found those rumors to be anecdotal in nature. But what they were sitting on was, you know, hard evidence and they had other evidence of 30 more kids in Belarus. And that indeed turned out to be the tip of the iceberg of what became a big epidemic and thyroid cancer among now what that report did that report that said no effects. We don't expect to find any effects in the future. Right? At that time, the UN was trying to raise a billion dollars in today's fund to do two things, carry out a long term medical study, akin to the study of Japanese bomb survivors, but of char noble survivor. And, and this is a very different kind of nuclear event. These are Hiroshima was counted as one big x-ray that lasted less than a second. Cher noble exposures were long term chronic exposures of low doses.

Kate Brown

01:19:44

And those exposures are, are actually far more common. And then going forward in the future, humans are, are far more likely to have a Cherno set of exposures and a hero bomb set of exposures. So all kinds of scientists said, we need to do a long term study. And then the second thing this money was gonna be for was to move 200,000 people who were sitting in highly contaminated land. But after that UN report came out, that said, we don't see any charitable health effects. And we don't expect to in the few that pledge drive went nowhere, they raised, you know, less than 6 million.

Libbe HaLevy

02:20:19

Why do you think the I a E a and before that the scientists who came in were all minimizing the impact of Cherno?

Kate Brown

02:20:29

Well, all I could think of is that at this same time, the 1990s, the big nuclear powers us, UK, France, and Russia were facing lawsuits from their own exposure, their own testing and production of nuclear weapons during the cold war, you know, the French had blown up nuclear weapons in Algeria and in the south Pacific, the British had blown up weapons in the south Pacific in Australia, the Americans in the Marshall Islands and in the American Heartland in Nevada and the Soviets in Kazakhstan and in the Arctic. And so all kinds of people who had, whether they were atomic veterans of in battlefield conditions or whether they were people who had been injected with radioactive isotopes for, you know, experiments or people who had lived downwind of, or down river of nuclear production facilities, or if they lived anywhere where the fallout landed were starting to Sue their governments about their exposures and what they felt were the resulting health problems. So if you could say, Cherno was the worst nuclear disaster in human history, and only 33 to 54 people died, then you could make these lawsuits go away. And that's indeed what happened in the course of the 1990s and the early two thousands as these lawsuits got no traction in, in part because of this oval narrative.

Libbe HaLevy

02:21:53

Do you think it was a conscious decision on the part of the world health organization, the I a E a wound scare and the various governments involved to minimize this for that reason? Or was it a consequence of them going on another train thought?

Kate Brown

02:22:10

You know, like a, a lot of people are, are reporting that my book talks about a big conspiracy theory, and I don't use that word. And I, I don't think that's what was happening. I think that these scientists who had been working kind of in a bubble for a long time with the Hiroshima data, felt that they knew exactly, you know, they call the Hiroshima studies, the gold standard. They felt like they had a real handle on what radiation medicine was and that what the thresholds were for exposure. And when the, she noble, when people started talking about this public health epidemic and the she noble territories, and, and we're not just talking about cancers, what the records show is that people started to feel pretty unwell almost right after the accident. The officials tally is at 300, mostly firemen and nuclear plant operators were hospitalized.

Kate Brown

02:22:55

The count that comes outta the archives, it's 40,000 people were hospitalized in the summer after the accident. Many of whom were children and they didn't feel well, you know, sort of like respiratory infections, chronic sore throats, large thyroid thyroid problems, problems with their endocrine system, immune system disorders, pregnant women had all kinds of complications at childbirth, increasing frequencies of birth defects and a spontaneous miscarriages. And then after about 18 months, cancers kick in leukemias, and then later thyroid cancers among children and, and other kinds of cancers start to climb. And so when this story came out, I think the international community of scientists, it didn't make sense to them. They had a great deal of faith in their established science and these results that were coming in, confounded them. They said, sure, there might be thyroid cancer among kids, but only after maybe 10 years, not after three or four years. And they just couldn't believe the evidence as it was presented to them. And if they were to believe it, they would've had to radically alter many of the regulations for operating nuclear power plants and running nuclear bomb factories. And we would've had to rethink, I think, pretty drastically our whole nuclear enterprise.

Libbe HaLevy

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And of course that was something that they wish to avoid. Now, scientists from Ukraine and Beru noisy rejected the I a E A's dose estimates and the results of it. And they charged that the IA E a investigators overlooked hotspots of radiation, the resuspension of plutonium particles kicked up by dose and the ingestion of radioactive particles. They said the people's doses were much higher than the IA E a estimated what all of these protestations by scientists from the Ukraine in Belarus lead to,

Kate Brown

02:24:51

Unfortunately it didn't go very far. You know, this is at a time, and this is where history really plays an important role when the Soviet union was falling apart and, and everything that was Soviet, whether it was politics or economics or science and medicine was that are bad, retrograde, corrupt, somehow majorly flawed. And so when these doctors came forward and said this, they had been living with this situation for five years, they had been working closely on the ground with patients. You know, what we find in the charitable territories is that one of the charges is well, when, when you look for disease, you're sure to find it. And there are all these, you know, extra medical examinations of these people. But in fact, hospitals are running at 50, 60% because the doctors were the first to leave these territories. They saw what was going on, and they, they wanted to get out of there with their families intact.

Kate Brown

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But the people who did stay quite committed and they presented their evidence, they had case control studies. They had observational studies. They had all kinds of data that they presented, including biopsies, you know, actual physical material to, to hand to the Western researchers. And it was just very, very easy to discredit them to say, well, you know, these so obvious, they don't have standardized Western protocols. They have very poor equipment. They have really sketchy knowledge. And you know, these guys mostly only spoke, you know, Ukrainian, Russian, they didn't speak English. They weren't very F when they went to international conferences, they had trouble communicating. They had trouble presenting their works. So it was really easy to the let the triumph, fullest democracy and capitalism have won rhetoric, win out. And lots of people thought that was a quite sensible dance to take.

Libbe HaLevy

02:26:40

Much of your research was done looking at reports from small clinics and doctors who were on the ground in the area around Cher, noble and reporting, honestly. And they were aided and embedded by what can be called citizen scientists, meaning people on the ground who said, wait a minute, something's wrong here. I've got to do something about it. What were some of the more remarkable steps to, by the people who were living in that zone to try and bring their information to the awareness of scientists in higher places, say from the west who could possibly make a difference in the narrative?

Kate Brown

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One thing I was on the lookout as I worked my way through 27 archives were every day heroes. People who, you know, they brought, also told them to shut up or not to say anything or to, you know, sort of massage the numbers. And there were people who just refused to do that. And so there was one woman who she was a, a physicist working at university in Kiev, and her husband was a civil defense guy. And so they had a Geiger counter and they went around and, you know, they, I heard about the accident and they went around just in the courtyard of their building in Kiev. And they found these really radioactive spots in different parts of the lawn. And they, they went and they found these little tiny grains of sand that were fiercely radioactive. And these were the hot particles that everybody's talking about.

Kate Brown

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And this woman, Natalia gathered these hot Coles, measured the counts of radio activity coming from them. And as she ran her calculations and she, and then she'd come back and measure the, you know, the amount of decay. And then, so she'd figure out what isotope it was by how quickly it was decay. And she gathered, you know, all these different radioactive isotopes and figured out what the whole cocktail was coming from the plant. And very early on, she figured out that this was not as we were told a chemical and esteem explosion, but in fact, a nuclear explosion at the plant that nuclear power plants actually do blow up like nuclear bombs. And she wrote this whole report and sent it to her government to say, you know, by the way, I want you to know that I've run these calculations. And this is what I found out.

Kate Brown

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And, you know, mind you, she doesn't have a big Institute. She doesn't have a lot of complicated machinery. She doesn't have a whole staff. She's just doing this, you know, in her little tiny two bedroom apartment in Kiev with a Geiger counter. And in 2016, the, this Institute in Sweden did in fact affirm what she'd been saying for 20 years, that this was a nuclear explosion and Lizette guy tried to get word out to the west, that there were real problems and that there was much higher counts of radioactivity than the Soviets were letting on. And so in 1988, there was an international conference in Kiev. And so she disguised herself as a cleaning lady, got a bucket and a mop and went into the com and got into the closed conference that way, by pretending she was, you know, just there to clean. And then she went up to an Western researcher, Robert Gale, and tried to give him a, a stack of her research that she had gathered.

Kate Brown

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And Gail probably never knew this was happening because four KGB agents swept her up, grabbed her by every, by each elbow and let her out the back alley. But there were all kinds of people like that. Another guy he could not get his leaders in Kiev to understand that even though his region had pretty low counts of radio activity, the milk was off the charts over permissible levels. And three quarters of the milk was over permissible levels of radio activity. For the time he went and he knocked on doors and he talked to people, he showed them all his records. He finally got 70 liters of milk and sent it to Kiev in a truck and said, you check this milk and tell me what you think. And then once he had done that, actually having the physical nutritious milk, you know, in front of them, that was indeed above permissible levels of radioactivity.

Kate Brown

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They finally determined that this area should have special shipments of clean food. So there's people like that throughout the story. It's really pretty wonderful. It doesn't take many people to quietly resist or be committed to doing their job. That guy with the milk Alexander com, he just wrote me the other day. He says, I'm no hero. I was just doing my job. And I think those are wonderful stories. And, and these people should be recognized as heroes alongside the firemen and the miners and the nuclear plant operators that risk their lives to contain this accident.

Libbe HaLevy

03:31:02

You mentioned Dr. Robert Gale, who was an American, what larger role did he play in the Cher noble disaster and other nuclear disasters that followed?

Kate Brown

03:31:12

Well, he went there, you know, very altruistically to try to help out. And because he had connections with Armen hammer, the Soviets were saying, no, no, no, to all the capitalist countries, but Armen hammer was a very influential person. And he appealed directly to Corino and CorpU chef said, yes, Gail can come in. And Gail had a, a new sort of what he thought would help the firemen overcome radiation sickness, and he wanted to try it out on them. And so he brought that along and the Soviets were both nervous about this new untested drug had been tested on monkeys, but not humans and also excited. Maybe it would work. And so Gail and a Soviet doctor tried it on themselves first. And then they tried it out on the firemen. And unfortunately it did not help the firemen. But then after that, Gail took to the podium and he was the first person speaking from within the Soviet union about the medical disaster as he witnessed it. And he really became the sort of spokesman or the, or the, the face of not just this nuclear disaster charitable disaster, but he went on to a year later in Brazil, there was a smaller nuclear accident in Guana, Brazil. He, he showed up there. He started to testify for different lawsuits about nuclear power plants and things like that. So he became a real spokesman having to started out as a cancer doctor, somebody who specialized in leukemia,

Libbe HaLevy

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There's an enormous disparity in reports on the number of people who die as a result of the Cher noble disaster. The, what I call the unholy trio of the I a E a the world health organization have an echo chamber that repeats often that there are only, and the number varies depending on the source, but approximately 54 immediate deaths in the affected area. And maybe between 4,006,000 cases, depending on the source of thyroid can answers as a result. On the other hand, we have the book, Cher, noble consequences of the catastrophe for people and the environment by ya, Neco and Neco. That concludes that as of 15 years ago, when it was published in 2004, there were just under a million premature deaths as a result of the radio, why this disparity and which in your opinion, is closer to the truth?

Kate Brown

03:33:26

Well, the disparity is because you cannot sea tastes feel or touch radio activity, unless you get a big dose and acute dose effects and medical effects show up, you know, much later, whether it's mu or years, or, or decades. So it's very difficult to pin radioactive contaminants to a particular illness, especially when the illness is more subtle and not acute. And, and most of radiation medicine is focused on acute effects that amount to cancer and death. So everybody wants a death count and the uncertainties in the death are huge. And the way they come to those numbers are through a series of estimations and extrapolations. So the first thing to be estimated is the dose. How much do we think people got? And they do that by reconstructing the jet streams, you know, the weather, how much rain came down, taking live measurements on the ground, and then estimating, you know, what people were eating, where they were standing, how much time they spent outside.

Kate Brown

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All of this is, you know, relatively, you know, there's a lot of uncertainty in these calculations. And then they extrapolate, this is what the, you know, the Unser scientists would do is, is extrapolate that dose against what the hero must survivors got. And with that, you know, extrapolation, they'd say so, therefore we expect to see 4,000 cancers in the future or something like that. And the problem with extrapolating from Hiroshima Hiroshima, a very different nuclear event, you know, Hiroshima, Nagasaki, two bombs went off. They count the, the less than a second flash of radioactivity that came from the bombs dropping. They do not calculate in that equation of the Japanese bomb survivors, the fallout from radio activity that was called at the time in the forties, residual radiation, the Americans, you know, with general Leslie Grove, the head of the Manhattan project group, he was really nervous that the Americans had spent millions of dollars building nuclear weapons, and they were worried that they, nuclear weapons were gonna go the way of chemical weapons.

Kate Brown

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That they're gonna be determined to be an illegal form of warfare, because it didn't just blow up, you know, and kill somebody right away. But it continued to kill people later on and Mae and harm people. And that was considered, you know, just like chemical weapons, unfair. So they emphasized, you know, these people who died, who these people who died from the Hiro, Nagasaki bombs died from burns, just regular thermal burns that anybody could die of in conventional warfare. And they tried to emphasize this as a, you know, this is like a conventional explosion. So they wanted to renounce that there were longstanding, you know, that, that there was residual radiation, that radio activity remained in Russia, Nagasaki, and the Japanese were reporting this strange atomic poison that kills people who were not there in those cities when bomb went off, but still came in later and got sick.

Kate Brown

03:36:20

And some of them died, like, how did that happen? There must be something lingering, but none of that residual radiation or, or what we now call fallout was considered in the dose. The other problem with the Russian studies is that they began five years after the explosions. And so they asked people, where were you standing? You know, 1945 when the bomb went off and people recalled to the best of their knowledge. And as we know, from oral history, that human memories are pretty dodgy, especially in, in traumatic situations. So they did a dose reconstruction. The Japanese scientists at the time actually took measurements, historian, Susan Lindy talks about this. They took their own measurements. They recorded pretty high levels of radio activity. The Americans, when they came in and occupied Japan after the war confiscated those records. And we don't know where they are to this day. So the Hiroshima records are dose reconstructions. They're estimates, they're guesses about how much of a dose people got. And then the third problem with the Hiroshima studies or they Japanese lifespan studies as a formerly called, is that the Americans controlled these studies until the 1970s. And as I said, the Americans had a political interest in minimizing the impact of nuclear warfare, atomic warfare.

Libbe HaLevy

03:37:32

What influence, if any, did this uncertainty and the minimization of health impact information from Chino. And also what you're saying about Hiroshima and Nagasaki have an, our understanding of the medical impact at three mile island, which happened before Cher, noble and Fukushima, which happened after Cher noble

Kate Brown

03:37:53

In both the three mile island case and the Fukushima case as with the Cher noble case. You know, because sign, just working, you know, from the Japanese lifespan data are saying, you know, these doses are too low. We estimate there's gonna be no problems. We really don't have studies. You know, we, we don't have serious studies, you know, that we haven't put in the time and money and commitment to do a long term epidemiological study on low doses, chronic low doses of radioactivity. And, you know, that is the scenario that going forward in the future, we're most likely to experience. We're probably gonna have more nuclear accidents, more nuclear spills. We encounter man-made radio activity in the environment almost every day. And so we should know that, and we should demand that our scientific establishment and that our governments do those studies finally. And that's the, where, where I end, you know, I, I mean, we see some troubling data coming out of places where people have been exposed to man-made radio activity, but those are just correlations. What we need is to determine, you know, causation and, and to do that, we, we finally need to do some real studies.

Libbe HaLevy

03:39:02

Do you think it's intentional that these studies have not been done?

Kate Brown

03:39:06

I cannot impune what other people's motives or intentions are, but I think it's troubling that we haven't done them. I can say that for sure.

Libbe HaLevy

03:39:16

Do you think that the experts who deny or minimize any health harm from Cher Noble's radiation, not necessarily the bureaucrats or the politicians, but the scientists actually believe their own denials of radiations health impact?

Kate Brown

03:39:31

Oh, I'm sure they, yes. I mean, I, they believe in their science and their, and they really hold you their science, but I think what's amazing about radiation medicine is that really, since the end of the cold war, there have been amazing developments and discoveries in the field of biology and medicine. We've learned about microbiome. We've learned about how sensitive neurological systems are. We've learned about inter cell communication and how they are, and epigenetic effects that can be passed down. You know, basically, you know, almost acquired traits or patterns of cell communication that can be passed down from parent to offspring. And very few of those insights have translated into radiation medicine. You know, we sort of need an update of that field.

Libbe HaLevy

04:40:16

So the publication of your book, what has been the response in the media, and have you faced any significant pushback from world health organization, international atomic energy agency, UNS, or any of the governments or individuals that you reference in the book?

Kate Brown

04:40:34

No, I have not had pushback from those agencies. I've had some and critical reviews and, and that's fair enough. And sometimes there's been reviewers who are, you know, industry scientists or, or, or somehow make their money from, you know, sort of promoting nuclear energy. And, and I don't think that's entirely fair of publications to ask, you know, sort of pronuclear spokespeople and scientists to review my book. Don't think you can do give an impartial review for that, but most of the reviews have been very good when they're an impartial reviewer. Do

Libbe HaLevy

04:41:06

You think that the radiological impact of Cherno on the health of people in Ukraine, Belarus, and really around the world will ever be determined beyond the shadow of scientific doubt?

Kate Brown

04:41:18

Oh, I hope so. I hope one day we, we will have certain knowledge just like for a long time, we didn't know, you know, it was debated and fiercely fought over arsenic led tobacco D D T x-ray fetus in vivo. Like all these things were debated fiercely debated, you know, that when scientists first discovered these problems fiercely resisted usually by people who stood to make money from selling products that were damaging to human health. Now we know for sure that cigarettes cause cancer, we know for sure that lead causes all kinds of developmental problems among children, especially we know that arsenic is poisoned. And so I think one day we'll, we'll have more certain understanding of what low doses of radio activity does to human health.

Libbe HaLevy

04:42:03

If you were to sum up the message of your book and all the research that went into it and present that message to the world, what would you want to say?

Kate Brown

04:42:14

I guess I'd wanna say that chinos most often described as an accident. And I think that's, that's wrong that an accident implies that there's a beginning, a middle and an end, and people definitely want closure when there's been a bad accident or any kind of trauma. But I think that's doing this event a disservice. What I found is I research is that that area in Northern Ukraine was contaminated with radioactive fallout from nuclear testing before they even built the Cheral plant. The people who lived near that swamp farmers had 10 to 30 times more radioactive C in their bodies than people who lived in Minsk in Kiev. And I find that after the accident, the big Cheral accident in 1986, there were other smaller nuclear accidents. Another pretty big one, a pretty big explosion in 1991 at that same Cherno plant, I was visiting following biologists who work in the zone in 2017.

Kate Brown

04:43:09

And, and my gag counter was preaching. And I asked them, what's going on? They said, oh, we had a fire here about eight months ago. And that burned the leaflet litter and limbs and, and trees and volatilized, the radio activity that was stored there. That was another nuclear event. It was probably something that would've been rated a, you know, level five on the IA ratings chart, but nobody paid attention to it. And so, you know, I think what we need to do is think of your noble as an acceleration on a timeline of radioactive emissions that have occurred since 1945, and that have sort of peppered and saturated, especially the Northern hemisphere of our globe. And if we look at other statistics, those that record rates of cancer rates of birth defects, male sperm counts, which have dropped in half the north, other Hemis since 1945 cancer rates that have, you know, steadily climbed, especially thyroid cancer has not stopped climbing childhood cancers used to be a medical rarity. They no longer are. I think the, again, that's a, that's a correlation, but I think we should get a lot more curious and ask our leaders and ask the scientific establishment to figure out what's going on. Why is there, why is there a cancer epidemic? Why are male counts dropped in half since 45? And that's, I think what I'd like readers to leave with at the end of my book,

Libbe HaLevy

04:44:32

One final thought, what, if any steps are in place to allow you to address the United nations with this information and what might we do to help speed that along?

Kate Brown

04:44:41

Well, I think we should ask for another pledge drive and we should ask for, you know, countries that are especially countries that are nuclear powers and have nuclear reactors, and certainly lots of countries gear up for a new nuclear Renaissance. We should ask to have that study done and paid for by, you know, every country that's building nuclear power plants to contribute for that study so that we can finally know if this is a safe enterprise that we're pointing towards in the future.

Libbe HaLevy

04:45:09

Kate brown, your book is a, a fabulous read. It's like a detective story or a murder mystery on a global level. It is I think, necessary reading for anyone who really wants to understand what the issue of nuclear is all about. And I want to thank you for taking the time to be my guest this week, a nuclear hops seat.

Kate Brown

04:45:32

Thanks a lot Libby for having me here

Libbe HaLevy

04:45:35

That was Kate brown author of the award winning manual for survival Acher noble guide to the future. Kate also, co-wrote an article with Susan Solomon for the Washington post entitled one thing, nuclear power plants weren't built to survive war it's about the nuclear aspects of what's happening in she noble now. And we will have links up to her book and that article on our brand new website, nuclear hot seat.com under this episode, number 5 61

Announcer

04:46:08

Activist activist, shout, shout, shout,

Libbe HaLevy

04:46:15

Dr. Helen Caldecot the Australian pediatrician author and anti-nuclear advocate. AKA the mother of us all has a new video out her first in a while, the dangers of nuclear technology. And she should know we'll have a link to it up on our webs site. And the esteemed Harvey Waserman is a veteran author activist and spark plug skilled at getting people involved and moving on issues that matter. Harvey is holding an event this Sunday, March 27 in Santa Monica, that has implications for all our work. I spoke with him about it on Monday, March 20th, 2022, Harvey Waserman. I know that you have been following and reporting on the nuclear situation in Ukraine and the wake of the Russian invasion. You've been doing this as intensely as I have. And activists have been concerned about the possible consequences at true noble and Zappia while there have been as certain number of op-eds and articles that have come from people with our perspective in the news, there hasn't been what I would call a consolidated or an organized nuclear activist response. Something that looks sounds and acts like an actual movement, as opposed to separate people saying separate things at separate times. And I'm wondering from you because you are not only a veteran activist and a veteran organizer, you're the man who coined the term, no nukes. So what are we missing here? And what do we need to do

Harvey Wasserman

04:47:52

This situation in Ukraine is apocalyptic. I believe have 15 reactors that are completely vulnerable to whatever this madman Putin wants to do. And if he chose to blow them all up, he could along with the four waist dumps at Thatcher noble. So we're really looking at the possible end of the human race here. We finally are getting response from the mainstream media, including the New York times, which has run a front page article on the shift change at Cherno. The people working at Cherno have had to work 24 7 for weeks. Now, the situation got to be really dire. And the, the good news is that the New York times has been paying attention. So your question is quite accurate. Why hasn't there been more of a generic anti-nuclear response? On the other hand, I believe that the, the message that this is a obvious example of why we can't have nuclear power has gotten around to a certain extent. The only good thing that's come of the invasion of a Ukraine, Phoebe is that very soon after it happened, Finland, which was in contract with Russia to build a new nuclear plant canceled that project. So at least that's one good thing that's happened from the Ukraine situation. I'm hoping this will be the death of nuclear power. Not enough has been said about it. You and I have been out there beating the drums about it. Hopefully the message will sink in,

Libbe HaLevy

04:49:28

In terms of pushing for a death to nuclear. So the nuclear industry is actually finding ways to spin this invasion, to say, you see the nuclear reactors are still operating and nothing horrible has happened. And let's build a whole bunch of new nukes and they have been hitting the ground running certainly in France, in the UK, they're pushing hard in Canada. So they are trying to take control of the conversation and say, this is a proof that Nokes are good. We need to come up with the accurate response to this, which is, are you out of your fricking minds, but make it in, but make it in a way that's going to be understandable to the general public. So how do we do that? How do we organize? How do we determine what our talking points are and echo them back and forth with each other?

Harvey Wasserman

05:50:22

Well, you know, your show is the key part of it. I've been beating the drum at my weekly meetings on emergency election protection. There should be demonstrations. There should be greater actions, but you know, I don't think the world is stupid. And this is so clearly an apocalyptic situation. The nuclear industry can say all at once, but when you have a coverage on of page of the New York times of a shift change at a dump, I think the word does get out. The nuclear industry is not gonna get away with selling its bogus product. You gotta remember we that nuclear power in no way, shape or form can any way any more compete with renewable energy, much as they wanna beat their drum for new reactors, it's not gonna happen. There's no more new, big reactors gonna be built in the United States. The big threat is from these so-called small modular reactors being pushed by bill gates.

Harvey Wasserman

05:51:22

And that's a long way from happening. I don't believe that we can't stop those there's you, us nothing really to recommend them. They can't compete. They can't get built in time and renewables are really undercuting the entire, not only nuclear industry, that's fossil industry as well, much as a failure of nuclear power has been renewable. Industry has been an incredible success both financially and in terms of the environment and in terms of job creation. So we have these to push. This is the reality, you know, vocal, the last nuclear reactors under construction in the United States still haven't come online years after they were supposed to they're over 30 billion. Now the VC summer actors were canceled after costing 10 billion. And one of their executives is in prison. So we're not pushing as effectively or as strongly as we should. But on the other hand, the nuclear industry really is on the ropes. This is not gonna help them in any way, shape or form. And you and I, and other that like us really need to keep pushing the message that these reactors are way too dangerous. And also, you know, you don't cool. The planet, you don't fight global warming with 440 radioactive fires burning at 570 degrees FHE. You know, that doesn't fly in the real world. So we just have to keep doing what we do. And hopefully the message will sink in

Libbe HaLevy

05:52:55

In terms of doing what we do. I think you have more faith in the persistence of vision of the public as to the problems of nuclears they're coming up now than I do. I think it's going to take a steady drum beat, not just you and me, but a whole bunch of other people, we, which is why I think we need to move beyond a passive or just a Facebook commenting to each other. It is something more organized. And with that in mind, there's going to be an event that I think you organized for this Sunday, March 27 here in Los Angeles, which is bringing together activists from a range of issues together in a round table discussion. What is the purpose of this gathering?

Harvey Wasserman

05:53:37

We have amazing people. It's gonna be in Santa Monica. People who want to come contact me directly. So we Topia and Jean nail, it starts at one o'clock on Sunday, March 27th in, in Santa Monica. We're bringing together activists on a wide range of issues from all over the country. We have serious heavy hitters coming from Washington, from Virginia, from North Carolina, as well as of course from the west coast, we have a tremendous Ray of speakers, Danny sheen, the great actress, Mimi Kennedy will be there. This is a gathering, not for people to hear speeches, but to meet each other, to coordinate their work, to get out of their silos. We're talking about election protection, homelessness, the attempt by the nuclear power industry to kill solar energy, the widest possible range of activism. We're gonna gonna have a, a round table where everybody can speak and levy. As you know, every Monday at 2:00 PM Pacific time, we do a grassroots emergency election protection coalition round table. So far, we've had 60 to a hundred people actually next month for more two years that we've been doing it again. Everybody participates and we've had tremendous networking and organizing results. It's been very successful. So when you email me at Soia at Gmail, you can ask me about that as well.

Libbe HaLevy

05:55:03

I'm honored to be asked to be a participant in the round table, and I'm looking forward to putting this forward with the event. What do you see coming out of it that we can utilize moving forward?

Harvey Wasserman

05:55:16

We need more coordination among people doing progressive activism, cause everybody's working on their own issue, which is great. But now we need to coordinate and get our full power going into the midterm elections and finding things like Cherno and the nuclear catastrophe in Ukraine. This is a, a very, very dangerous time in our country. And we have to be United on the progressive side in order to defeat this and to make sure that we actually have a democracy going forward. So we have to unite all our different movements and preserve what's left of our democracy, or we're not gonna make it.

Libbe HaLevy

05:55:52

And nuclear is of course, a key piece of all of that.

Harvey Wasserman

05:55:55

Yes, it is because if we can democratize our energy system and switch, not only from nuclear, but from coal oil and gas, what I call king Kong, coal oil, nukes, and gas, and move over to renewables. We will have a much more democratic and sustainable society,

Libbe HaLevy

05:56:13

Author and activist Harvey Waserman. If you are in the Los Angeles area and wish to attend this event, it's in Santa Monica on Sunday, March 27, starting at 1:00 PM to learn more. You can contact Harvey directly at his email. Solar Topia, me.com. We'll have a link up on the website, nuclear hotseat.com under this episode, number 5 61, this has been nuclear hot seat for Tuesday, March 22nd, 2022. You can sign up to get nuclear hot seat at all of your favorite podcast platforms. Or you can go directly to the website and sign up. So you get an email every week with the link and a brief description of some of the content that's at the brand new nuclear hot seat, that.com website and we are still using the same old yellow box. So look for that. Put in your first name, your email address. We won't sell it.

Libbe HaLevy

05:57:13

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Announcer

05:58:29

Nuclear hot seat. What are those people thinking? Nuclear hot seat. What have those boys been drinking? Nuclear hot seat. The is sinking. Our time to act is shrinking, but the activists licking new hot seat it's de bomb.