NH-524-June-29-2021-FINAL-Radiation\_Radioactivity-Gordon-Edwards-Joe-Mangano-REDUX

Libbe HaLevy

00:00:01

If you follow nuclear issues at all, you've undoubtedly heard the line. Nobody died at three mile island. It's a means of dismissing any concerns we might have about what happened because of that nuclear meltdown, just outside Harrisburg, Pennsylvania in 1979. But then you hear an experienced researcher into nuclear health consequences. Say

Joseph Mangano

00:00:26

The nuclear industry grabbed that slogan. Nobody died at three mile island almost immediately. After the meltdown occurred, before there had been any chance to measure how much radiation was released, how much actually got into the water in the food and people's bodies. It was an immediate attempt to stifle any type of research.

Libbe HaLevy

00:00:50

When you hear a genuine expert, say something like that, you start to see how we've all been gamed. When it comes to understanding nuclear dangers. And you start to realize that you are in the seat, that we all share

Announcer

00:01:07

Clear hot seat. What are those people thinking? Clear, hot seat. What have those boys been breaking their hot seat? The Ms. Sinking our time to act is shrinking, but nuclear Hotsy. It's the bomb.

Libbe HaLevy

00:01:37

Welcome to nuclear hot seat. The weekly international news magazine, keeping you up to date on all things, nuclear from a different perspective. My name is Lee. I am the producer and host as well as a survivor of the nuclear accident 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, it's time to refresh our understanding of what nuclear radioactivity is and what it does. We'll revisit an interview with Joseph executive director of radiation and public health project. Joe is an expert researcher and epidemiologist whose examination of medical statistics in the areas around nuclear reactors reveals a much different picture of health impact than the nuclear industry wants you to know. And to help you understand exactly why nuclear reactors and dumpsites and radioactive fuel rods and all the nuclear waste are bad for humans and other living things.

Libbe HaLevy

00:02:44

We hear Dr. Gordon Edwards of the Canadian coalition for nuclear responsibility. Explain what radiation is and what it does. That's the reason why so many of us fight so long and hard against nuclear. We will also have nuclear news from around the world numb that's of the week for outstanding nuclear bone headedness, and more honest nuclear information than could penetrate the rocket's red glare of last weekends. 4th of July fireworks. All of it coming up in just a few moments today is Tuesday, July 6th, 2021. And here is this week's nuclear news from a different perspective, starting with this ongoing story out of Saskatchewan, that there is an uncontained forest fire near the cigar lake uranium, mine, chemical corporation operates the mind and it at one point evacuated about 230 workers leaving 80 people to remain onsite in the facility to try and keep it in a safe state.

Libbe HaLevy

00:03:50

Not that it was safe before the fire though, the fire is still burning and is releasing radioactive, contaminated smoke and Ash into the environment, threatening the local indigenous Denae community, which considers this a dire threat to their health chemical has called back its employees. And they will be working on the mine again. By the end of this week in Europe, a group of five EU member states led by Germany had sent a letter to the European commission, asking for nuclear energy to be kept out of the green finance taxonomy or categories for funding. The letter was signed by energy ministers of Austria, Denmark, Germany, Luxembourg, and Spain, and points to shortcomings in a report by the European commission's joint research center, which concluded that nuclear energy is safe. The ministers wrote nuclear power is incompatible with the taxonomy regulations, do no significant harm principle urging the commission to keep nuclear out of the EES green finance rules.

Libbe HaLevy

00:04:58

The ministers further stated, we are concerned that including nuclear power in the taxonomy would permanently damage its integrity credibility, and therefore its usefulness and argues that the European commission's assessment of the safety of nuclear power installations is flawed in the UK. A new report suggests massive expansion of offshore. Wind will drive new power needs in the UK right now, approximately 16% of UK power comes from nuclear reactors, which are almost all due to close soon. And the UK government has gone quiet about nuclear renewal. This article suggests investors might want to consider the risks of investing in nuclear technology now, and instead consider the rise of companies involved with offshore wind in India. For the second time in less than a month, Indian authorities have captured a gang attempting to sell uranium illegally. And authorities believed these events might be linked a national gang involved in illegal uranium trade Indian officials state that this means that local Indian uranium reserves radioactive nuclear materials and facilities are not protected and are prone to black marketing.

Libbe HaLevy

00:06:13

And India is not adhering to international bindings of nuclear safety and security here in the U S and Illinois PJM. The regional grid operator, which supplies power to 65 million people in 13 states held its semi-annual capacity auction and Exelon corporation reports that three of its nuclear plants in Illinois, Byron Dresden and quad cities failed to sell their power at the auction. As a result, Byron and Dresden are currently slated to be retired. This fall and quad cities is on life support based on previously approved subsidies. And now for your weekly dose of nuclear bone headedness,

Libbe HaLevy

00:07:05

The international atomic energy agency, or I a is a great defender of all things, nuclear, including helping to cover up the true impact of Chernobyl's radiation release. No matter the circumstances, there were prime promoter of immediately announcing not enough radiation to be a significant danger and continuously downplay radiological dangers, which it makes it curious that the IAEA recently published an emergency preparedness and response guide for medical physicists and the press release announcing it starts with the line. Radiation emergencies can occur anywhere at any time. Really. Could you repeat that out loud? And often radiation emergencies can occur anywhere at any time, but this admission of danger is only specific to getting a training for medical physicists adopted the I a even provides a compact and user-friendly packet guide to carry around with you. So you're always prepared. Just the thing you need, if your local nuclear reactor restored cider unmarked Manhattan, project materials, dumper, any of the other radiation dangers is leaking radioactive materials into your environment. And that's why I a for your double-talk you are this week's

Libbe HaLevy

00:08:35

Now here's the first of this week's two featured interviews. I think much of the reluctance to take action on nuclear issues is because people don't understand the nature of radio activity and the damage it does to our bodies, our DNA and our future. This information has been blanked out of most stories on atomic antinuclear subjects, starting with the first series of articles on the atomic bomb after Hiroshima and Nagasaki and continuing on to today as a result, most people don't understand what radiation is and what it does to help clear that up. Nuclear hotseat is happy to share with you a speech given by Dr. Gordon Edwards of the Canadian coalition for nuclear responsibility or CC and R it's a 10 minute talk prepared for the science for peace forum. How to save the world in a hurry that was held at the university of Toronto on May 30th, 2018. This is a brief masterclass on the difference between radiation and radioactivity, the exact mechanism radionuclides take and how they damage our health in this speech. Dr. Edwards makes some quick references to Canadian issues. Pickering is a nuclear generating station on the north shore of lake Ontario. Bruce is Bruce nuclear generating station on the Eastern shore of lake Huron in Ontario, poor Ontario, and can do is not a can-do attitude, but the CANDU C a N D U, which is a Canadian nuclear reactor design. Here's Dr. Edwards

Dr. Gordon Edwards

01:10:20

Because of crippled nuclear reactor is dangerous, not due to its invisible rays, but because it disseminates harmful radioactive pollutants. So I prefer to use the word radioactivity rather than radiation. So what is radioactivity? Well, it's not a thing, but a property of certain materials while there are a handful of significant naturally occurring radioactive materials. There are over 1000 human made radioactive materials. Most of these were not seen in nature in measurable amounts prior to 1939, when they talk about background radiation, it doesn't include most of these materials. They are created in large quantities as byproducts of nuclear fishing, whether in bombs or a nuclear reactors, each of these hundreds of radioactive elements has its own particular physical and chemical properties. Therefore each following its own distinct ecological pathways through the environment and biochemical pathways through the body, every radioactive Adam has an unstable nucleus that will eventually disintegrate or explode giving off one or two subatomic projectiles.

Dr. Gordon Edwards

01:11:29

And of course the unit of radioactivity indicates one disintegration is occurring. Every second, each radioactive emission coming directly from the nucleus is one of four kinds, an alpha particle, a beta particle, a gamma Ray, or a neutron. These projectiles are all ionizing, meaning that they are able to break molecular bonds quite easily, thereby killing or crippling nearby living cells. If the cell is crippled, it can reproduce and possibly develop into a biologically harmful cluster later in life, which we generally call cancer alpha and beta particles are primarily internal hazards because they are less penetrating. Whereas gamma rays and neutrons are both external as well as internal hazards because they are highly penetrating, large exposure to any of these types of radioactive emissions can cause deaths within days or weeks while chronic low level exposures over time can cause cancers years later, damage to aches or sperm can lead to genetically defective offspring.

Dr. Gordon Edwards

01:12:37

As Richard mentioned, such defects kind of appear in the immediate offspring or in several generations after the original cellular damage, chronic exposure to radioactivity can also compromise the immune system increase the incidence of cardiovascular diseases cause a decrease in intelligence among young children and a as Richard also mentioned accelerate the aging process. Most sources of radiation non-ionizing or ionizing in our experience can be shut off with a switch, an x-ray machine, a microwave oven, a tanning bulb, all can be turned off quickly and once they are off, they're absolutely harmless not. So with radioactivity, radioactivity is in fact, a form of nuclear energy that cannot be shut off. That is why meltdowns kind of occurred even after a nuclear reactor is completely shut down three mile island and Fukushima are examples of this ongoing radioactive disintegrations in the core of the reactor provide enormous heat and drive the temperature of the fuel up to 2,800 degrees Celsius twice the melting point of steel, just due to radioactive disintegrations alone.

Dr. Gordon Edwards

01:13:51

At that temperature, the ceramic fuel begins to melt like candle wax because radioactivity cannot be shut off. The effects of radioactive contamination can be very long lasting leaving for example, no man's land around the Chernobyl site, the Fukushima site, the Marshall Islands test areas and the site of the Kesh CIM disaster over 60 years ago in the Euro mountains of the USSR, when it comes to radioactive waste, since radioactivity cannot be shut off or rendered harmless waste disposal is actually a euphemism for waste abandonment. Nuclear agencies say that waste disposal means that they have no intention to retrieve the stuff, but that's not a scientific definition. That's a political definition. In fact, there is no scientific definition of disposal. The long-term confinement of radioactive post patient waste remains an unsolved problem of mammoth proportions catastrophe potential in 1976, British nuclear physicists or Brian Flowers wrote a report for the UK government on nuclear energy and the environment in it.

Dr. Gordon Edwards

01:15:04

He pointed out that if nuclear energy had been deployed in Europe before the outbreak of world war two, then large parts of Europe would be uninhabitable today because of world war II. That's because Chernobyl like meltdowns can be brought about by acts of malice warfare or sabotage. Even if the reactor is shut down. It is estimated that the Chernobyl accident released about 80,000 terror Becquerel's of cesium 1 37, just one of the many re radioactive materials released black. Pearl is one disintegration per second, as I mentioned, and of course a terrible girl is a million million Becquerel's for 20 years after the Chernobyl accident, sheep farmers in Northern England and Wales could not freely sell their sheep meat for human consumption because of residual radioactive contamination by cesium 1 37 from Chernobyl to this day, wild boars killed by hunters in Germany, Sweden and Bella ruse are unfit for human consumption because of radioactive CCM contamination.

Dr. Gordon Edwards

01:16:16

The same thing as observed for wild boars and the Fukushima area of Japan. So you think 1 37 is a powerful emitter of penetrating gamma rays, as well as a dammit. You met her brown concentrations of cesium. 1 37 are often used to decide which areas need to be evacuated around Chernobyl. It is expected that land in a 30 kilometer radius will be uninhabitable for at least 300 years. Now. Just think there are two and a half million people living within 30 kilometers of Pickering. Can you imagine that radius, those families being permanently displaced and that that land would become uninhabitable for centuries. A single irradiated can-do fuel bundle freshly discharged from the reactor can deliver a 100% lethal dose of radiation to any unshielded human at a distance of one meter in about 20 seconds. And there are over 2,500 such bundles in each picker and reactor.

Dr. Gordon Edwards

01:17:19

Moreover, there are over 400,000. The radiated fuel bundles in the Pickering spent fuel pools, underwater being pooled because they continue to generate heat. They have to be cool for about 10 years. This pool, these pools contain at least 4 million terror. Becquerel's at cesium 1 37 that's 50 times the amount of cesium, 1 37 that was released from Chernobyl, which was about 80,000 caravan girls. Now, if, for example, God forbid a nuclear explosion were to occur near the Pickering. Plant the water in the pool would be vaporized by the fireball. There's a cornea metal cladding on the fuel bundles would catch fire and virtually all of the cesium. 1 37 would escape into the atmosphere in the form of radioactive vapors and aerosol particles that would create a no man's land of mammoth proportions by releasing 50 times more cesium, 1 37 than the amount release from the Chernobyl disaster.

Dr. Gordon Edwards

01:18:22

And these spent fuel pools, not only a Pickering, but all around the world are not protected with very heavy structures. Unlike the dome of the reactor, a building, which is very thick concrete, this is not the case with spent fuel pools. So frightening as these considerations are, we'd have to think about the long lasting implications at Fukushima seven years after the triple meltdown. Now we're seven years later, there are some 800,000 tons of radioactively contaminated water that the nuclear authorities would like to simply dump into the Pacific ocean. In fact, they're building one new 300 ton tank for every four days. They used to be building one per day. About four years, three years ago, then have now removed about 70 different species of radionuclides from this water, but they cannot remove the radioactive tritium that's because radioactive tritium is chemically identical to ordinary hydrogen.

Dr. Gordon Edwards

01:19:23

It is incredibly difficult to separate a radioactive isotope from a non radioactive isotope of the same element because chemically they're like Siamese twins, wherever one goes, the other one goes, tritium is radioactive hydrogen. And it forms radioactive water molecules, which are identical with ordinary water molecules, except that they are radioactive no municipal water treatment client can remove the tritium because you cannot filter water from water also because hydrogen is one of the most common elements in living things being present in all organic molecules. For example, including DNA molecules, radioactive tritium becomes incorporated into all living things. And some fraction of it are sort of Damocles bound into all sorts of molecules in the body. It has been known for decades that Tridium has at least three times more biologically harmful than gamma radiation per unit of energy absorbed by tissue. But our nuclear regulator pays no attention to that fact, indeed two independent scientific bodies appointed by the government of Ontario have found that the permissible levels of tritium and drinking water is about 350 times too high currently in Canada compared with other cancer causing agents that are regulated.

Dr. Gordon Edwards

02:20:41

But again, our nutrient regulatory machinery pays no attention to such inconvenient scientific, but this example of tritium points to a much larger problem, nuclear efficient creates radioactive versions of many elements that are otherwise. Non-radioactive such as cesium, strontium, gold, silver to learn magnesium and countless others. Once these radioactive varieties are disseminated into the environment in significant quantities, they become inseparable from the non-radioactive varieties or most of the naturally occurring radionuclides uranium, thorium, radium and polonium are chemically distinct. And can therefore be separated out by chemical means from non-radioactive materials, such as not the case with the deluge of human made radioactive elements created by efficient already. It is proving very difficult to find uncontaminated metals with which to fabricate radiation monitors such as Geiger counters. Evidently if the metal from which the monitor is made is already radioactive. It will interfere with the operation of the machine, making it increasingly difficult to determine where the radioactive emissions are coming from.

Dr. Gordon Edwards

02:21:55

There are many other important topics about radioactivity, but time does not permit. I'll just mention two of them. Number one, half lives can be very deceptive. As some radioactive materials become more radioactive as time goes on. Not less examples are include radon gas, depleted uranium, and even irradiated nuclear fuel after 50,000 years and plutonium, which has a 24,000 year half-life one that disintegrates transforms into another material, which has a 700 million year half-life. So that lives can be defective. A D deceptive, excuse me. The second point is that some radioactive materials are very difficult to detect even in a well-equipped nuclear plant because they give off non-penetrating radiation yet they can be extraordinarily dangerous inside the body. Examples are carbon 14 dust, which workers at Pickering tracked into their homes in the 1980s and plutonium bearing dust, which over 500 contract workers inhaled on a daily basis for almost three weeks at Bruce in 2009,

Libbe HaLevy

02:23:02

Dr. Gordon Edwards of the Canadian coalition on nuclear responsibility. And if this information went by a little too fast for you to get all of it, don't despair. We have a full transcript of Dr. Edwards talk available and linked on our website, nuclear hot seat.com under this episode, number 5 24, we'll continue with this week's special focus on radiation and radioactivity issues in just a moment, but first nuclear weapons on hair trigger alert. The framework of international treaties demolished the seeming inevitability of a new nuclear arms, race space force, aiming to introduce nukes in space. And now the upcoming anniversaries of the atomic bombs falling on Hiroshima and Nagasaki. All of this is the basis for pro nuclear pop. Again, that to come out in force to keep pushing onward and industry intent on gobbling up money for the few and polluting planetary resources for the mini.

Libbe HaLevy

02:24:06

We are facing a wider range of nuclear dangers than ever before. And the only way to fight against them is to know what's going on and what you can do to change things. That is why you need nuclear hot seat. We look at the nuclear aspect of our world every week and not just the issues related to weapons, but uranium mining, nuclear reactors, radioactive waste, and the politics surrounding them all. You're not going to be getting this information from mainstream media. Nuclear hot seat is the only place you can count on to report the ongoing, evolving nuclear truth about all of the nuclear mess that is out there surrounding us. And won't go away for a half-life of 24,000 years, but here's where I need to ask for your help to keep the show running, takes time, effort, energy, and funding. And I hate to relate this, but ever since COVID hit over a year ago, things have been ever more challenging and fundraising, and now more than ever, your help is needed to keep the show going and to help us with our necessary website upgrade.

Libbe HaLevy

02:25:17

That's why the time would be right now to support us with a donation, just go to nuclear, hot seat.com and click on the big red donate button to help us with a donation of any size. That's also where you can help us by setting up a monthly $5 donation. Now that's the same as a cup of coffee and a nice tip here in the U S. Now that the baristas are back in business. So click on the big red donate button, follow the prompts and do what you can now and know that however much you can help. I am deeply grateful that you're listening and that you care. Now here's the second of our two interviews in the special program on radioactivity and radiation. Joseph Mengana is a health researcher and epidemiologist who has served as director of radiation and public health project since 1989.

Libbe HaLevy

02:26:12

He is the author or co-author of 33 medical journal articles on radiation health. And as the author of the books, low-level radiation and immune system danger and atomic era legacy and radioactive baby teeth. The cancer link. He managed the study of strontium 90 in baby teeth, and now manages the citizen-based radiation monitoring programs near the Indian point, New York and oyster Creek, New Jersey nuclear plants. Here, we talk about radiation at disproportionate impact upon children in an interview from June 25th, 2019. Joseph Mangano is a health researcher and epidemiologist who has served as a director of radiation and public health project since 1989. Men nano is author or co-author of 33 medical journal articles on radiation health, and is the author of the books. Low-level radiation and immune system damage and atomic era legacy. That's a 1998 book and radioactive baby teeth. The cancer link from 2008. He managed the study of strontium 90 in baby teeth, and now manages the citizen-based radiation monitoring programs near the Indian point, New York and oyster Creek, New Jersey nuclear plants. This interview was originally heard on nuclear hot seat, number 3 54 from April 3rd, 2018,

Libbe HaLevy

02:27:41

Jonah and Ghana, always right to have you with us on nuclear hot seat.

Joseph Mangano

02:27:46

Likewise, glad to be here.

Libbe HaLevy

02:27:48

First of all, let's give people an idea of your group. What is radiation and public health project, and how did it come to be?

Joseph Mangano

02:27:58

We are a non-for-profit research and educational group. The truth is that we shouldn't even have existed in the first place, had the nuclear industry and government been honest when nuclear reactors were first built in the 1950s, there were several questions concerning the health of local residents. Number one, can we guarantee that there isn't going to be a major meltdown. Number two, how much radiation is going to be routinely released to the air? And number three, what are we going to do with the waste? The waste products produced to making electricity, but there has to be kept safer hundreds and thousands of years, what happened was the industry and government kind of colluded, and just said, we're going to set some limits of safe limits, permissible limits. They call them, you know, if you release below a certain amount of radiation or if the air and the water in the soil has below a certain amount, you're allowed to keep your license.

Joseph Mangano

02:29:04

You can keep running the reactor and we call it safe. Now we are a public health group. This isn't very good public health. All right. As a matter of fact, the radiation at low levels may be safe, but you got to do this studies. You've got to prove it. You can't just assume that these are very dangerous chemicals. We're talking about the same that are created and released when atomic bombs explode. So it's just about 30 years ago to retired gentlemen, one, a physicist, and the other statistician put together this group. And we have been added ever since 37 journal articles, eight books, 57 first. So op-eds lots of media attention. And so on. That's a bit of background of what we do.

Libbe HaLevy

02:29:54

What kind of information do you examine when you are coming up with your reports on what's going on around the nuclear reactor?

Joseph Mangano

03:30:05

Two things dose and response are the formal names for them. By dose, we look at how much radiation is released from a reactor, how much exists in the local environment, the air and the water and food and the body. We did a study measuring how much radiation were in the baby teeth of 5,000 children. Most of them living near nuclear reactors to date. This is the only study ever done looking at how much radiation is in the body of Americans living near reactors. And that's the dose side. The response side very simply is disease rates and death rates, new nuclear plants, which our public health departments actually do a very fine job of collecting data and making them available on the web, both the state health departments and the centers for disease control. That's what our work really has entailed. We haven't gotten to all reactors, but we've done studies near a number of them. And we find consistently that red flags are raised about unusually high levels of cancer and infant mortality, and other other disorders, especially after a nuclear plant opens,

Libbe HaLevy

03:31:23

Where do you find the numbers that you base your findings on?

Joseph Mangano

03:31:27

The big one is the us centers for disease control. They haven't gone out and done studies. They're new reactors, but they've done a fine job in collecting data. In fact, there are 50 years worth of statistics on mortality, on deaths in the United States, beginning in 1968, right online. It has it by state, by county, by cause of death by age, by gender, by race. It makes it rather easy for us to do a lot of analysis down to the county level. That's the major source that we use. And for the other side, the radiation side, how much is released and how much is in the environment. Those come from the environmental protection agency companies that run nuclear reactors are required to make these measurements every year and to report them.

Libbe HaLevy

03:32:24

What you've been working on is called epidemiology. And you're actually the reason that I have any familiarity at all with the term it's the study and analysis of the distribution and determinants of health and disease conditions in defined population. In other words, trying to work out why certain people in certain locations are getting ill. So let's take a look at some of the reactors that you have been studying. Let's start with oyster Creek in New Jersey, which is scheduled to be closing in October of this year 2018. How did that formerly low cancer county rise to become a high cancer county after the reactor started up?

Joseph Mangano

03:33:09

Yeah. Olivia, I hope we haven't scared anyone with a big word, like epidemiologist let's make it simple. These are basic questions. Like what are cancer rates like near nuclear reactors? Like Lego used to Creek. Very simple again, if it weren't for us and our group and our work, the answer would be, geez. We really don't know. Nobody does studies on this oyster Creek is a case in point. It is a reactor that is in central New Jersey. It's about 60 miles from New York city. And it's about 50 miles from Philadelphia, obviously lots and lots of people nearby strike two on oyster Creek. It is the longest running nuclear reactor in the United States. And I believe the world the day it first started operating and generating radiation and emitting radiation was May 3rd, 1969. So we're coming in on 49 years here. Yes. Even though reactors are where we're supposed to go to 40 years at maximum 0.3 with oyster Creek, is that even though the statistics on what was admitted from reactors are a little thin.

Joseph Mangano

03:34:24

Unfortunately, the requirements are, are not very stiff because there are over a hundred separate radioactive chemicals produced by reactors and emitted into the environment. A good system would be to make counts of each of them. There's only several that are counted, but one of them, I had done 1 31. We'll talk about it later. It's a chemical that affects the thyroid gland. It goes right. You know, when it's drank in the water and eating the food or breathe in the little metal particles go right to the thyroid gland, where it attacks and kills cells and leads to diseases like cancer. We found the seventies and eighties in the 1990s oyster Creek had the highest level of emissions than any us reactor. Matter of fact, it had five times the amount that was officially released from the three mile island partial meltdown, 1979.

Libbe HaLevy

03:35:25

And this was just part of its normal operating. It wasn't like they had an accident that happened there that created some radiation late.

Joseph Mangano

03:35:33

There was no meltdown. There was no shutdown. The government saying that you're releasing too much. None of that. These were all part of normal operations. How did

Libbe HaLevy

03:35:44

That impact the cancer rates in the area?

Joseph Mangano

03:35:48

Well, we took a look. We've actually been working on oyster Creek for a, for quite a while because our, our group who's based in New York and this is not very, is very close to New York city. We did a whole educational campaign, you know, in conjunction with, with local citizen groups. We even had a couple of celebrity supporters, Alec Baldwin, and Christie Brinkley. And we went to that area of central New Jersey and gave a number of public talks. We collected 600 baby teeth from the area and found a high and rising amount of another chemical strontium 90, which goes into teeth and to bone. As far as the cancer goes there, there's been suspicions for a long time near oyster Creek. Back in the 1990s, the health department, the state health department found a childhood cancer cluster and a very long story short after about 10 years of, of meetings and discussion, no official cause of cancer was, was ever admitted to by the health department.

Joseph Mangano

03:36:57

In fact, they gave oyster Creek the nuclear component, very little attention at all years ago, when the oyster Creek first began operating the cancer death rate in the county where it's located, ocean county was just below the New Jersey rate. 1% below as the 1980s and nineties, when all along, it grew a couple of percent above the state rate. And in the two thousands, it was 8% higher. Now going from 1% below to 8% above may not sound like very much, but let's turn it into real numbers and real people. If that original rate of 1% below the state had stayed, you know, all, all these past 49 years there would have been over 2,500 fewer cancer deaths in this one county. Okay. Dropping that 2,500 is all a lot of people. It's a very populated county. It's about 600,000 in the county. We also found too that the largest increases occurred in the youngest residents in the area.

Joseph Mangano

03:38:07

We know if science disagree that while every human who is exposed to radiation is affected. The greatest harm is caused to the very youngest. That is the fetus, the infant and the child. And we found that the childhood cancer eight years ago was 23% of below New Jersey. And now it's risen to 15% above. Again, we're converting, we're converting a low cancer county into a high cancer county. Are there other possible reasons? Sure. There might be, but we don't know of any that that would make this before and after switch like this. And we feel that it should have been more studies done the health departments and the industry that ran the plant basically either ignored us or called our work. You know, they'll use terms like junk science. Do they have any proof that always decree is safe? Nope. Not one

Libbe HaLevy

03:39:07

Given that this situation was found around oyster Creek, are there other reactors where similar patterns have been found and were populations are suffering from similar consequences?

Joseph Mangano

03:39:20

Oh, sure. I could give you several, but the one I'll focus on is the other nuclear plant in New Jersey. And that's called Salem hope Creek. It's a little different than oyster Creek. Oyster Creek has one reactor sale and hope Creek has three oyster Creek is relatively small. Salem not only has three reactors, but each is about double the capacity of oyster Creek. This is a big place. The reactors came online later than oyster Creek from the mid seventies to the mid eighties. Okay. So we did a similar study of Salem county where this reactor is located a little bit different. Oh, his degree is 600,000 people. Salem only has about 65,000 people. It's largely rural farming is, is the primary industry. If you will, which should mean that there's no real worry about industrial pollution in the area. So let's go back. As the reactors were opening in the mid 1980s, the Salem county cancer death rates just like ours. The Creek was 5% below the rest of New Jersey. Now in this decade, that's 5% below. The state has turned into 20% above the state.

Libbe HaLevy

04:40:37

That's a 25%

Joseph Mangano

04:40:38

Change, a 25% flip. And it, once again, it is highest in children, in young adults and middle-aged adults. Like we would have expected this nuclear emissions or a factor. We even found that there was a jump in death rates for causes other than cancer, right? From 2% higher to 23% higher. And once again, we'll go to the, what we call the excess cancer cases. Since, since the mid eighties, we estimate that over a thousand people died because these, these rates went up all right. If they had stayed where they were back in the mid eighties and continued for the last 30 years, over a thousand, fewer people would have died in this one small county.

Libbe HaLevy

04:41:30

We're getting a pretty clear picture that nuclear reactors, normal operating conditions, three eight problems, and have emissions. And according to the epidemiology impact cancer rates and leads to an increase in them. But let's look now at what happens when there has been with the nuclear industry. Once upon a time, shortest would never happen, which is an accident, meaning three mile island and the nuclear industry is fond of saying nobody died at three mile island. Now there is a Facebook based group, three mile island survivors that has over 4,000 members who identify with that label. And these individuals claim a wide range of health impact from that nuclear partial meltdown in 1979. And there were reports of a large number of deaths and illnesses within their own families and communities. What does the epidemiology tell us about what really happened as a result of the accident at three mile island?

Joseph Mangano

04:42:37

I'll start my answer by repeating what I said a few minutes ago, and that is the nuclear industry grabbed that, that slogan, nobody died at three mile island almost immediately after the meltdown occurred, before there had been any chance to measure how much radiation was released, how much actually got into the water and the food and people's bodies and so on. It was a, an immediate attempt to stifle any type of research. Even though I consider myself a health researcher and a nonpolitical one, we all understand that this is a very, very highly politicized area. And the example I'll give before we get into our results involves two groups. The first group was some researchers from Columbia university in New York. They got some funding from a group that was commissioned by a judge after the three-mile accident. Their mission was to go and, and do some research on whether or not there was a connection between the radiation released from three mile and cancer in the local area.

Joseph Mangano

04:43:46

Very simply their answer was no, there was no association. And they published an article in the American journal of public health. I mean, these are, these are again, Columbia is a, is a highly reputed to university, and these are all, you know, PhDs and, and physicians and so on. And they gave in the articles, they gave the data that they used well along comes a group from the university of North Carolina school of public health, which I happened to be a graduate of headed by a gentlemen, Dr. Steven wing with a, again, working with a group of his colleagues, weighing in, and the UNC people took the same data that the Columbia people used and came to a different conclusion. They only looked at lung cancer and leukemia within the 10 mile radius around three mile island. And they found a, a high increase. As a matter of fact, it's amazing to me that Columbia came to that conclusion of no link, because if you look at the number of cancers of people living within 10 miles of three mile island, and you compared five years before and after the meltdown, the number of cancers went up 60% from 1700 something to 2,800 something.

Joseph Mangano

04:45:07

Now you don't need a PhD in epidemiology. You don't need a, an MD from Columbia or UNC to say, whoa, wait a minute. Is this normally what happens in an area where our cancer is going up? 60%? The answer of course is no. And what happened after that was essentially a fight that broke out in the medical journals. The Columbia people were agitated and called the UNC group, you know, politically motivated and, and all this stuff. And UNC just responded with explaining how, how they came up with this. Once again, I'm trying not to be political, but you, this is a, this is a, maybe the, one of the better examples of how highly politicized this is. The establishment does not want to admit to one that no one died at three mile island, because that means there's a lot of other people that may be suffering and dying as well.

Libbe HaLevy

04:46:07

And that's why this Facebook group got started. I believe it's following in the steps of north St. Louis and the just moms there with what they've been able to create by growing the awareness. Let's move this ahead. You told me that you're looking into an analysis of cancer deaths in Burke county, Georgia, which is a site of the Bogle plant, where they're trying to build two new reactors and coming into all kinds of problems. But do they have nuclear fuel on site yet? Are there radioactive fuel rods there or is there some other cause for the difficulty that people are facing,

Joseph Mangano

04:46:46

This is Burke county, Georgia. Now it is a county that sits on the border with South Carolina. And the border actually is the Savannah river. We need to give a little history here, right across the river from Burke county, Georgia lies the Savannah river plant. The Savannah river plant was built away way back in 1949. It formerly was a mostly farming rural area. This was not a nuclear power reactor, but it was a series of reactors that helped make nuclear weapons. At that time, of course it was the cold war and the U S and the Soviet union were engaged in a frantic race to build as many nuclear weapons as possible. And Savannah river played a major, major role in making these bombs. Of course, now it is no longer making weapons. We've stopped that when the cold war ended in the early nineties, the it's a large area and it is highly contaminate.

Joseph Mangano

04:47:55

One of the most contaminated areas in the United States. And it's been cleaned up now for 20 years and they're going to be at it for a very long time. So let's start there right across the river is Burke county Georgia. A nuclear reactor has to be on a body of water because essentially the way a nuclear reactor makes electricity is to heat, water up. Somebody called it a very dangerous and expensive way to boil water. The Savannah river is a large wide river at that. At that point, it flows into the Atlantic ocean in the late 1980s to nuclear power plants, power reactors were built in Burke county and they were called Vogel one and Vogel two, they wanted a Vogel three and four, but like many proposed reactors, they were canceled essentially because they were expensive. But of course, I always say that why they react is expensive.

Joseph Mangano

04:48:52

It takes a lot of money to build such dangerous machines. Burke county again is like across in South Carolina. It's a rural county. It's got about 23,000 people. Slightly over half are African-American. The poverty rate is very high in Burke county, always has been okay. The unemployment rate is high. The proportion of inadequate housing is high. All, all the standard measures of poverty that occur in Burke county. It's a poor county. All right. The idea of, of building these reactors and the formerly pristine area, of course raises the question. Did it do anything to the health of local residents? Well, once again, you go back to the CDC websites and look at what happened in the 1970s before the reactors opened, the black cancer mortality rate was 29% below the rest of Georgia. And that makes sense because we don't expect a lot of cancer in rural areas. We expect cancer, you know, in areas where their coal mines are in big cities with a lot of industrial emissions. And so on that number of 29% below now in the last decade is 15% above. And these are for blacks. Whites had it, had it increased to in Burke county years ago, they were 1% below and now 12% above again, the poverty rates are considerably higher for blacks in Burke county than they are for whites.

Libbe HaLevy

05:50:30

So what you're saying is that the radiation that is impacting the health of the people in Burke county actually comes from the other side of the river and this previous facility,

Joseph Mangano

05:50:43

Well previously, some of it did more of it in the Savannah river plant in South Carolina. More of it stayed in South Carolina, although some got to Georgia still the cancer rate was below average. All right. And it wasn't until they built those two nuclear reactors in Burke county, in Georgia, right there when the cancer rates began to change from below average to well above average.

Libbe HaLevy

05:51:11

And for the sake of clarity, we know that there are two new reactors that are under construction, but are there other reactors that are on the site of Vogel that are in operation and have been

Joseph Mangano

05:51:24

The answer to both your questions are yes. And yes, the ones that began operating in the late eighties continue to operate, even though they're getting older than corroding and leaking. And then so on, but in the, who I guess about 10, 15 years ago, there was an effort to build new reactors building had stopped. Essentially. The last approvals for reactors were in the late seventies because the people had financed it. You know, the wall street people understood it to be very expensive and very dangerous. So this nuclear Renaissance, as they called it began, and there was a lot of discussion in Washington and they, all they did after years and years was think the number was 15 billion, not to help build reactors, but in case a new reactor was built and they had to stop that the builders would get their money back. There was a number of reactors that were proposed every like 20 of them, almost every one pulled out.

Joseph Mangano

05:52:29

They said, you know what? We can't do this. This is going to take years and years to, to build these things. It's going to take a heck of a lot of money. We've got new types and safer types of energy, like solar and wind. Forget it. An exception was the Vogel plant where the reactors three and four were not completely built, but the building process began, I believe it was about eight years ago. And there been all these promises of about when they're going to be finished and how much it would cost. Well guess what, as the years go on the expected year of opening keeps getting pushed further in the future. And of course the bill gets bigger and bigger right now. The construction is only about one third done. And this is after about, I think it's about eight or 10 years. That's very slow. That means it's going to take 20, 25 years or more to finish these things and ungodly amounts of money. There is a very strong citizen-based effort to stop the construction. And there's a lot of people who believe that these two reactors will never operate. And of course, part of it is the idea of environmental injustice or racial injustice. In this case that you're picking on a very poor area with a large proportion of African-Americans and putting these dangerous reactors, more of these dangerous reactors there

Libbe HaLevy

05:53:59

That was health researcher, Joseph Mengana of radiation and public health project. You can read more about his important work@radiation.org. And that link will be up on our website, nuclear hot seat.com. Under this episode, number 5 24

Announcer

05:54:19

Activists,

Libbe HaLevy

05:54:27

There is a great article up in in-depth news.net, entitled nuclear weapons have always been illegal it's long past time to abolish them. It's written by Jacquelyn cabasa, who is executive director of the Western states legal foundation and affiliate of the international association of lawyers against nuclear arms. Did you know that the international association of lawyers against nuclear arms was a thing? I certainly didn't until I read this, Jackie has put together a comprehensive article that should be part of our resource list. Anytime we want to talk about nuclear weapons and why they need to be gone, it starts with an important quote by Hiroshima Mayer to Kashi, which he made before the international court of justice on November 7th, 1995 in park, he said history is written by the victors. Thus, the heinous massacre that was Hiroshima has been handed down to us as a perfectly justified act of war.

Libbe HaLevy

05:55:38

It is clear that the use of nuclear weapons, which cause indiscriminate mass murder, that leaves survivors to suffer for decades is a violation of international law. We'll have a link up to this article on our website, nuclear hotseat.com under this episode, number 5 24, this has been nuclear hot seat for Tuesday, July 6th, 2021 material for this week show has been researched and compiled from nuclear-news.net to own renard.wordpress.com beyond nuclear international.com the international campaign to abolish nuclear weapons. Op-ed news.com. And however you want sermons writing nuke, watch.org, utility dive.com. Maria's Paul and Candace Paul up in Saskatchewan, cbc.ca your're active.com seeking alpha.com, modern diplomacy.edu, mirror.co.uk, and to the captured and compromised by the industry. They're supposed to be regulating nuclear regulatory commission. Thanks to all of you for listening and a big shout out to all of you on the nuclear hot seat audience. You are in 123 countries on six continents, and I'm grateful for every last one of you.

Libbe HaLevy

05:57:00

Now spread it around, send it to your friends. Let's get more hits from more countries and more people listening so that they get a chance to know the difficult nuclear truth to make it easy. You can get nuclear, hot seat delivered to you free every week. Just go to the website, look for the big yellow box, put in your first name and an email address we can use. And as soon as the show posts, you will get the link plus a short outline of some of the material that's in each show. And you can help us out with your local stories. If you have a story lead, a hot tip or suggestion of someone to interview, send an email to info@nuclearhotseat.com. And if you appreciate weekly verifiable news updates about nuclear issues around the world, take a moment to go to nuclear, hot seat.com. Look for that big red button, click on it, follow the prompts and know that anything you can do will help. And we will really appreciate your support. This episode of nuclear hot seat is copyright 2021 Leiby Halevi and hardest streak communications, all rights reserved, but fair use allowed. As long as proper attribution is provided. This is Leiby Halevi of hardest three communications. The heart of the art of communicating, reminding you that luck is a terrible safety plan when it comes to anything nuclear, that's it. That's your nuclear wake-up call. Now don't go back to sleep because we are all in the nuclear hot seat,

Announcer

05:58:39

Clear hot seat. What are those people thinking? Nuclear hot seat. What have those boys been breaking their hot seat? Ms. Sinking, our time to act is shrinking, but the visceral nuclear Hotsy it's the bomb.