

Nuclear Energy Conference 2021
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Presented by
Chief Engineer, Arnie Gundersen

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Charleston, SC, USA



National & International Nuclear Regulators.

Who Do They Protect?

Not People, but the Atomic Industry.

View from an Insider & Whistleblower Arnie Gundersen



Thank you for inviting me to join you today at the Nuclear Energy Conference 2021 in Austria. I have to admit I wish I were there in person. My wife Maggie and I have friends in Austria, and we have always hoped to visit. Yet, since our daughter is a hospital trauma nurse, we are very aware of the dangers of the Covid19 Pandemic and appreciate that you have brought together this web-centered event. Thank you so much.

I am honored to be here today, especially with this year's topic:

How to Dismantle an Atomic Lie – taking apart the nuclear falsehoods

Today's topic is an integral part of my journey as a nuclear whistleblower.

The Beginning

I am a nuclear engineer and have been for 50-years. I have two Nuclear Engineering degrees, a Nuclear Reactor Operator's license, and ultimately became a Senior Vice president in the nuclear industry. My journey in atomic power started in 1958 when I was 9-years-old, and my mother took me to New York City to see the Nautilus.

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This first nuclear-powered submarine had just crossed under the North Pole between the Pacific Ocean and the Atlantic. I was enthralled by this atomic-powered submarine, and visions of Jules Verne's tales peppered my dreams where I imagined travel in the *Nautilus*.

When I attended university at Rensselaer Polytechnic Institute, I chose my study plan as a 20-year-old sophomore. The math behind splitting atoms and controlling them in a nuclear reactor captivated me, so I decided on nuclear engineering. Later in life, at 40-years-old, I knew I had made a colossal mistake. Splitting atoms for nuclear power is rooted in the secrecy surrounding atomic bombs as weapons of mass destruction.

Like many others my age, I learned that dropping the atomic bomb was allegedly necessary to end a terrible war. My generation was lied to and developed beliefs based on that lie. Studying nuclear engineering, I believed that pursuing the "peaceful use of the atom" would help people worldwide and move us away from atomic war.

In 1971, I became a card-carrying member of the *nuclear priesthood* when I began my career as a licensed nuclear reactor operator.

I progressed to the position of senior vice president during my 20-years of employment with nuclear energy corporations. All that time, I believed, with religious fervor, that by helping to build and operate atomic power reactors, I would be creating power that was "too cheap to meter." The historic 1973 gasoline shortages and long lines of cars queued at the pumps made it clear to me and hundreds of other engineers that atomic power was the only solution to the "energy shortage." Therefore, solving this apparent energy shortage was our sole mantra during the 1970s and 80s. Back then, there were no scientific or political discussions connecting fossil fuels to the climate emergency we face today.

Let me begin my story by tracing the roots of atomic power back 100 years.

The Historical Perspective

With so much to discuss today, I will share only a few critical historical aspects that presently influence atomic safety. In my story and personal awakening, I will also weave in my journey as a nuclear whistleblower that began in 1990. Atomic regulation has not and will never protect citizens of our planet. Quite honestly, Regulatory Capture of nuclear power, a term I have used frequently, never existed. Instead, Regulatory Collusion created nuclear power.

More than 100 years ago, from the late 1890s through 1938, was an exciting period for scientific growth in humankind's understanding of the atom. During those 40 years, humankind discovered the atomic nucleus with orbiting electrons, something we take for granted today. The concepts of the Theory of Relativity, Quantum Mechanics, the Uncertainty Principle, and Radioactivity were discovered and freely discussed in scientific literature worldwide.

On the political side, while science moved forward, politics moved backward: World War I began and ended. Adolf Hitler and the Nazis rose to power in Germany, and the persecution of the Jewish people had already begun.

In 1938¹, Otto Hahn bombarded uranium with neutrons, yet he did not understand the test results. The female scientist Lise Meitner and her nephew Otto Frisch reviewed Hahn's data and concluded that the uranium atom had split into two parts when hit by a neutron. Meitner was the first scientist to understand and calculate the enormous amount of energy produced when uranium atoms split². She calculated that one atom undergoing fission created one million times more energy than one atom undergoing a chemical reaction. Indeed, she and her nephew created the word FISSION.

¹ <https://www.aps.org/publications/apsnews/200712/physicshistory.cfm>

² <https://www.livescience.com/62162-lise-meitner-biography.html>

Nuclear Fission

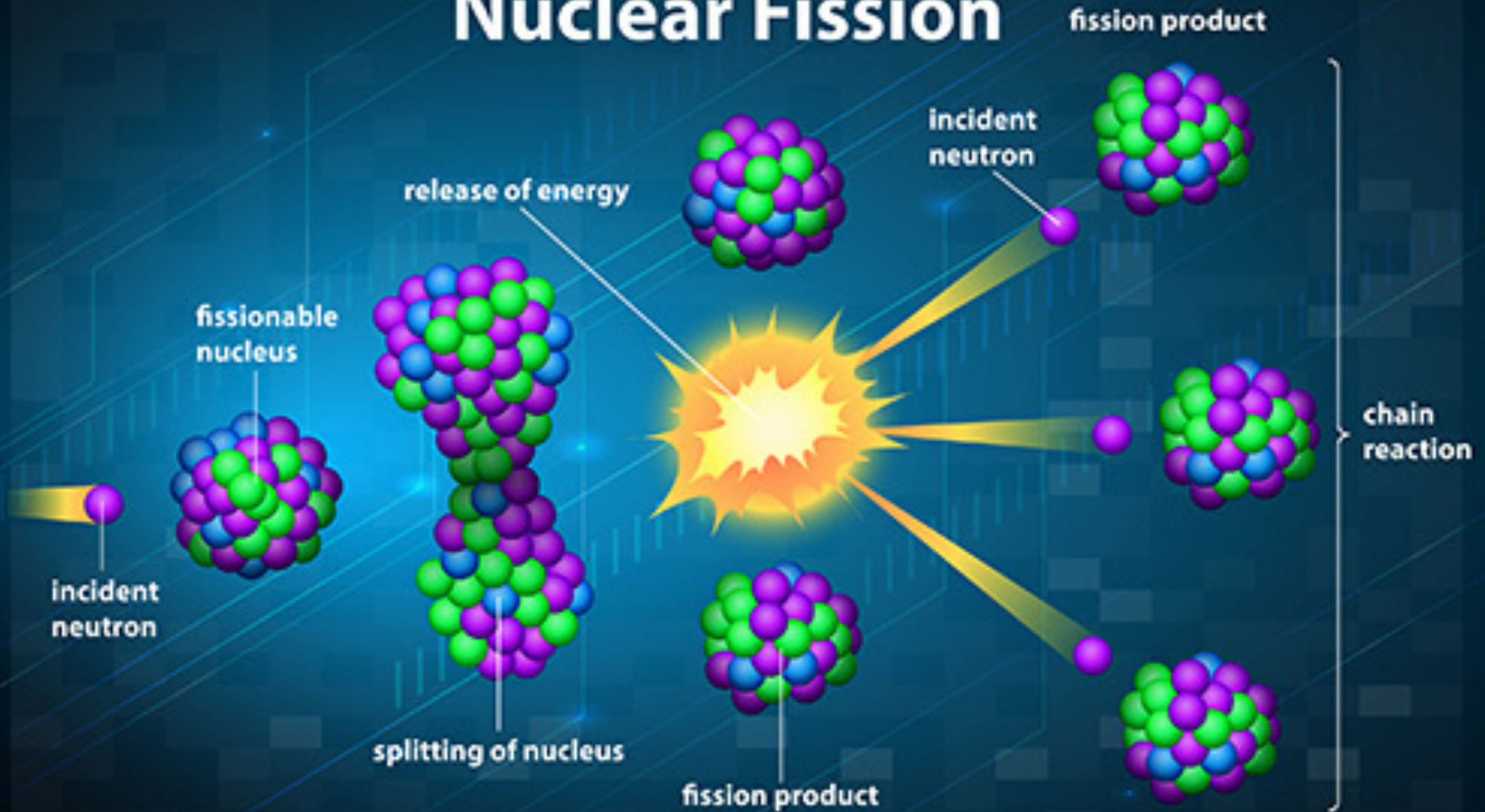


Photo Credit: Idaho Public Television (PBS)

Meitner was the first scientist to grasp that a new primordial force of nature had been discovered. As an aside, Otto Hahn received a Noble Prize for his chemical analysis of fission. The Noble Committee made no mention of Meitner's discoveries, naming fission, or other theoretical contributions. Unlike Hahn who worked on the German bomb program, Meitner left Germany and refused to work on any atomic bomb program.

Almost immediately, scientists in the U.S., Western Europe, and Russia were enthralled with the power created by splitting uranium atoms and had no recognition of its toxic radioactive byproducts.

The scientists focused on the heat produced from the fission (the bright spot at the center) and not the radioactive rubble called fission products left behind.

German and Western scientists realized they were dealing with a primordial force of the Universe. When these discoveries became *Top Secret*, the U.S. Government eliminated the process of sharing new scientific discoveries through peer-reviewed papers. Meitner's ideas rapidly came to America as scientists fled the threat of war in Europe by escaping to the U.S.

A shroud of secrecy was created in the U.S. as the race to develop an atomic bomb began in 1939. Building an atomic bomb from uranium is the only scientific technology founded in secrecy as a Weapon of Mass Destruction - WMD. Dr. Albert Einstein wrote to U.S. President Franklin D. Roosevelt in August 1939, informing the President that the discovery of atomic fission was an opportunity to make bombs more powerful than any weapon ever invented. It stunned me to realize that Einstein wrote to President Roosevelt one month before World War II began in Europe with Germany's invasion of Poland and two and a half years before the Japanese bombed Pearl Harbor. In his letter, Einstein said:

*This new phenomena would also lead to the construction of bombs... that extremely powerful bombs of a new type may thus be created. A single bomb of this type.... might very well destroy a whole port with some of the surrounding territory.*³

³ https://www.osti.gov/opennet/manhattan-project-history/Resources/einstein_letter_photograph.htm#1



Einstein's letter to Roosevelt began a shroud of secrecy perpetrated by America's military in its founding of the U.S. Manhattan Project in December 1942. Using this newly discovered primeval force of the Universe was never designed to protect people or create electricity. Splitting of the atom and the post-war expansion of atomic energy created Weapons of Mass Destruction – WMDs to obliterate humans.

The Top Secret weapons of mass destruction created by the American Manhattan Project were the single most expensive project in World War II. Initially, scientists believed only uranium was fissionable, but in 1942, scientists created Plutonium, a new element unknown in nature and named for the God of Hell. Plutonium was found to be fissionable and cheaper to produce than enriched uranium. America now had two paths to make WMDs [Weapons of Mass Destruction]. One bomb that used enriched Uranium 235 was dropped on Hiroshima, and the other using Plutonium 239 was dropped on Nagasaki.

Hiroshima Atomic Bomb Destruction



The U.S. Government created the Atomic Energy Commission [AEC] in 1946 to replace military control of the Manhattan Project with atomic power placed under civilian control. However, the AEC maintained the same level of secrecy and used practically all of the same people. Uranium enrichment plants and plutonium production plants continued to produce more bomb-grade material as instructed by President Harry Truman. Bomb manufacturing and testing continued unabated, thus creating enormous amounts of radioactive waste.

These U.S. Weapons of Mass Destruction [WMDs] released primeval forces into the world in 1945 and obliterated 200,000 souls. I visited this shrine to the victims of Hiroshima in 2016. It contains the ashes of 70,000 people.



This tomb holds the ashes of 70,000 victims bombed in Hiroshima.

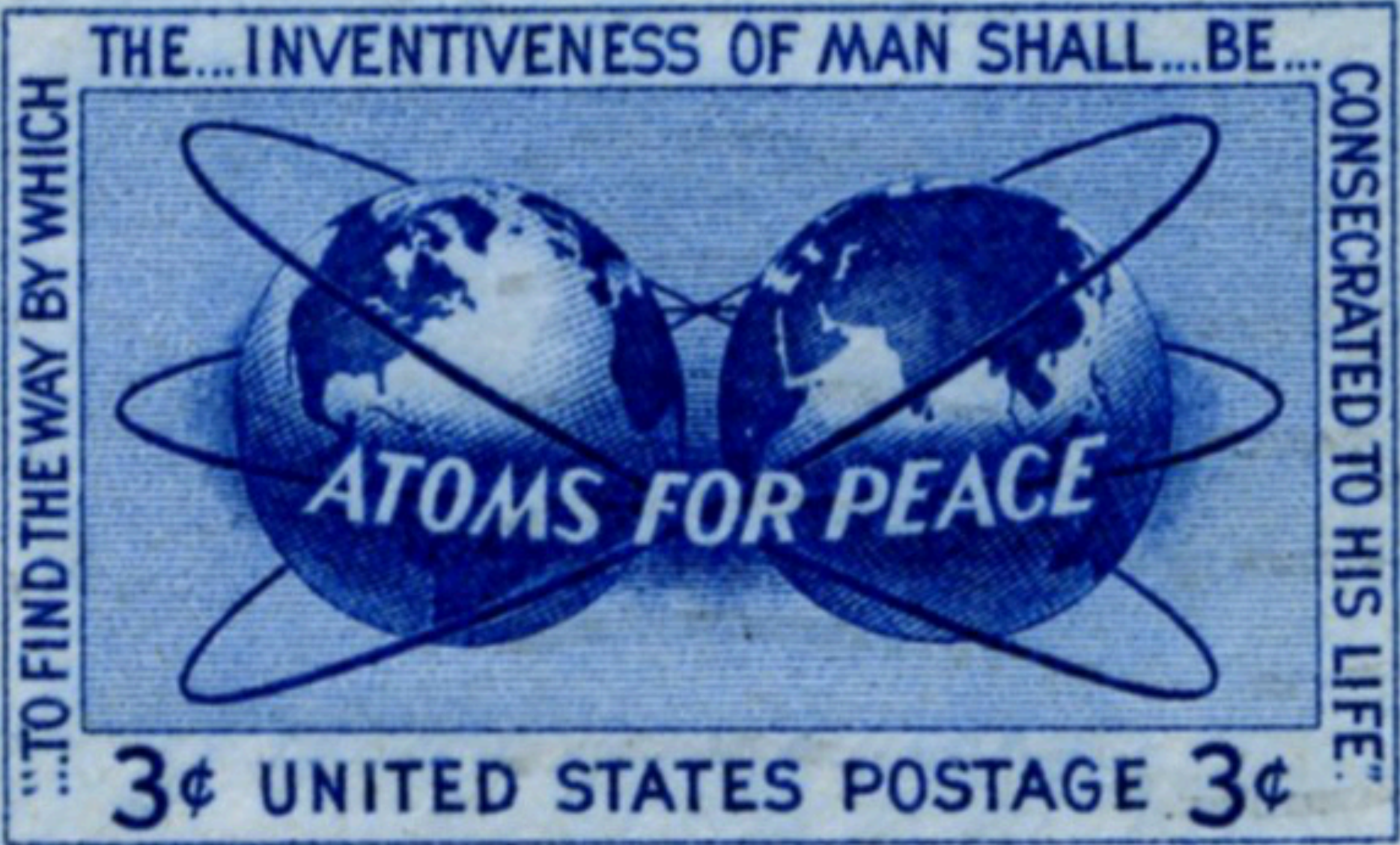


J Robert Oppenheimer, who is considered the *Father of the Atomic Bomb*, admitted in 1947 that the physicists who worked on the Manhattan Project could never atone for their sin.

*"In some sort of crude sense which no vulgarity, no humour, no overstatements can quite extinguish," he said two years after the Trinity explosion, "the physicists have known sin; and this is a knowledge which they cannot lose."*⁴

⁴ <https://www.wired.co.uk/article/manhattan-project-robert-oppenheimer>

President Dwight D. Eisenhower announced the Atoms for Peace Program in 1953 to solve “the fearful atomic dilemma” by finding some way in which “the miraculous inventiveness of man” “would not be dedicated to his death, but consecrated to his life.” I was surprised by Eisenhower’s use of the word *consecrate*, which according to the Oxford Dictionary, means “to make or declare sacred; dedicate formally to a religious or divine purpose”.



THE...INVENTIVENESS OF MAN SHALL...BE...

...TO FIND THE WAY BY WHICH

CONSECRATED TO HIS LIFE.

ATOMS FOR PEACE

3¢ UNITED STATES POSTAGE 3¢

Please do not underestimate the religious overtones in developing these Weapons of Mass Destruction [WMDs]. In an attempt to atone for this so-called original sin of creating WMDs [Weapons of Mass Destruction], Eisenhower consecrated nuclear fission in the Atoms for Peace program. Yet, the civilian atomic power program used the same people that initially created the A-bomb in secrecy. That is hardly making a fresh start. Even now, a U.S organization called Christians for Nuclear, whose members work inside the nuclear industry, claims:

*“We believe that God is the Creator of the Universe, which includes all nuclei, as well as radioactivity and nuclear energy, which we should therefore consider to be His good gifts to mankind. **We count it a privilege to be involved professionally in investigating and harnessing this source of God-given energy and making it available to benefit humankind.** [Emphasis Added].*

Before Eisenhower left office, he appointed Dr. Glenn Seaborg as Chairman of the Atomic Energy Commission [AEC]. Seaborg discovered Plutonium and determined in secrecy that it would cost less to make a plutonium bomb than a uranium bomb. Seaborg was the AEC [Atomic Energy Commission] Chair during the next ten years while atomic bomb construction and nuclear power plant development and construction were at their apex. Yet, during President Eisenhower's farewell address at the end of his presidency, he warned Americans to beware of the *Military-Industrial Complex*, a lesson we still have not learned.



Northeast Utilities Engineer Arnie Gundersen with a model of the proposed Montague Nuclear Power Plant planned for construction in Montague, Massachusetts. The reactor was never built.

Photo by Northeast Utilities
1973

And so, against the backdrop of Atoms for Peace, in 1971, I consecrated my career in the atomic priesthood as a newly-minted nuclear engineer in the U.S. atomic power industry. The nuclear industry is enormous, extraordinarily profitable, and with tenacious political and legal contacts with Washington Lobbyists and Law Firms. It shapes the laws that govern it and even controls who Congress appoints to the Nuclear Regulatory Commission to oversee it!

To be accepted into the Atomic Priesthood as I initially was, one must believe in the regulatory Echo Chamber. Regulators and the nuke industry use specific language and jargon, some call it Nukespeak, to frame all nuclear concepts inside a predetermined and agreed-upon box. This *predetermined regulatory framework* began in 1945 and still exists today anywhere in the world with nuclear power and weapons.

Let's quickly look at some of its lexica in place in the U.S.:

1. The industry uses terms like *Accident or Incident* instead of the underlying terms such as disaster, catastrophe, or meltdown.
2. During the 1970s, the U.S government dropped the word *Atomic*. It began to use the word *Nuclear* and disbanded the Atomic Energy Commission to form the Nuclear Regulatory Commission [NRC]. According to public opinion polls, more people were afraid of the word atomic than nuclear due to their terror over atomic bombs. In contrast, the term nuclear had no such negative connotations and instead is seen as technological advancement.

3. The entire atomic power industry has agreed upon a regulatory framework and terminology for Design Basis Accident [DBA] and Maximum Credible Accidents [MCAs] that have become the basis for the nuclear power industry's design calculations. For example, the American designers of Fukushima built an inexpensive 5-meter-high tsunami wall and considered the 5-meter-wall its MCA – Maximum Credible Accident. Unfortunately, the 15-meter-tsunami was not informed of nuclear power industry analyses when it chose to overwhelm the Fukushima Dai-ichi site. Colleagues, who left the nuke industry or outsiders who critique it, actually call MCA – the Maximum Cash Available. The DBA and MCA methodologies allow the construction of inexpensive structures that may be easily overwhelmed by disasters.

For those who were once inside atomic industries and then crossed over to other work or as whistleblowers, each one had an epiphany and realized that this regulatory framework made no sense, that *the emperor had no clothes*.

Let's listen to the words of Sergiy Parashyn, an engineer at Chernobyl, about his epiphany:

“We knew, with certainty, with arrogant certainty, that we were in control of the power we were playing with. This was the day... we learned we were wrong.”

My epiphany occurred in 1990. I was employed with the nuclear industry as a Senior Vice-President. After 20-years in the industry, I believed the NRC was tough and fair until I became a nuclear whistleblower.

1: Briefly, I uncovered radiation safety violations at Nuclear Energy Services / NES, my employer. When I tried to have the violations corrected by the company, the corporation's president fired me for doing my job. Then I went to the Nuclear Regulatory Commission / NRC and was shocked that it would not support me. The NRC deliberately distorted the follow-up investigation of my safety concerns and supported the company I had worked for.

- 2: Three years after I began fighting the NRC, I contacted Senator John Glenn, the former astronaut and my childhood hero. Senator Glenn held whistleblower hearings in which I testified and was commended for my actions, while Senator Glenn lambasted the NRC. Ivan Selin, then the NRC Chair, even told Senator Glenn that I was a hero who performed quite a service to my country. Yet behind the scenes, Selin, a Republican appointee and significant donor to the Republican party, did absolutely nothing, even after the Inspector General's investigation showed that NRC personnel had purposely lied and covered up my findings.
- 3: After the Glenn hearings, a prominent Nuclear Industry attorney and former colleague told me, "Arnie, in this business, you're either for us or against us, and you just crossed the line."

It was then I realized that *this NRC leopard would never change its spots*. The roots of atomic power regulation date back to the secrecy of creating Weapons of Mass Destruction [WMDs]. While secrecy has blocked public input, the nuclear industry has grown wealthy beyond imagination through intertwined relations among regulators and the military-industrial complex.

Regulatory Capture presupposes that at some point, the regulator has been independent. Instead, I have discovered that regulation of the atomic industry has *never* been independent and never protected public health and welfare. Long ago, during the 1940s, ***Nuclear Regulators were not Captured by the military-industrial complex. Instead, Regulators Colluded with it in secrecy.***



30th DAY in Hiroshima: Those who escaped begin to die, victims of—

THE ATOMIC PLAGUE

'I write this as a warning to the world'

DOCTORS FALL AS THEY WORK

THE PICTURE THAT DOES NOT TELL THE WHOLE STORY

Poison gas fear: All wear masks

Express Staff Reporter PETER BURGATE

THE 30th DAY after the first atomic bomb destroyed the city and struck the world, people are still being murdered and horribly—people who were unharmed in the gas/atom— from an unknown something which I can only describe as the atomic plague.

HIROSHIMA, Tuesday

In Hiroshima 30 days after the first atomic bomb destroyed the city and struck the world, people are still being murdered and horribly—people who were unharmed in the gas/atom— from an unknown something which I can only describe as the atomic plague.

**3,320,173
AMAZES
AMERICA**

'Most powerful in the world'

NEW YORK (AP)—The atomic bomb is the most powerful weapon ever invented, and it is the most powerful in the world, according to a report by the United States Atomic Energy Commission.

Hiroshima does not look like a bombed city. It looks as if a massive steamroller had passed over it and smoothed it out of existence. I write these facts as dispassionately as I can in the hope that they will act as a warning to the world.

In the few weeks since the atomic bomb was dropped on Hiroshima, the city has been almost completely destroyed. The damage is far greater than anything we have seen.

When the atom is released, it is the most powerful force in the world. It is the most powerful in the world, and it is the most powerful in the world.

STILL THEY FALL
There is still a lot of suffering and death in Hiroshima. The atomic plague is still killing people, and it is still killing people.



MAN IS STABBED DURING DANCE
Street Rabble Falls in West End

Forces may cut meat ration
MORE FOR CIVILIANS?
Express Staff Reporter

SPAIN TO SHARE IN TANGIER
Bel. France takes word of deal

The big switch: 'Over by spring'

UNITED STATES... The big switch is expected to be made by spring.

4.30 LATEST

PRISONERS RUN JAP CITIES

PRISONERS RUN JAP CITIES... The prisoners are running the Japanese cities.

Completed 100 and more

Completed 100 and more... The project is completed and more work is being done.

In the Nuclear Industry, Regulatory Capture Is Regulatory Collusion

1. The Aftermath of the World War II Atomic Bombs

Immediately after the U.S. dropped atomic bombs on Hiroshima and Nagasaki, the U.S. military swept into Japan. It began its top-secret efforts to prevent the publication of any photographs showing the devastation created by the Atomic Bombs.

2. The Windscale Nuclear Reactor Fire in the U.K. in 1957

In 1988⁵, the *New York Times* surprised the world with an article about Britain's Windscale Nuclear Weapons Reactor entitled: *Britain Suppressed Details of [1957] '57 Atomic Disaster*. In 2014 several public advocacy groups concerned about levels of radioactivity caused by Windscale's 1957 meltdown asked me to travel to the U.K. to speak about the meltdown and the Sellafield Waste Site now located there. Shortly after I arrived, some public officials banned me from speaking at a public venue because my opinions on atomic safety were considered too controversial.

⁵ <https://www.nytimes.com/1988/01/02/world/britain-suppressed-details-of-57-atomic-disaster.html>

- 3. Chernobyl – *Manual for Survival, A Chernobyl Guide to the Future*,**
by Dr. Kate Brown of MIT (Massachusetts Institute of Technology), is based on 7-
years of research through documents covering the details of the Chernobyl meltdown
in Ukraine. The New York Times wrote⁶, “Her villains include not only the lying,
negligent Soviet authorities but also the Western governments and international
agencies that, in her account, have worked for decades to downplay or conceal the
human and ecological cost of nuclear war, nuclear tests, and nuclear accidents.
- 4. In 1999, I was invited to the Czech Republic by Hnuti DUHA**
to testify to Parliament against the start-up of the Temelin Atomic Reactor, Units 1
and 2. After my testimony, the government finally permitted us to inspect the Temelin
reactors. Before entering the plant, *we were intimidated by a strip search*. While we
were in the plant, *we were further intimidated by four guards with fully automatic AK-
47s* who followed us everywhere while we inspected the reactor for safety flaws.

⁶ [The Chernobyl Syndrome, NYBooks.com](https://www.nybooks.com/articles/1996/03/11/the-chernobyl-syndrome/)

5. In March of 2012, Japan’s Diet Commission (the Diet is Japan’s Parliament) released its report on the causes of the triple meltdowns at Fukushima Dai-ichi. Here is a small sampling of what the Commission said:

As Japan pushed nuclear power generation as national policy with the political, bureaucratic, and business circles in perfect coordination, an intricate form of “Regulatory Capture” was created. ... Undeniably, this accident was a “manmade disaster” that stemmed from the lack of a sense of responsibility in protecting the lives of the people and the society by present and past government administrations, regulators and TEPCO.⁷

⁷ Page 3, Preface The National Diet of Japan Fukushima Nuclear Accident Independent Investigation Commission
<https://www.mhmjapan.com/content/files/00002247/report.pdf>

集英社新書

事故直後、いち早く
メルトダウン、レベル7を見抜いた
米専門家が

警告!

米原子力技術者

アーニー・ガンダーセン

福島第一原発
—真相と展望

岡崎玲子=訳 ● 定価735円(税込)



***Fukushima Dai-ichi:
The Truth
And The Way Forward***

*Written by
Arnie Gundersen,
Reiko Okazaki,
& Maggie Gundersen*

*Published by Shueisha Publishing
Tokyo, Japan
January 2012*

6. **My wife Maggie and I wrote a book** in Japanese with barrister Reiko Okazaki about the triple meltdowns at Fukushima. On a speaking tour about the book, I met former Prime Minister Naoto Kan, who told me, “*The information I received was neither timely nor accurate*”. Such a statement aptly explains the power and arrogance of an industry and its regulators who would so blatantly lie to their own Prime Minister.


In Conclusion, with its history based on designing Weapons of Mass Destruction in secret, enormous taxpayer funding, and no public oversight, it is foolish for people around the globe to expect Atomic Regulators to care about public health and welfare.

A leopard cannot change its spots. Let's look back to the creation of the atomic bomb and understand through history how that WMD mindset created what we have called Regulatory Capture. We now know that from the beginning, it has been Regulatory Collusion.

Fortunately for all of us on this planet, new technologies in the form of renewables – like solar, wind, wave action, and geothermal, battery storage, and conservation are poised to take over our energy economy and end the old atomic paradigm.

As Buckminster Fuller said,

***“You never change things by fighting the existing reality.
To change something, build a new model that makes the existing
model obsolete.”***



“YOU NEVER CHANGE THINGS BY
FIGHTING THE EXISTING REALITY.
TO CHANGE SOMETHING, BUILD A
NEW MODEL THAT MAKES THE
EXISTING MODEL OBSOLETE.”

- **BUCKMINSTER FULLER**



Arnie Gundersen, Chief Engineer Fairewinds Energy Education

**Nuclear Engineering, Safety, and Reliability Expert
50-years of nuclear industry experience and oversight**

ME NE

**Master of Engineering Nuclear Engineering
Rensselaer Polytechnic Institute, 1972
U.S. Atomic Energy Commission Fellowship
Thesis: Cooling Tower Plume Rise**

BS NE

**Bachelor of Science Nuclear Engineering
Rensselaer Polytechnic Institute, 1971, Cum Laude
James J. Kerrigan Scholar**

RO

**Licensed Reactor Operator
U.S. Atomic Energy Commission
License # OP-3014**



As you know well in Europe, and as Fairewinds has always said, “Radiation Knows No Borders”

~END~

