

# **Atomic Accidents A History Of Nuclear Meltdowns And Disasters From The Ozark Mountains To Fukushima Ebook James Mahaffey**

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Accidents A History Of Nuclear Meltdowns And Disasters From The Ozark Mountains To Fukushima Ebook James Mahaffey is universally compatible next any devices to read.

### **Atomic Accidents by James Mahaffey - A 30-minute Instaread Summary** - Instaread

Summaries 2014-10-17

PLEASE NOTE: This is a summary of the book and NOT the original book. Atomic Accidents by James Mahaffey - A 30-minute Instaread Summary Inside this Instaread Summary: • Overview of the entire book • Introduction to the important people in the book • Summary and analysis of all the chapters in the book • Key Takeaways of the book • A Reader's Perspective Preview of this summary: Introduction Water in the form of steam has always intrigued and terrified people. Steam locomotives were fascinating in their heyday. They tended to explode, crash into each other and run off the rails. Some people were so afraid of this technology, they would not ride trains. However,

everyone seemed to love watching staged train crashes. This entertainment was popular from the 1890s until the 1930s. One impresario of the staged crash was William “Bill” Crush, an agent for a Texas railroad. Forty thousand people witnessed his first crash staged near Waco in 1896. Crush knew little about the mechanics of steam engines, but insisted his hundred-mile-an-hour crash would be safe. He was wrong. The resulting boiler explosion killed three and injured six. Another promoter, “Head-On” Joe Connelly, was more successful. He staged seventy-three crashes without killing anyone. Unlike Crush, he knew he had to keep the train speed down and hold spectators back. The last staged crash of this type was in 1935. The fear of steam explosions never left the public’s mind. When engineers began developing nuclear

power, they believed that steam explosions were the major challenge to safety. Although other methods were investigated, boiling water was, and still is, the cheapest and most reliable way to collect energy produced at a power plant. Therefore, it was not a challenge that could be worked around when designing a nuclear power plant. Additionally, steam from a nuclear plant accident can spread radiation. In fact, during the Cold War, public fear of radiation was more intense than fear of steam locomotives ever was.

Chapter 1 In November 1879, three hunters in the Ozarks found a cave filled with a weird vein of silvery-blue metal. They had to flee when they became dizzy, disoriented and short of breath. One of the hunters, Billy Henry, broke out in strange sores. He recovered and the story was forgotten. In Europe, neon lights and X-rays were discovered as scientists unraveled the mysteries of the atom. Radiology was discovered in the United States by Nikola Tesla, but he did not pursue practical applications, so Wilhelm

Rontgen of Germany got the honor of introducing radiology to the world. Tesla decided to take another look and stuck his head in an X-ray beam for science. He developed blisters and other wounds. He advised everyone to avoid radiation...

### **Lessons Learned from the Fukushima Nuclear Accident for Improving Safety of U.S. Nuclear Plants** - National Research

Council (U.S.). Committee on Lessons Learned from the Fukushima Nuclear Accident for Improving Safety and Security of U.S. Nuclear Plants 2014-10-29

The March 11, 2011, Great East Japan Earthquake and tsunami sparked a humanitarian disaster in northeastern Japan. They were responsible for more than 15,900 deaths and 2,600 missing persons as well as physical infrastructure damages exceeding \$200 billion. The earthquake and tsunami also initiated a severe nuclear accident at the Fukushima Daiichi Nuclear Power Station. Three of the six

reactors at the plant sustained severe core damage and released hydrogen and radioactive materials. Explosion of the released hydrogen damaged three reactor buildings and impeded onsite emergency response efforts. The accident prompted widespread evacuations of local populations, large economic losses, and the eventual shutdown of all nuclear power plants in Japan. "Lessons Learned from the Fukushima Nuclear Accident for Improving Safety and Security of U.S. Nuclear Plants" is a study of the Fukushima Daiichi accident. This report examines the causes of the crisis, the performance of safety systems at the plant, and the responses of its operators following the earthquake and tsunami. The report then considers the lessons that can be learned and their implications for U.S. safety and storage of spent nuclear fuel and high-level waste, commercial nuclear reactor safety and security regulations, and design improvements. "Lessons Learned" makes recommendations to improve

plant systems, resources, and operator training to enable effective ad hoc responses to severe accidents. This report's recommendations to incorporate modern risk concepts into safety regulations and improve the nuclear safety culture will help the industry prepare for events that could challenge the design of plant structures and lead to a loss of critical safety functions. In providing a broad-scope, high-level examination of the accident, "Lessons Learned" is meant to complement earlier evaluations by industry and regulators. This in-depth review will be an essential resource for the nuclear power industry, policy makers, and anyone interested in the state of U.S. preparedness and response in the face of crisis situations.

**Idaho Falls** - William McKeown 2003-04-01  
The little-known true story of a mysterious nuclear reactor disaster—years before Three Mile Island, Chernobyl, or Fukushima. Before the Three Mile Island incident or the Chernobyl disaster, the world's first nuclear reactor

meltdown to claim lives happened on US soil. Chronicled here for the first time is the strange tale of SL-1, an experimental military reactor located in Idaho's Lost River Desert that exploded on the night of January 3, 1961, killing the three crewmembers on duty. Through exclusive interviews with the victims' families and friends, firsthand accounts from rescue workers and nuclear industry insiders, and extensive research into official documents, journalist William McKeown probes the many questions surrounding this devastating blast that have gone unanswered for decades. From reports of faulty design and mismanagement to incompetent personnel and even rumors of sabotage after a failed love affair, these plausible explanations raise startling new questions about whether the truth was deliberately suppressed to protect the nuclear energy industry.

**The Upstarts** - Brad Stone 2017-01-31

A look deep inside the new Silicon Valley, from

the New York Times bestselling author of *The Everything Store*. Ten years ago, the idea of getting into a stranger's car, or a walking into a stranger's home, would have seemed bizarre and dangerous, but today it's as common as ordering a book online. Uber and Airbnb have ushered in a new era: redefining neighborhoods, challenging the way governments regulate business, and changing the way we travel. In the spirit of iconic Silicon Valley renegades like Steve Jobs and Bill Gates, another generation of entrepreneurs is using technology to upend convention and disrupt entire industries. These are the upstarts, idiosyncratic founders with limitless drive and an abundance of self-confidence. Led by such visionaries as Travis Kalanick of Uber and Brian Chesky of Airbnb, they are rewriting the rules of business and often sidestepping serious ethical and legal obstacles in the process. *The Upstarts* is the definitive story of two new titans of business and a dawning age of tenacity, conflict and wealth.

In Brad Stone's riveting account of the most radical companies of the new Silicon Valley, we discover how it all happened and what it took to change the world.

*Devastating Nuclear Accidents throughout History: Causes and Results - Science Book for Kids 9-12 | Children's Science & Nature Books - Baby Professor 2017-07-15*

Historical facts will give you either joy or sadness. In this case, you will experience deep sadness as you go over some of the Devastating Nuclear Accidents throughout History. You will be reading about what happened then and why it happened. The causes and results of such accidents should be taken into account for a deeper understanding of the risks of nuclear energy. Buy a copy now!

[Summary of Atomic Accidents: a History of Nuclear Meltdowns and Disasters from the Ozark Mountains to Fukushima by James Mahaffey](#) - BestPrint 2021-09-04

Atomic Accidents (2014) explores the evolution

of one of the most fascinating and yet controversial technologies of our times, nuclear energy. These blinks explore the development of nuclear technology and reveal the details behind the tragic accidents that occurred along the way.

**Plutopia** - Kate Brown 2013-03-15

While many transnational histories of the nuclear arms race have been written, Kate Brown provides the first definitive account of the great plutonium disasters of the United States and the Soviet Union. In Plutopia, Brown draws on official records and dozens of interviews to tell the extraordinary stories of Richland, Washington and Ozersk, Russia--the first two cities in the world to produce plutonium. To contain secrets, American and Soviet leaders created plutopias--communities of nuclear families living in highly-subsidized, limited-access atomic cities. Fully employed and medically monitored, the residents of Richland and Ozersk enjoyed all the pleasures of consumer society, while nearby, migrants,

prisoners, and soldiers were banned from plutopia--they lived in temporary "staging grounds" and often performed the most dangerous work at the plant. Brown shows that the plants' segregation of permanent and temporary workers and of nuclear and non-nuclear zones created a bubble of immunity, where dumps and accidents were glossed over and plant managers freely embezzled and polluted. In four decades, the Hanford plant near Richland and the Maiak plant near Ozersk each issued at least 200 million curies of radioactive isotopes into the surrounding environment--equating four Chernobyls--laying waste to hundreds of square miles and contaminating rivers, fields, forests, and food supplies. Because of the decades of secrecy, downwind and downriver neighbors of the plutonium plants had difficulty proving what they suspected, that the rash of illnesses, cancers, and birth defects in their communities were caused by the plants' radioactive emissions. Plutopia was successful

because in its zoned-off isolation it appeared to deliver the promises of the American dream and Soviet communism; in reality, it concealed disasters that remain highly unstable and threatening today. An untold and profoundly important piece of Cold War history, Plutopia invites readers to consider the nuclear footprint left by the arms race and the enormous price of paying for it.

Meltdown - Joel Levy 2021-11-09

Meltdown investigates and recreates the dramatic events behind the most notorious nuclear accidents in history, as well as those shrouded in secrecy. Combining human tragedy with intriguing science, each account reveals new aspects of humanity's complex relationship with nuclear power and the ongoing struggle to harness and control it. From the pioneers of Los Alamos who got up close and personal with the cores of atomic bombs, to the hapless engineers in Soviet fuel-processing plants who unwittingly mixed up a disaster in a bucket, and from the

terrifying impact of a tsunami at Fukushima to the mystery of the recent Russian incident, Meltdown explores the past and future of this extraordinary and potentially lethal source of infinite power.

Atomic Accidents - James Maheffey 2021-08-31

From the moment radiation was discovered in the late nineteenth century, nuclear science has had a rich history of innovative scientific exploration and discovery, coupled with mistakes, accidents, and downright disasters. Mahaffey, a long-time advocate of continued nuclear research and nuclear energy, looks at each incident in turn and analyzes what happened and why, often discovering where scientists went wrong when analyzing past meltdowns. Every incident has led to new facets in understanding about the mighty atom—and Mahaffey puts forth what the future should be for this final frontier of science that still holds so much promise.

*Nuclear Disaster in the Urals* - Zhores Medvedev

1979-07

Late in 1957 a huge explosion occurred in the disposal section of the Soviet atomic weapons industry located in the Southern Urals where atomic wastes had been stored for over ten years. The result was devastating. The primary radioactive contamination covered between 800 and 1200 square miles, an area almost as large as Rhode Island. People died--whole villages had to be evacuated and bulldozed. All that remained, both plant and animal life, received such a massive dose of radiation that its effects will probably be felt for as long as a century.

**Three Mile Island** - J. Samuel Walker

2004-03-22

On March 28, 1979, the worst accident in the history of commercial nuclear power in the United States occurred at Three Mile Island. For five days, the citizens of central Pennsylvania and the entire world, amid growing alarm, followed the efforts of authorities to prevent the crippled plant from spewing dangerous



quantities of radiation into the environment. This book is the first comprehensive, moment-by-moment account of the causes, context, and consequences of the Three Mile Island crisis. Walker captures the high human drama surrounding the accident, sets it in the context of the heated debate over nuclear power in the seventies, and analyzes the social, technical, and political issues it raised. He also looks at the aftermath of the accident on the surrounding area, including studies of its long-term health effects on the population.--From publisher description.

Nuclear Accidents and Disasters - James A. Mahaffey 2012

Nuclear Power is a six-volume set that explores the science, mechanisms, divergent developments, dangers, successes, disasters, and lessons [earned by a complex industry that will influence society for generations. Nuclear technology today is focused on issues related to dwindling energy resources and minimizing

negative environmental effects, yet it was first developed under military secrecy because of its destructive capability. The books in this set, designed to complement science curricula, detail this conflicted history, the expansion of nuclear power in the near future, and the potential need for it as humankind penetrates the greater universe. For more than half a century, the world has used nuclear power as a cleaner and more efficient alternative to the energy-production processes of the past. Yet over the years, nuclear power has proven not to be without danger, as meltdowns and other incidents worldwide have shown. Nuclear Accidents and Disasters features some of the most significant of these incidents, examining their long- and short-term damage, causes, and the lessons learned within the nuclear-power industry from their occurrence. In addition to discussions of such events as the nuclear meltdowns at Chernobyl, Three Mile Island, and Chalk River, this volume includes a special

sidebar dedicated to an analysis of the 2011 disaster at the Fukushima I Nuclear Power Plant in Japan. The volume also includes information on fuel-processing facilities the ghost village of Prypiat nuclear reactors, safety concerns nuclear reactors, types of nuclear reactors in space radiation sickness Santa Susana Field Laboratory the Windscale fire The book contains more than 40 color photographs and four-color line illustrations, sidebars, a chronology, a glossary, a detailed list of print and Internet resources, and an index. Nuclear Power is essential for high school students, teachers, and general readers who wish to learn about the present and future impact of this branch of technology on the global environment. Book jacket.

Atomic Accidents - Jim Mahaffey 2014-02-04

A “delightfully astute” and “entertaining” history of the mishaps and meltdowns that have marked the path of scientific progress (Kirkus Reviews, starred review). Radiation: What could go

wrong? In short, plenty. From Marie Curie carrying around a vial of radium salt because she liked the pretty blue glow to the large-scale disasters at Chernobyl and Fukushima, dating back to the late nineteenth century, nuclear science has had a rich history of innovative exploration and discovery, coupled with mistakes, accidents, and downright disasters. In this lively book, long-time advocate of continued nuclear research and nuclear energy James Mahaffey looks at each incident in turn and analyzes what happened and why, often discovering where scientists went wrong when analyzing past meltdowns. Every incident, while taking its toll, has led to new understanding of the mighty atom—and the fascinating frontier of science that still holds both incredible risk and great promise.

*Manual for Survival* - Kate Brown 2019-03-12  
Governments and journalists tell us that though Chernobyl was "the worst nuclear disaster in history," a reassuringly small number of people

died (44), and nature recovered. Yet, drawing on a decade of fine-grained archival research and interviews in Ukraine, Russia, and Belarus, Kate Brown uncovers a much more disturbing story, one in which radioactive isotopes caused hundreds of thousands of casualties. Scores of Soviet scientists, bureaucrats, and civilians documented stunning increases in cases of birth defects, child mortality, cancers, and a multitude of prosaic diseases, which they linked to Chernobyl. Worried that this evidence would blow the lid on the effects of massive radiation release from weapons testing during the Cold War, international scientists and diplomats tried to bury or discredit it. A haunting revelation of how political exigencies shape responses to disaster, *Manual for Survival* makes clear the irreversible impact on every living thing not just from Chernobyl, but from eight decades of radiation from nuclear energy and weaponry. *Meltdown* - Yoichi Funabashi 2019-01-29  
The human drama, and long-term lessons, of the

Fukushima nuclear disaster The Fukushima nuclear disaster in March 2011 presented an enormous challenge even to Japan, one of the world's most advanced and organized countries. Failures at all levels—of both the government and the private sector—worsened the human and economic impact of the disaster and ensured that the consequences would continue for many years to come. Based on interviews with more than 300 government officials, power plant operators, and military personnel during the years since the disaster, *Meltdown* is a meticulous recounting and analysis of the human stories behind the response to the Fukushima disaster. While the people battling to deal with the crisis at the site of the power plant were risking their lives, the government at the highest levels in Tokyo was in disarray and the utility company that operated the plants seemed focused more on power struggles with the government than on dealing with the crisis. The author, one of Japan's most eminent journalists,

provides an unrivaled chronological account of the immediate two weeks of human struggle to contain man-made technology that was overwhelmed by nature. Yoichi Funabashi gives insights into why Japan's decisionmaking process failed almost as dramatically as had the Fukushima nuclear reactors, which went into meltdown following a major tsunami. Funabashi uses the Fukushima experience to draw lessons on leadership, governance, disaster resilience, and crisis management—lessons that have universal application and pertinence for an increasingly technology-driven and interconnected global society.

**Atomic Adventures: Secret Islands, Forgotten N-Rays, and Isotopic Murder: A Journey into the Wild World of Nuclear Science** - James Mahaffey 2017-06-06

The latest investigation from acclaimed nuclear engineer and author James Mahaffey unearths forgotten nuclear endeavors throughout history that were sometimes hair-brained, often risky,

and always fascinating. Whether you are a scientist or a poet, pro-nuclear energy or staunch opponent, conspiracy theorist or pragmatist, James Mahaffey's books have served to open up the world of nuclear science like never before. With clear explanations of some of the most complex scientific endeavors in history, Mahaffey's new book looks back at the atom's wild, secretive past and then toward its potentially bright future. Mahaffey unearths lost reactors on far flung Pacific islands and trees that were exposed to active fission that changed gender or bloomed in the dead of winter. He explains why we have nuclear submarines but not nuclear aircraft and why cold fusion doesn't exist. And who knew that radiation counting was once a fashionable trend? Though parts of the nuclear history might seem like a fiction mash-up, where cowboys somehow got a hold of a reactor, Mahaffey's vivid prose holds the reader in thrall of the infectious energy of scientific curiosity and ingenuity that may one day hold

the key to solving our energy crisis or sending us to Mars.

**The Demography of Disasters** - Dávid Karácsonyi 2020-09-17

This open access book provides worldwide examples demonstrating the importance of the interplay between demography and disasters in regions and spatially. It marks an advance in practical and theoretical insights for understanding the role of demography in planning for and mitigating impacts from disasters in developed nations. Both slow onset (like the loss of polar ice from climate change) and sudden disasters (such as cyclones and man-made disasters) have the capacity to fundamentally change the profiles of populations at local and regional levels. Impacts vary according to the type, rapidity and magnitude of the disaster, but also according to the pre-existing population profile and its relationships to the economy and society. In all cases, the key to understanding impacts and avoiding them in

the future is to understand the relationships between disasters and population change. In most chapters in this book we compare and contrast studies from at least two cases and summarize their practical and theoretical lessons.

*Atomic Awakening: A New Look at the History and Future of Nuclear Power* - James Mahaffey 2010-10-15

"Persuasive and based on deep research. Atomic Awakening taught me a great deal."—Nature  
The American public's introduction to nuclear technology was manifested in destruction and death. With Hiroshima and the Cold War still ringing in our ears, our perception of all things nuclear is seen through the lens of weapons development. Nuclear power is full of mind-bending theories, deep secrets, and the misdirection of public consciousness, some deliberate, some accidental. The result of this fixation on bombs and fallout is that the development of a non-polluting, renewable

energy source stands frozen in time. Outlining nuclear energy's discovery and applications throughout history, Mahaffey's brilliant and accessible book is essential to understanding the astounding phenomenon of nuclear power in an age where renewable energy and climate change have become the defining concerns of the twenty-first century.

**Command and Control** - Eric Schlosser

2014-08-26

The Oscar-shortlisted documentary *Command and Control*, directed by Robert Kenner, finds its origins in Eric Schlosser's book and continues to explore the little-known history of the management and safety concerns of America's nuclear arsenal. "A devastatingly lucid and detailed new history of nuclear weapons in the U.S. Fascinating." —Lev Grossman, *TIME* Magazine "Perilous and gripping . . . Schlosser skillfully weaves together an engrossing account of both the science and the politics of nuclear weapons safety." —San Francisco Chronicle A

myth-shattering exposé of America's nuclear weapons. Famed investigative journalist Eric Schlosser digs deep to uncover secrets about the management of America's nuclear arsenal. A groundbreaking account of accidents, near misses, extraordinary heroism, and technological breakthroughs, *Command and Control* explores the dilemma that has existed since the dawn of the nuclear age: How do you deploy weapons of mass destruction without being destroyed by them? That question has never been resolved—and Schlosser reveals how the combination of human fallibility and technological complexity still poses a grave risk to mankind. While the harms of global warming increasingly dominate the news, the equally dangerous yet more immediate threat of nuclear weapons has been largely forgotten. Written with the vibrancy of a first-rate thriller, *Command and Control* interweaves the minute-by-minute story of an accident at a nuclear missile silo in rural Arkansas with a historical

narrative that spans more than fifty years. It depicts the urgent effort by American scientists, policy makers, and military officers to ensure that nuclear weapons can't be stolen, sabotaged, used without permission, or detonated inadvertently. Schlosser also looks at the Cold War from a new perspective, offering history from the ground up, telling the stories of bomber pilots, missile commanders, maintenance crews, and other ordinary servicemen who risked their lives to avert a nuclear holocaust. At the heart of the book lies the struggle, amid the rolling hills and small farms of Damascus, Arkansas, to prevent the explosion of a ballistic missile carrying the most powerful nuclear warhead ever built by the United States. Drawing on recently declassified documents and interviews with people who designed and routinely handled nuclear weapons, *Command and Control* takes readers into a terrifying but fascinating world that, until now, has been largely hidden from view. Through the details of a single accident,

Schlosser illustrates how an unlikely event can become unavoidable, how small risks can have terrible consequences, and how the most brilliant minds in the nation can only provide us with an illusion of control. Audacious, gripping, and unforgettable, *Command and Control* is a tour de force of investigative journalism, an eye-opening look at the dangers of America's nuclear age.

*Atoms and Ashes: A Global History of Nuclear Disasters* - Serhii Plokyh 2022-05-17

A chilling account of more than half a century of nuclear catastrophes, by the author of the "definitive" (Economist) Cold War history, *Nuclear Folly*. Almost 145,000 Americans fled their homes in and around Harrisburg, Pennsylvania, in late March 1979, hoping to save themselves from an invisible enemy: radiation. The reactor at the nearby Three Mile Island nuclear power plant had gone into partial meltdown, and scientists feared an explosion that could spread radiation throughout the

eastern United States. Thankfully, the explosion never took place—but the accident left deep scars in the American psyche, all but ending the nation’s love affair with nuclear power. In *Atoms and Ashes*, Serhii Plokhly recounts the dramatic history of Three Mile Island and five more accidents that have dogged the nuclear industry in its military and civil incarnations: the disastrous fallout caused by the testing of the hydrogen bomb in the Bikini Atoll in 1954; the Kyshtym nuclear disaster in the USSR, which polluted a good part of the Urals; the Windscale fire, the worst nuclear accident in the UK’s history; back to the USSR with Chernobyl, the result of a flawed reactor design leading to the exodus of 350,000 people; and, most recently, Fukushima in Japan, triggered by an earthquake and a tsunami, a disaster on a par with Chernobyl and whose clean-up will not take place in our lifetime. Through the stories of these six terrifying incidents, Plokhly explores the risks of nuclear power, both for military and

peaceful purposes, while offering a vivid account of how individuals and governments make decisions under extraordinary circumstances. Today, there are 440 nuclear reactors operating throughout the world, with nuclear power providing 10 percent of global electricity. Yet as the world seeks to reduce carbon emissions to combat climate change, the question arises: Just how safe is nuclear energy?

### **Environmental Consequences of the Chernobyl Accident and Their Remediation -**

International Atomic Energy Agency 2006

The explosion on 26 April 1986 at the Chernobyl nuclear power plant and the consequent reactor fire resulted in an unprecedented release of radioactive material from a nuclear reactor and adverse consequences for the public and the environment. Although the accident occurred nearly two decades ago, controversy still surrounds the real impact of the disaster. Therefore the IAEA, in cooperation with other UN bodies, the World Bank, as well as the



competent authorities of Belarus, the Russian Federation and Ukraine, established the Chernobyl Forum in 2003. The mission of the Forum was to generate 'authoritative consensual statements' on the environmental consequences and health effects attributable to radiation exposure arising from the accident as well as to provide advice on environmental remediation and special health care programmes, and to suggest areas in which further research is required. This report presents the findings and recommendations of the Chernobyl Forum concerning the environmental effects of the Chernobyl accident.

**Nuclear Folly: A History of the Cuban Missile Crisis** - Serhii Plokhy 2021-04-13

"The definitive history....With his masterly book, Mr. Plokhy has sounded a warning bell." — The Economist A harrowing account of the Cuban missile crisis and how the US and USSR came to the brink of nuclear apocalypse. Nearly thirty years after the end of the Cold War, today's

world leaders are abandoning disarmament treaties, building up their nuclear arsenals, and exchanging threats of nuclear strikes. To survive this new atomic age, we must relearn the lessons of the most dangerous moment of the Cold War: the Cuban missile crisis. Serhii Plokhy's *Nuclear Folly* offers an international perspective on the crisis, tracing the tortuous decision-making that produced and then resolved it, which involved John Kennedy and his advisers, Nikita Khrushchev and Fidel Castro, and their commanders on the ground. In breathtaking detail, Plokhy vividly recounts the young JFK being played by the canny Khrushchev; the hotheaded Castro willing to defy the USSR and threatening to align himself with China; the Soviet troops on the ground clearing jungle foliage in the tropical heat, and desperately trying to conceal nuclear installations on Cuba, which were nonetheless easily spotted by U-2 spy planes; and the hair-raising near misses at sea that nearly caused a

Soviet nuclear-armed submarine to fire its weapons. More often than not, the Americans and Soviets misread each other, operated under false information, and came perilously close to nuclear catastrophe. Despite these errors, nuclear war was ultimately avoided for one central reason: fear, and the realization that any escalation on either the Soviets' or the Americans' part would lead to mutual destruction. Drawing on a range of Soviet archival sources, including previously classified KGB documents, as well as White House tapes, Plokhy masterfully illustrates the drama and anxiety of those tense days, and provides a way for us to grapple with the problems posed in our present day.

*Atoms and Ashes* - Serhii Plokhy 2022-05-05

In 2011, a 43-foot-high tsunami crashed into a nuclear power plant in Fukushima, Japan. In the following days, explosions would rip buildings apart, three reactors would go into nuclear meltdown, and the surrounding area would be

swamped in radioactive water. It is now considered one of the costliest nuclear disasters ever. But Fukushima was not the first, and it was not the worst. . . In *Atoms and Ashes*, acclaimed historian Serhii Plokhy tells the tale of the six nuclear disasters that shook the world: Bikini Atoll, Kyshtym, Windscale, Three Mile Island, Chernobyl and Fukushima. Based on wide-ranging research and witness testimony, Plokhy traces the arc of each crisis, exploring in depth the confused decision-making on the ground and the panicked responses of governments to contain the crises and cover up the scale of each catastrophe. As the world increasingly looks to renewable and alternative sources of energy, Plokhy lucidly argues that the atomic risk must be understood in explicit terms, but also that these calamities reveal a fundamental truth about our relationship with nuclear technology: that the thirst for power and energy has always trumped safety and the cost for future generations.

*Policy Shock* - Edward J. Balleisen 2017-11-02  
In this book, compelling case studies show how past crises have reshaped regulation, and how policy-makers can learn from crises in the future.

**Chernobyl** - Serhii Plokhly 2018-05-15  
A Chernobyl survivor and the New York Times bestselling author of *The Gates of Europe* "mercilessly chronicles the absurdities of the Soviet system" in this "vividly empathetic" account of the worst nuclear accident in history (Wall Street Journal). On the morning of April 26, 1986, Europe witnessed the worst nuclear disaster in history: the explosion of a reactor at the Chernobyl Nuclear Power Plant in Soviet Ukraine. Dozens died of radiation poisoning, fallout contaminated half the continent, and thousands fell ill. In *Chernobyl*, Serhii Plokhly draws on new sources to tell the dramatic stories of the firefighters, scientists, and soldiers who heroically extinguished the nuclear inferno. He lays bare the flaws of the Soviet nuclear

industry, tracing the disaster to the authoritarian character of the Communist party rule, the regime's control over scientific information, and its emphasis on economic development over all else. Today, the risk of another Chernobyl looms in the mismanagement of nuclear power in the developing world. A moving and definitive account, *Chernobyl* is also an urgent call to action.

*Meltdown: Earthquake, Tsunami, and Nuclear Disaster in Fukushima* - Deirdre Langeland  
2021-02-23

Deirdre Langeland's *Meltdown* explores for middle grade readers the harrowing story of the deadly earthquake, tsunami, and nuclear meltdown that caused the 2011 Fukushima power plant disaster. On March 11, 2011, the largest earthquake ever measured in Japan occurred off the northeast coast. It triggered a tsunami with a wall of water 128 feet high. The tsunami damaged the nuclear power plant in Fukushima triggering the nightmare scenario--a

nuclear meltdown. For six days, employees at the plant worked to contain the meltdown and disaster workers scoured the surrounding flooded area for survivors. This book examines the science behind such a massive disaster and looks back at the people who experienced an unprecedented trifecta of destruction.

**Normal Accidents** - Charles Perrow 2011-10-12  
Normal Accidents analyzes the social side of technological risk. Charles Perrow argues that the conventional engineering approach to ensuring safety--building in more warnings and safeguards--fails because systems complexity makes failures inevitable. He asserts that typical precautions, by adding to complexity, may help create new categories of accidents. (At Chernobyl, tests of a new safety system helped produce the meltdown and subsequent fire.) By recognizing two dimensions of risk--complex versus linear interactions, and tight versus loose coupling--this book provides a powerful framework for analyzing risks and the

organizations that insist we run them. The first edition fulfilled one reviewer's prediction that it "may mark the beginning of accident research." In the new afterword to this edition Perrow reviews the extensive work on the major accidents of the last fifteen years, including Bhopal, Chernobyl, and the Challenger disaster. The new postscript probes what the author considers to be the "quintessential 'Normal Accident'" of our time: the Y2K computer problem.

*Fukushima Devil Fish* - Susumu Katsumata  
2018-02-22

*Fukushima Devil Fish: Anti-Nuclear Manga* collects nuclear energy-related work from the '80s and '90s, produced in the wake of investigative news reports about accidents and dangerous working conditions at Japan's nuclear power plants. Due to poor pay, hazardous working conditions and migrant status, these workers were commonly known as 'nuclear gypsies' and 'irradiated labourers.' As explained

in an accompanying essay by historian Ryan Holmberg, these 'gypsies' became politicised symbols in the late '70s and '80s, embodying the fact that all was not sound in the industry.

Fukushima - David Lochbaum 2015-02-10

“A gripping, suspenseful page-turner” (Kirkus Reviews) with a “fast-paced, detailed narrative that moves like a thriller” (International Business Times), Fukushima teams two leading experts from the Union of Concerned Scientists, David Lochbaum and Edwin Lyman, with award-winning journalist Susan Q. Stranahan to give us the first definitive account of the 2011 disaster that led to the worst nuclear catastrophe since Chernobyl. Four years have passed since the day the world watched in horror as an earthquake large enough to shift the Earth’s axis by several inches sent a massive tsunami toward the Japanese coast and Fukushima Daiichi nuclear power plant, causing the reactors’ safety systems to fail and explosions to reduce concrete and steel buildings to rubble. Even as the

consequences of the 2011 disaster continue to exact their terrible price on the people of Japan and on the world, Fukushima addresses the grim questions at the heart of the nuclear debate: could a similar catastrophe happen again, and—most important of all—how can such a crisis be averted?

**Atomic Accidents and Disasters** - Teena Dovenhire 2016-06-27

A Stunning Look At The Worlds Most Famous Nuclear Disasters And Atomic Accidents In History An Atomic Accident is defined as any event that brought damage to people, properties and environment as a result of a glitch in a power plant, nuclear weapon testing, or any machine that has something to do with radiation. Atomic accidents are not connected to wars, because those are premeditated. 1895 marks the year of exploration. From then on, mankind has been fascinated with the smallest unit of matter--atom. When the year 1945 came, the first atomic bomb was presented to the world, highly capable

of protecting a country from a war and highly destructive to enemies. But that was not the only thing that mankind came to realize-- these atoms can also supply the world with energy, a very efficient kind to boot. This urged people to create not just nuclear weapons, but also nuclear power plants. That energy and the destruction, however, come with a price- those handling the weapons and those involved in the power plants should be extremely careful. One wrong move and an atomic accident could happen...

**Fallout** - Fred Pearce 2018-05-22

An investigation into our complicated 8-decade-long relationship with nuclear technology, from the bomb to nuclear accidents to nuclear waste. From Hiroshima to Chernobyl, Fukushima to the growing legacy of lethal radioactive waste, humanity's struggle to conquer atomic energy is rife with secrecy, deceit, human error, blatant disregard for life, short-sighted politics, and fear. Fallout is an eye-opening odyssey through

the first eight decades of this struggle and the radioactive landscapes it has left behind. We are, he finds, forever torn between technological hubris and all-too-human terror about what we have created. At first, Pearce reminds us, America loved the bomb. Las Vegas, only seventy miles from the Nevada site of some hundred atmospheric tests, crowned four Miss Atomic Bombs in 1950s. Later, communities downwind of these tests suffered high cancer rates. The fate of a group of Japanese fishermen, who suffered high radiation doses from the first hydrogen bomb test in Bikini atoll, was worse. The United States Atomic Energy Commission accused them of being Red spies and ignored requests from the doctors desperately trying to treat them. Pearce moves on to explore the closed cities of the Soviet Union, where plutonium was refined and nuclear bombs tested throughout the '50s and '60s, and where the full extent of environmental and human damage is only now coming to light. Exploring the

radioactive badlands created by nuclear accidents—not only the well-known examples of Chernobyl and Fukushima, but also the little known area around Satlykovo in the Russian Ural Mountains and the Windscale fire in the UK—Pearce describes the compulsive secrecy, deviousness, and lack of accountability that have persisted even as the technology has morphed from military to civilian uses. Finally, Pearce turns to the toxic legacies of nuclear technology: the emerging dilemmas over handling its waste and decommissioning of the great radioactive structures of the nuclear age, and the fearful doublethink over the world’s growing stockpiles of plutonium, the most lethal and ubiquitous product of nuclear technologies. For any reader who craves a clear-headed examination of the tangled relationship between a powerful technology and human politics, foibles, fears, and arrogance, *Fallout* is the definitive look at humanity’s nuclear adventure.

[TMI 25 Years Later](#) - Bonnie A. Osif 2004

Three Mile Island burst into the nation's headlines twenty-five years ago, forever changing our view of nuclear power. The dramatic accident held the world's attention for an unsettling week in March 1979 as engineers struggled to understand what had happened and brought the damaged reactor to a safe condition. Much has been written since then about TMI, but it is not easy to find up-to-date information that is both reliable and accessible to the nonscientific reader. *TMI 25 Years Later* offers a much-needed &"one-stop&" resource for a new generation of citizens, students, and policy makers. The legacy of Three Mile Island has been far reaching. The worst nuclear accident in U.S. history marked a turning point in our policies, our perceptions, and our national identity. Those involved in the nuclear industry today study the scenario carefully and review the decontamination and recovery process. Risk management and the ability to convey risks to the general population rationally and

understandably are an integral part of implementing new technologies. Political, environmental, and energy decisions have been made with TMI as a factor, and while studies reveal little environmental damage from the accident, long-term studies of health effects continue. TMI 25 Years Later presents a balanced and factual account of the accident, the cleanup effort, and the many facets of its legacy. The authors bring extensive research and writing experience to this book. After the accident and the cleanup, a significant collection of videotapes, photographs, and reports was donated to the University Libraries at Penn State University. Bonnie Osif and Thomas Conkling are engineering librarians at Penn State who maintain a database of these materials, which they have made available to the general public through an award-winning website. Anthony Baratta is a nuclear engineer who worked with the decontamination and

recovery project at TMI and is an expert in nuclear accidents. The book features unique photographs of the cleanup and helpful appendixes that enable readers to investigate further various aspects of the story.

**Midnight in Chernobyl** - Adam Higginbotham  
2020-02-04

A New York Times Best Book of the Year A Time Best Book of the Year A Kirkus Reviews Best Nonfiction Book of the Year 2020 Andrew Carnegie Medals for Excellence Winner From journalist Adam Higginbotham, the New York Times bestselling “account that reads almost like the script for a movie” (The Wall Street Journal)—a powerful investigation into Chernobyl and how propaganda, secrecy, and myth have obscured the true story of one of the history’s worst nuclear disasters. Early in the morning of April 26, 1986, Reactor Number Four of the Chernobyl Atomic Energy Station exploded, triggering one of the twentieth century’s greatest disasters. In the thirty years



since then, Chernobyl has become lodged in the collective nightmares of the world: shorthand for the spectral horrors of radiation poisoning, for a dangerous technology slipping its leash, for ecological fragility, and for what can happen when a dishonest and careless state endangers its citizens and the entire world. But the real story of the accident, clouded from the beginning by secrecy, propaganda, and misinformation, has long remained in dispute. Drawing on hundreds of hours of interviews conducted over the course of more than ten years, as well as letters, unpublished memoirs, and documents from recently-declassified archives, Adam Higginbotham brings the disaster to life through the eyes of the men and women who witnessed it firsthand. The result is a “riveting, deeply reported reconstruction” (Los Angeles Times) and a definitive account of an event that changed history: a story that is more complex, more human, and more terrifying than the Soviet myth. “The most complete and

compelling history yet” (The Christian Science Monitor), Higginbotham’s “superb, enthralling, and necessarily terrifying...extraordinary” (The New York Times) book is an indelible portrait of the lessons learned when mankind seeks to bend the natural world to his will—lessons which, in the face of climate change and other threats, remain not just vital but necessary.

**Nuclear Accidents** - Jean-Claude Amiard  
2020-02-26

Detailing the estimation and perception of nuclear risk, this book follows military and civilian nuclear accidents, plus the systems put in place by national and international authorities for recording and analyzing feedback.

Prevention and anticipation being the best defenses against a nuclear accident, the authorities have also categorized the different types of accidents, and are doing research to better understand and control them. In light of this, this book shows how the authorities take practical measures to protect neighboring

populations and limit radioactive contamination of the environment. Frances experience in this arena is well-documented and a chapter of this book is devoted to the fight against terrorist attacks in the nuclear field. Nuclear Accidents is based on scientifically-recognized publications, as well as on reports from the various countries concerned, and the national and international organizations competent in this field (IAEA, WHO, UNSCEAR, IRSN, etc.).

*How to Drive a Nuclear Reactor* - Colin Tucker  
2020-01-25

Have you ever wondered how a nuclear power station works? This lively book will answer that question. It'll take you on a journey from the science behind nuclear reactors, through their start-up, operation and shutdown. Along the way it covers a bit of the engineering, reactor history, different kinds of reactors and what can go wrong with them. Much of this is seen from the viewpoint of a trainee operator on a Pressurised Water Reactor - the most common

type of nuclear reactor in the world. Colin Tucker has spent the last thirty years keeping reactors safe. Join him on a tour that is the next best thing to driving a nuclear reactor yourself!  
*The Radioactive Boy Scout* - Ken Silverstein  
2005-01-11

Growing up in suburban Detroit, David Hahn was fascinated by science. While he was working on his Atomic Energy badge for the Boy Scouts, David's obsessive attention turned to nuclear energy. Throwing caution to the wind, he plunged into a new project: building a model nuclear reactor in his backyard garden shed. Posing as a physics professor, David solicited information on reactor design from the U.S. government and from industry experts. Following blueprints he found in an outdated physics textbook, David cobbled together a crude device that threw off toxic levels of radiation. His wholly unsupervised project finally sparked an environmental emergency that put his town's forty thousand suburbanites at risk.

The EPA ended up burying his lab at a radioactive dumpsite in Utah. This offbeat account of ambition and, ultimately, hubris has the narrative energy of a first-rate thriller.

Three Mile Island, Chernobyl and Fukushima -

Thomas Filburn 2016-11-08

This book examines the three most well-known and socially important nuclear accidents. Each of these accidents had significant, yet dramatically different, human and environmental impacts. Unique factors helped shape the overall pattern and scale of each disaster, but a major contributing factor was the different designs used for each reactor. Fukushima was a boiling water reactor (BWR), Chernobyl was a graphite moderated boiling water reactor, and TMI was a pressurized water reactor (PWR). This book traces the history of nuclear power and the development of each reactor type. We examine how GE's work with a sodium cooled design did not fare well with the US Navy, and led GE to promulgate the BWR design. We explore the

Russian atomic bomb program, its use of graphite moderated reactors, and their design modifications to create power production units. We trace the developments in the US that led the US Navy to select the PWR design, and caused the PWR to be used for nearly 2/3 of all US commercial reactors. In sum, the book uses the three major nuclear accidents as a lens to trace the technological history of nuclear energy production and to link these developments with long-term societal and environmental consequences. The book is intended for readers with an interest in nuclear power and nuclear disasters. The detailed and compelling account will appeal to both the expert and the interested lay-person.

**My Patronus Is A Shark** - Bendle Publishing  
2019-06-22

This Shark Quote Journal / Notebook makes the IDEAL appreciation gift for any family members or friends. This Shark notebook features 110 blank pages and is 6 x 9 inches in size.

*We Almost Lost Detroit* - John G. Fuller 1976

*Atomic America* - Todd Tucker 2009-03-03

On January 3, 1961, nuclear reactor SL-1 exploded in rural Idaho, spreading radioactive contamination over thousands of acres and killing three men: John Byrnes, Richard McKinley, and Richard Legg. The Army blamed "human error" and a sordid love triangle. Though it has been overshadowed by the accident at Three Mile Island, SL-1 is the only fatal nuclear reactor incident in American history, and it holds serious lessons for a nation poised to embrace nuclear energy once again. Historian Todd Tucker, who first heard the rumors about the Idaho Falls explosion as a trainee in the Navy's nuclear program, suspected there was more to the accident than the rumors suggested. Poring over hundreds of pages of primary sources and interviewing the surviving players led him to a tale of shocking negligence and subterfuge. The Army and its

contractors had deliberately obscured the true causes of this terrible accident, the result of poor engineering as much as uncontrolled passions. A bigger story opened up before him about the frantic race for nuclear power among the Army, the Navy, and the Air Force -- a race that started almost the moment the nuclear bombs were dropped on Hiroshima and Nagasaki. The National Reactor Testing Station (NRTS), where the meltdown occurred, had been a proving ground where engineers, generals, and admirals attempted to make real the Atomic Age dream of unlimited power. Some of their most ambitious plans bore fruit -- like that of the nation's unofficial nuclear patriarch, Admiral Rickover, whose "true submarine," the USS Nautilus, would forever change naval warfare. Others, like the Air Force's billion dollar quest for a nuclear-powered airplane, never came close. The Army's ultimate goal was to construct small, portable reactors to power the Arctic bases that functioned as sentinels against a

Soviet sneak attack. At the height of its program, the Army actually constructed a nuclear powered city inside a glacier in Greenland. But with the meltdown in Idaho came the end of the Army's program and the beginning of the Navy's longstanding monopoly on military nuclear power. The dream of miniaturized, portable nuclear plants died with McKinley, Legg, and Byrnes. The demand for clean energy has revived the American nuclear power industry. Chronic instability in the Middle East and fears of global warming have united an unlikely coalition of conservative isolationists and fretful environmentalists, all of whom are fighting for a

buildup of the emission-free power source that is already quietly responsible for nearly 20 percent of the American energy supply. More than a hundred nuclear plants generate electricity in the United States today. Thirty-two new reactors are planned. All are descendants of SL-1. With so many plants in operation, and so many more on the way, it is vitally important to examine the dangers of poor design, poor management, and the idea that a nuclear power plant can be inherently safe. Tucker sets the record straight in this fast-paced narrative history, advocating caution and accountability in harnessing this feared power source.