ATOMIC ACCIDENTS

A HISTORY OF NUCLEAR MELTDOWNS AND DISASTERS

FROM THE OZARK MOUNTAINS TO FUKUSHIMA

JAMES MAHAFFEY

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Atomic Accidents: A History of Nuclear Meltdowns and Disasters: From the Ozark Mountains to Fukushima

Mahaffey, a long-time advocate of continued nuclear study and nuclear energy, looks at each incident in turn and analyzes what occurred and why, frequently discovering where scientists went incorrect when analyzing previous meltdowns. Every incident offers lead to new facets in understanding about the mighty atom?and Mahaffey places forth what the future should be because of this last frontier of science that still holds so much guarantee.A gripping narrative of nuclear mishaps and meltdowns around the globe, which have proven pivotal to the advancement of nuclear research.As soon as radiation was discovered in the late nineteenth century, nuclear science has had a rich history of innovative scientific exploration and discovery, in conjunction with mistakes, accidents, and downright disasters. 16 webpages of color and B&W pictures, charts and graphs throughout

A Grand Adventure Disguised As A Technology Book This was not the book I expected when I purchased it. I was expecting an authoritative, well researched, well documented treatise on the history of nuclear accidents.This is a story of great tragedy and sometimes great catastrophe. But I was also expecting a dry, pedantic, academic, formal, and boring book that I was decided to slog thorough because I needed to understand the topic.In a story that traces its plot from a wrecked 2-10-0 decapod steam engine in north Georgia in 1954 to an enormous hydrogen explosion at Fukushima Daiichi, Japan in 2011, the human story is constantly front and center. Don't misunderstand, Mahaffey understands the technology intimately and he describes the specialized information with an engineers accuracy, but he also realizes that it's the interface between your human and the device where the true tale is told, and time-and-time again, where in fact the culprit of tragedy is usually to be found.Even though title makes it sound like an academic textbook, it reads similar to a Sebastian Junger or Jon Krakauer adventure story. One where when you breathlessly comprehensive it, you will end up chagrined to recognize you just may have read a textbook.There are two threads of striking similarities running through these stories. We had a couple principal to secondary leaks in our steam generators, and also unexplained shield container overflows while at ocean. Initially, this seems unexpected given the dangerous character of the procedures and components being handled. But it reminds me of a conversation I got with a friend. We are both rock climbers and used to a particular element of risk. Brilliant Historical Accounts of Events Great go through with suffucient quantity of the physics of what occurred in each one of the incidents. My pal disagreed and offered that every time we have a risk and possess a positive end result, our expectation of a positive outcome raises and conversely, our vigilance decreases. I've only read an added book that installed equivalent enthusiasm: The invention that transformed the world by Robert Buderi, a history of the development of microwave radar and the technology that arose from it, I really enjoyed this book As an ex-Navy submariner and Engineering View Supervisor, I really enjoyed this reserve.The second striking thread was how many accidents were because of operators failing woefully to follow procedures or mistrusting measurements because they followed their "gut instincts". This thread may also appear to highlight the imperativeness of pursuing well designed safety methods and how there can be little if any tolerance for mavericks, but it less clear once we really have no good data on whether and just how many incidents were averted by identical actions. It was certainly that. It is a story that doesn't shy away from telling the, frequently painful, tales of the extremely real humans at the guts of the events. Exemplary work of non-fiction. SL1 was a scary rumor at that time and the only real teachable moment I remember is that we needed to usually believe our instrumentation, specifically with a reactor accident or potential contamination event. It tells the tale of a totally fresh technology from its earliest inception for this day through the zoom lens of adversity. But the ultimate sense one is remaining with is a feeling of triumph. If there is any pessimism, it is from the nagging sensation that what ought to be one of humanities greatest triumphs may be abandoned out of misplaced dread. The footnotes are also well worth reading in you have an interest in this topic. This made the book a great go through for the technically curious This is a real page turner. The writer clearly knows what he is talking about. He will take us through the chronology of nuclear incidents, starting with a knowledge of what radioactive elements are to begin with and after that describing a whole group of nuclear accidents, from the relatively minimal and early types to the major ones (like Three Mile Island, Chernobyl, and Fukushima Daiichi). The writer describes the character of the accidents in language that is easily understandable by those of us with

out a Ph. Exposes some shocking secrets such as for example how inherently safe nuclear power generally is usually, and that it's often the humans that are the issue behind most incidents (either not understanding what they were doing, ignoring important data, or just not listening to or following protocols involved) rather than the systems themselves that trigger most accidents. Some of the facts read like research fiction. There is a great deal of technical information about the complicated and specialized knowledge of nuclear engineering, nonetheless it is often well explained and understandable to somebody with out a significant physics background. Some very interesting photos are included with the book (I have the ebook edition). When I was done reading it for your day, I was generally eager to select the book up again and continue. It had been highly enjoyable, and I'd heartily recommend it. I found this to be a great browse! I got no idea so many accidents had happened. I would suggest to anyone curious. Elements of it are quite technical, and requires some background in physics, but overall its very accessible.The title of the book is a bit misleading, because to be able to cover accidents the writer presents a huge amount of background materials explaining how a wide range of nuclear facilities were designed and likely to work, to be able to explain how things went wrong. This produced the book an excellent browse for the technically curious. It is an interesting idea and something that highlights the imperativeness of pursuing well designed safety procedures and how there can be little if any tolerance for mavericks right here. I trained on the A1W prototype in Idaho (1972) and spent a good deal of time on the other 2 vegetation (S5G and S1W).But this is ultimately an optimistic story. Rickover's nuclear navy didn't possess as spotless of an archive as book seemed to imply at some factors. I was searching for where I could contact the writer. We drove right past where some of the stories in this reserve unfolded. Brought back lots of recollections.The boat I was on had a few situations that I was disappointed were not mentioned in the book. Authoritative, balanced, reasonable, and sincere aren't words typically connected with discussions of nuclear topics, however it found within an easy-to-read tone that coveres the main incidents with a good balance of technical detail. The first is how incaution led to so many of these accidents.The primary leaks were first seen as iodine isotopes at the air ejectors on the primary condensers. Engineer jokes are not for everyone. At the time there were several incidents across the fleet, per the grapevine, leading to a crew on another boat refusing to visit sea. We'd to live in Idaho Falls and commute by way of a bus almost every day. I believe this originated from the first responders at SL1 not really believing their counters if they first rolled up. Anyhow, very good book, particularly if you lived a few of it. Highly descriptive yet technically accessible The writer makes a deep dive into many accidents that have occurred, but always carefully explaining the errors made and lesson that can be, or at least must have been learned. He also enables the reader to comprehend how nuclear reactors function and what can (and did) fail with them. The author's dry humor is normally sprinkled liberally through the text, but it can be an acquired taste. We had to isolate the engineering spaces and lived in our EAB's for 3 weeks limping back again to Pearl. I highly recommend it. An informed author writing for the masses; a fantastic invitation to the discussion. She was an extremely aged boat, since retired with her reactor compartment buried out at the Hanford site. Informative, understandable, interesting, and fascinating. The technical issues are well represented if they matter and there is a commendable method of criticism where it's required. Enjoyable Reading The author is an excellent story teller. Buy it Great book. Fascinating account of mistakes This is an incredible account of the tragic path taken up to produce power front nuclear fission. in physics. A few of the mistakes made were therefore

blatantly obvious, it's hard to trust, or I should say frightening that these people are working in this industry. You need to read this publication, it'll open your eyes. We were talking about a climber who was well known for incredibly tough climbs without a rope and I suggested he was in some way fundamentally different from ordinary people. Highly suggested read for just about any mechanical engineer. If the result of ignorance, youthful exuberance, hubris, heroism, or good fortune, the pictures painted in these phrases are fitting testimonials to the tragic victims of these events. The author not merely describes in detail every main nuclear accident you've found out about (as well as many you have not), but he also takes you through a tale of the annals of nuclear technology in the process. It is among the rare nonfiction books that continues you riveted to the web page. His explanations are sufficiently technical to give you a real idea of the underlying process, however, not so esoteric as to alienate the average layman. For me probably the most amazing, and frightening incidents, are the ones that occurred in reprocessing labs, where just pouring material from one container to some other with a different shape creates a critical mass. Fun book that enters important details which are frequently overlooked in why mishaps happen. Amazingly fun book to learn that gives the basics of nuclear power without bogging down the reader before going in to the nitty gritty of WHY these accidents happened and what was learned from their website.D. He wrote a compelling narrative of a number of the most significant nuclear accidents. Well crafted with a clear understanding of the issues. Really gets down to the issues behind why nuclear power is deemed to be unsafe, that its not that it is, but because the people involved caused so many problems and hid them instead of admitting their errors that people just don't trust it any more. I learned a whole lot