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Contaminated US site faces 'catastrophic' nuclear leak

14 July 2008

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ONE of "the most contaminated places on Earth" will only get dirtier if the US government doesn't get its act together - clean-up plans are already 19 years behind schedule and not due for completion until 2050.

More than 210 million litres of radioactive and chemical waste are stored in 177 underground tanks at Hanford in Washington State. Most are over 50 years old. Already 67 of the tanks have failed, leaking almost 4 million litres of waste into the ground.

There are now "serious questions about the tanks' long-term viability," says a [Government Accountability Office report](#), which strongly criticises the US Department of Energy for delaying an \$8 billion programme to empty the tanks and treat the waste. The DoE says the clean-up is "technically challenging" and argues that it is making progress in such a way as to protect human health and the environment.

The DoE's plan, however, is "faith-based", says Robert Alvarez, an [authority on Hanford](#) at the Institute for Policy Studies in Washington DC. "The risk of catastrophic tank failure will sharply increase as each year goes by," he says, "and one of the nation's largest rivers, the Columbia, will be in jeopardy."

The Nuclear Age - [Learn more about all things nuclear in our explosive special report.](#)

From issue 2664 of New Scientist magazine, 14 July 2008, page 7

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Spending

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By Rob

Thu Jul 10 14:45:33 BST 2008

We dont put money into long term solutions,just talking wont do ,funding not available do to spending overseas.what a shame ,we do this to ourselves ,perhaps we will catch on before we sink into the hole our leaders dug for us,voter's need to elect people who represent our interest's , not the ones who care only about mainting their needs.

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Spending

By Mike Gale

Tue Jul 15 00:05:29 BST 2008

About 40% of solutions containing Plutonium and other interesting things is already lost.

The management, the politicians and arguably our species don't deserve to be involved and, also arguably, shouldn't exist.

This is an unmitigated disaster. Is anybody doing anything serious? How far have those things spread already?

What's the bet the popular press barely notices this!

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Contaminated Us Site Faces 'catastrophic' Nuclear Leak VIEW THREAD >>

By Simon
Mon Jul 14 14:27:44 BST 2008
What? Hang on - isn't nuclear meant to be "environmentally friendly"?
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Contaminated Us Site Faces 'catastrophic' Nuclear Leak

By Metoo
Mon Jul 14 15:55:32 BST 2008
Fatuous much?
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Contaminated Us Site Faces 'catastrophic' Nuclear Leak

By Soylent
Mon Jul 14 19:06:37 BST 2008
"What? Hang on - isn't nuclear meant to be "environmentally friendly"?"

It is; especially a major accidents like Chernobyl. All the people fled permanently to escape a barely measurable increase in cancer risk; wild-life which is oblivious to such concerns moved in and is doing just fine thanks to the lack of people.
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Contaminated Us Site Faces 'catastrophic' Nuclear Leak

By Mojo
Wed Jul 16 19:56:36 BST 2008
Wow - you obviously have not been paying attention - "barely measuable increase in cancer risk?" Tell that to the over 5,000 children with thyroid cancer, the thousands of clean-up workers that have already died, the thousands of children with leaukemia, etc etc.

The wildlife is showing many signs of genetic disturbance - birds are laying fewer eggs and many of the those eggs never hatch, deer are miscarrying and bearing deformed, dead babies.

I have a friend who has adopted three children from Belarus - all born with severe birth defects which have taken multiple surgeries to repair.
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Contaminated Us Site Faces 'catastrophic' Nuclear Leak

By Mattm
Wed Jul 16 19:26:02 BST 2008
Modern nuclear plants, by design, do not result in Chernobyl scenarios when they fail. Also, wastes can now be glassified and stored in such a manner that leakage like this cannot occur.

Modern nuclear tech IS clean. It's shameful, unmanaged messes like this that distort our perception of nuclear power.
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What's At Stake? VIEW THREAD >>

By Torben K. Jensen
Mon Jul 14 15:28:05 BST 2008
It should be noted that the nuclear waste at Hanford isn't merely spent reactor fuel. Those familiar with the Manhattan project will know that Hanford manufactured the nuclear warhead material used in the first U.S. Atomic bombs, and went on to produce most of the nuclear warheads existing in the U.S. Nuclear weapons arsenal today. It does not take a rocket scientist to conclude that the waste involved contains exceptionally high concentrations of plutonium; one of the most toxic substances on earth. The rate at which this waste is being processed is outrageously slow, considering what's at stake. The math is very simple: The short term cost of increasing processing capacity bears no comparison to the long term cost of contamination, not to mention the suffering it will cause local residents, of which I am one. Here lies an excellent opportunity for the government to get something right, for a change. Let's see some of that human compassion touted by the White House!
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What's At Stake?

By Vendicar Decarian
Mon Jul 14 15:43:14 BST 2008
"Here lies an excellent opportunity for the government to get something right, for a change. Let's see some of that human compassion touted by the White House!" - Tobern

The Republican response to every domestic crisis is to ignore the problem and continue in their efforts to transfer as much wealth from the American Middle Class to their wealthy and corporate backers.

Bush plans to do for you what he did for Lousiana.
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What's At Stake?

By Brad

Mon Jul 14 19:14:55 BST 2008

Dude, Washington State is a BLUE STATE.

Bush has nothing to do with that. Try opening your eyes. Its because everyone EXPECTS the government to solve all their problems that nothing gets done.

Government always fails. And that includes incompetent DEMOCRATS.

Sell the property to a private conservation group or business and see what they could do....motivation is key

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What's At Stake?

By Ronnie

Thu Jul 17 04:26:43 BST 2008

VD!!!! I would explain to you have American Emergency Management works but I'm pretty sure its over your understanding. Bush didn't create Katrina, didn't fail to move citizens out of impact area (Nagin & the brain dead Governor) etc... Believe it or not evacuation & supplies positioning aren't the responsibility of USA president. Well like I said its pretty complex! I thought we were transferring wealth to oil exporting countries at the tune of 700 billion annually. It will be the largest transfer of wealth the world has ever known.4 times the yearly cost of Iraq war. Time to drill for our own. Even a million barrels a day times \$145 times 365 days. Great idea!!! Ronnie

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What's At Stake?

By Ronnie

Mon Jul 14 16:57:57 BST 2008

Vendi & Torben!!!! Congress has a 9% approval rating. Its been controlled by the liberal democratic party for 2 yrs now. They the democratic congress is the one that spends the money. The whitehouse can sign it or veto it. This problem is taking forever to deal with because its the gov. They are extremely ineffecient & many mentally deranged citizens here in the USA want to give them more \$\$\$, programs, etc... So you want the people that brought you social insecurity in charge of health care. I want out of all this mandated BS. Again get your do-nothing democraic controlled congress to actually doing something important. Fix this mess ASAP. Please make the bill only on this issue & don't throw in all your pet programs so that the President has to veto it. Keep it simple that shouldn't be that hard!

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What's At Stake?

By Soylent

Mon Jul 14 18:58:40 BST 2008

"It does not take a rocket scientist to conclude that the waste involved contains exceptionally high concentrations of plutonium; one of the most toxic substances on earth."

Plutonium is not unusual in terms of toxicity and there are far worse radiological hazzards. Its chemically about as toxic as lead.

Keep repeating that myth and you just look a fool.

The hanford waste is the usual fission products you get from fission of uranium, many of which are far worse than plutonium(e.g. Caesium-137). There's a relative lack of plutonium in the hanford waste compared to spent fuel elements from reactor, as most of it was recovered for bomb production.

Unlike normal reactor fuel which is a ceramic, much of the hanford waste is dissolved in water with wildy varying composition and pH making it a gargantuan task to clean up.

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What's At Stake?

By Ron

Mon Jul 14 19:37:33 BST 2008

One of the biggest issues is tank content. Very poor records have been kept as to tank makeup. Each tank contains a concentration of "poisons" from varying different process which are to be safely stored in the waste tanks. Poisons are vast different chemical discharges from the process of Plutonium of which is made from uranium oxide. The chemical discharge consist of these "poisons" of different degrees which are deposited into the waste tanks for storing. You need to be very careful about the composition of the "poisons" such that a chemical chain reaction can not occur.. Disposing of these waste products had differing degrees of complexity in them. As stated there is much water involved in some of these areas, but believe it or not that water is actually boiled off in the site evaporator process which is a giant "tea-kettle". The remaining hard degree of non-boiling waste is what is hard to get rid of. Hanford is coming up with the defense waste processing facility which will be able to turn the waste into glass and buried in stainless steel containers for safe keeping, but that facility is so far behind schedule due to different contractors being assigned the task of completing the facility.

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What's At Stake?

By Vit Surveyor

Tue Jul 15 02:57:06 BST 2008

"Hanford is coming up with the defense waste processing facility which will be able to turn the waste into glass and buried in stainless steel containers for safe keeping, but that facility is so far behind schedule due to different contractors

being assigned the task of completing the facility."

The last shutdown was due to lack of funding. We are set to finish the facility and get it running in about 10-12 years. Bechtel is the primary contractor, and are doing a decent job, but the Feds need to clean up their mess, period. No excuses. And the rules ...

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What's At Stake?

By [Torben K. Jensen](#)

Tue Jul 15 07:45:25 BST 2008

As misinformed as I may seem - and I see no benefit in defending those assertions of mine that have been challenged - the underlying premise still holds. Reading the comments here from people actually involved in the project, it's clear that inadequate funding is the source of an overwhelming majority of problems, resulting in these incomprehensible delays.

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What's At Stake?

By [Vit Surveyor](#)

Thu Jul 17 03:26:59 BST 2008

Sorry, but, no, your underlying premise does not hold. The problem is not lack of funding. The project is fully funded. Some contributing factors to the delays, in the words (opinions, certainly) of others on the site, but worthy of mention are, but definitely not limited to:

Typical logistical failures. An example of which affects my job greatly is lack of planning/space for proper laydown areas among the two largest buildings. Supers lay many things around the building pad. Conexes, supplies, job trailers, etc., leaving limited space around the pad. Many times line of sight is obstructed by these items, limiting the ability of surveyors to do work. Additionally, as work heats up, portions of the building pad itself are used as supply laydown areas, also limiting the ability of survey to do its job. I could go on and on, and I am certain that the ironworkers, pipefitters, carpenters, etc ad nauseam (sp?) could fill a server up with their lists of things that prevent them from doing their job.

Also, some believe that since the VIT isnt a popular destination among Bechtel employees, the pool of supervisors/field engineers type staff is full primarily of people who fit two stereotypes: The very old counting down to retirement and not fully on their game, and the very young, who are still learning the rules. Craft foremen are frequently bewildered by decisions made by construction administrators who do not always seem to know exactly what is going on and what to do, as work is sometimes held up by the brass taking too long to make decisions that craft feels are elementary, simply because they want to make sure that the decision is the correct one. Make no mistake, a wrong decision unnoticed now could possibly result in this plant becoming one of the biggest boondoggles in US history, just like a nuke plant built somewhere back East (I forget exactly where, Ohio I think). This plant back East had some perceived construction flaws, and documentation of procedures was spotty or non existant, resulting in a multi-billion dollar plant that **COULD NOT EVEN BE TURNED ON**, due to the risks involved and no documentaion to properly assess the risks. As I understand, this other plant is being retrofitted for some other purpose, at a cost of many millions more, simply because some people rushed things and didnt keep proper documentation.

Another reason for the delays, one which I am thankful for, is the absolute devotion to the safety of all of the workers at the plant. Safety procedures often cause delays, but the safety of the workers on-site is the top priority, ALWAYS. Period. Cost and even quality come after the immediate safety of workers at this site.

There are many other reasons for delays, most very small oversights that can result in considerably long delays. Thats just how it is when you are building something this big, and with requirements and tolerances that cannot be compromised on. But throwing money at it indiscriminately will only cause more delays and the money would most likely be either poorly spent or stolen outright.

My theory is that this plant will be a model for others like it when it is finished, and with nuclear power becoming an attractive option to provide electricity for many regions of the nation, waste will have to be disposed of and the vitrification process is the model it will likely take. You might see more just like it in your lifetime.

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