

# Fukushima – Nuclear explosion by Super-GAU ?

«Fukushima – The truth behind the Super-GAU» (ARTE, 6.3.2012)

SolarPeace.ch summary for the Fukushima anniversary 11.3.20012

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Since SolarPeace.ch published the quantity of radioactivity produced in nuclear power plants («An average nuclear power plant produces a daily quantity of radioactivity equivalent to four Hiroshima nuclear bombs»), it has been criticised repeatedly sweeping and regardless of the source data, that nuclear power plants could not be compared with nuclear bombs. However these critics were never scientifically, as on SolarPeace.ch the quantity of produced radioactivity and not the explosive force is being compared.

The documentation «Fukushima – The truth behind the Super-GAU», broadcasted on 6.3.2012 by ARTE, provides new information regarding the critical comparison of nuclear power plants and nuclear bombs. The following summarises the essential statements of this documentation. The most important statements are highlighted in blue. Please note that all quotes had been translated from the German TV documentation, they are therefor unlikely to match exactly the originally English spoken words of the interviewed persons.

## Introduction:

«The tsunami caused two things. First it destroyed the diesel generators, which should provide electricity as emergency units for cooling the power plant, but it also destroyed all the water pumps on the coastline. So even if the generators would have been running, there would have been no water for cooling the facility. The tsunami was the final blow for all three reactors.», Arnuld Gundersen, Nuclear engineer, USA

«A total loss of power supply was unimaginable. We have never assumed that, also for pressurised water reactors.», Emmerich Seidelberger, Nuclear engineer, Austria

«Hydrogen explosions: Metal reacts with water at high temperatures as it initially snatches oxygen away from the water, it wants to be oxidised and hydrogen is released. This is a method to produce hydrogen. And large amounts of hydrogen with oxygen make oxyhydrogen gas, a very explosive mixture.» ... «A major nuclear disaster is a disaster ... that we simply can not afford.», Wolfgang Kromp, Physicist at the Institute for Security and Risk Sciences, Vienna

## The explosion in the shut down reactor block 4:

«The first three reactors were in operation when the tsunami arrived. But in block 4 there was no fuel in the reactor. ... In fact, it was the most dangerous of all. The reactor core was removed and was stored in the cooling pond. ... There was nothing that has protected the reactor core at the moment. ... And then there was absolutely no cooling of the basin, because the uranium was so fresh that it brought the water to evaporate. ... As the water level went down and down, the tops of the fuel rods were exposed, as shown by the images. This caused an additional reaction as in the blocks 1, 2 and 3. The reaction has produces enough hydrogen to blow up block 4 into the air, although the reactor was not in operation.», Arnuld Gundersen, Nuclear engineer, USA

«The U.S. nuclear supervisors [US Nuclear Regulatory authority NCR] ... see the danger of a dried-up cooling pond in block 4. ... But apparently it does not come to the extreme.», ARTE

«If the fuel rods [in the cooling pond of reactor 4] would have caught fire, Japan would have been divided into two halves. It would have given a 50-mile-wide strip across Japan, so that the people would no longer be able to come from the north to the south.», Arnuld Gundersen, Nuclear engineer, USA

## The explosion in reactor block 3:



«In reactor 3 it can not be excluded, that it has been a nuclear explosion, because there was uranium and plutonium used in MOX fuel.», Prof. Yukio Yamaguchi, Director at the Citizens' Nuclear Information Centre, Tokyo

«When I look at the pictures of block 3, they are dramatically different... compared to those of all the hydrogen explosions that have ever occurred. ... Therefore I think that the cooling pond caused the explosion [in reactor 3]. At the peak [of the explosion], you can see debris falling from the cloud, also fuel. ... The nuclear fuel contains uranium and plutonium and the plutonium will remain a quarter of a million years in the environment. This cloud is over one kilometre high. To be thrown out of the cooling pond, the nuclear fuel must become extremely hot and extremely fast. This is what we call a prompt criticality.

It is similar to a nuclear bomb, but not quite as severe. And it is completely different than an ordinary hydrogen explosion. So we have on one side a chemical explosion [hydrogen explosion] and on the other side a nuclear bomb. And this here is in the middle. It is a nuclear chain reaction that takes place very quickly. All the water evaporates and also some of the metal in the reactor core. And then the fuel is thrown out of the roof and is raining from the sky for miles around.», Arnuld Gundersen, Nuclear engineer, USA

«Also the U.S. Nuclear Regulatory authority NRC suspected early on that the explosion in block 3 has been something more dramatic than just a chemical hydrogen explosion. In an internal email it says on 25 March, that the amount of steam rather indicates a radioactive decay process. Literally, it states: [That can actually be heat from an undesirable nuclear chain reaction.](#)», ARTE

### The amount of released radioactivity:

«We have no choice but to direct the contaminated water into the ocean.», Tepko. «Tens of thousands of tons of highly radioactive water will be directed ... into the Pacific. No one can estimate the impact on the global ecosystem.», ARTE

«We already read reports that the estimates of how much water has been pumped into the sea, are now three times higher than at the beginning. And radioactive contaminations, which were found in larger distances from the reactor, suggest that much more radioactivity was released. I believe that the estimates will have to be revised and that they will be even significantly higher.», Robert Alvarez, Expert on nuclear safety, USA

«People incorporate this highly radioactive particles or inhale them. There's all the uranium and plutonium in the environment, substances that damage the genetic material. Therefore, it is not only the radiation on the ground to which they need to worry about. This stuff is in the air and the people inhale it. We know this because I've measured it in the air filters of the cars. If a filter can absorb and store it, also humans can inhale it. And then it is plugged into their lungs, enters into the lymphatic system and they get sick.», Prof. Christopher Busby, Radiation chemist and member of the independent European Committee on Radiation Risk (see also the «Medical memorandum for the industrial use of nuclear energy» by Dr. med. Max Otto Bruker, published on [SolarPeace.ch](#))

«In the filters of cars that were always more than 200 km away from Fukushima, he [Professor Christopher Busby] found traces of caesium-134 and 137. For centuries, caesium 137 is one of the most radiating substances.», ARTE

«This proves to us that we have significant amounts of radioactivity ... and that the people are burdened with doses that are much higher than during the time of testing nuclear bombs ... 1000-times higher in the one-hundred-km zone», Prof. Christopher Busby, Radiation chemist and member of the independent European Committee on Radiation Risk (see also «An average nuclear power plant produces a daily quantity of radioactivity equivalent to four Hiroshima nuclear bombs, which each year adds up to radioactivity in the order of magnitude of 1460 Hiroshima nuclear bombs.»), US nuclear physicist Richard L. Garwin quoted and explained on [SolarPeace.ch](#))

«The whole northern part of Japan is lost. And I've always told to the people: Go away from there. That's my advice. Go away, because this is a very dangerous place.», Prof. Christopher Busby, Radiation chemist and member of the independent European Committee on Radiation Risk

«The people die only after 10 or 20 years. ... I think we will get at least one million new cancer cases. And the industry does not want these numbers to become known. It would mean the end of the nuclear reactors worldwide.», Arnuld Gundersen, Nuclear engineer, USA

### Conclusion for Switzerland and Europe:

Following the nuclear disaster in Fukushima e.g. Switzerland and Germany have decided to phase out nuclear power. In Japan the billionaire Masayoshi Son together with Japan's government is planning to replace two-thirds of today's nuclear electricity with solar power (incl. [roof-top solar panels at 10 million homes](#)). This is also possible in Switzerland, in Germany and in all of Europe – and necessary without further delay, braking covers<sup>1)</sup> and sunblockers<sup>2)</sup>!



Natural Power  
Yes Please !

See additional information and sources used on [SolarPeace.ch](#) in [«Climate Change by Radioactivity»](#).

<sup>1)</sup> Braking covers: Common term for limitations on feed-in-rates and budgets, as currently the case in Switzerland.

<sup>2)</sup> Sunblocker: Common name for Mr. Rössler, German Minister of Trade, as he plans to reduce feed-in-rates drastically.