



Janice K. Brewer
Governor

Aubrey V. Godwin
Director

4814 South 40th Street

Phoenix, Arizona 85040-2940

(602) 255-4845
Fax (602) 437-0705

**FAQ RELATED TO FUKUSHIMA REACTOR – EARTHQUAKE ACCIDENTS BASED ON
REPORTED CONDITIONS AS OF MARCH 15, 2011 1:00 PM, MST**

INDEX

Radiation releases	Page 1
Radiation effects in U.S.A.	Page 1
Potassium Iodide usage	Page 2
Reactor related	Page 2
General Background Information	Page 3

Radiation releases

Q Will the radiation in Japan affect people in Arizona?

A. The levels of radiation in Arizona resulting from the events in Japan are being monitored by the Arizona Radiation Regulatory Agency. Right now, there is no detectable increase in radiation levels in Arizona. Due to the distance from Japan, future levels are highly unlikely to be above normal radiation levels in the atmosphere. Therefore, the levels will not impact your health in the short or long term.

Radiation effects in U.S.A.

Q. I hear the radiation being released is increasing, is there a problem for Arizona?

A. Currently Units 1, 2, 3, and 4, appear to be releasing some radioactive material. These releases, while significant near the plant, are not large enough for the Japanese government to evacuate further than 12 miles from the plant. Any release will be tremendously diluted before it can reach the U.S. mainland. Several Federal Agencies are tracking the air masses as they move around the world so that samples can be taken to assure the concentrations of any radioactive material is known if it is detectable. A similar program was in place when several countries were conducting nuclear weapons tests.

Q. Are there any protective measures that residents in the U.S. should be considering?

A. No, not given current information.

Q. What is the Federal family, i.e., NRC-EPA-DOE, doing to monitor the radiological consequences

of the event in Japan on the United States?

A. The NRC is coordinating its actions with other Federal agencies as part of the U.S. government response. The NRC is examining all available information as part of the effort to analyze the event and understand its implications both for Japan and the United States.

U.S. nuclear power plants have sensitive equipment to monitor the status of radiological conditions. Additionally, personnel at nuclear power plants have specific knowledge in radiological field monitoring techniques and could assist State and Federal personnel in environmental sampling activities, should that be necessary to evaluate public health and safety concerns.

EPA has permanent stationary radiological monitoring stations on the West coast. In the event of a confirmed radiological release with a potential to impact the U.S., EPA is the Federal agency responsible for radiological monitoring. DOE would be responsible for aerial monitoring, should there be a confirmed radiological release.

Potassium Iodide usage

Q. What is Potassium Iodide (KI) and should I take it?

A. Potassium Iodine (KI) is used to protect the thyroid from absorbing radioactive iodine after high levels of radiation exposure. The U.S. Food and Drug Administration and the World Health Organization recommend the use of KI only when people are exposed to high levels of radiation, such as those who were in the Japanese nuclear power plants when the explosions occurred.

Q. Should I get KI in case the radiation levels get higher?

A. The Arizona Radiation Regulatory Agency is monitoring the levels and will notify the public if an increase in radiation is detected. No health risks due to radiation are anticipated and it is not necessary to have KI on hand.

Reactor related

Q How many reactors are involved in this event?

A. The Fukushima complex has six reactors. Three were shutdown for repairs and refueling and three were producing power when the earthquake occurred.

Q When the earthquake occurred, what happened with the reactors?

A. The reactors already shutdown remained shutdown; Units 4, 5, and 6. The operating reactors, were immediately shutdown by the safety systems; Units 1, 2, and 3.

Q. Since the reactors were all shutdown, what is the problem?

A. When the reactor is producing power, the fission process generates about 98 – 99 % of the heat. After the fission process is stopped or the reactor is shutdown, the radioactive material which was produced by the fissioning process, continues to produce heat equal to 25 of the power level when initially shutdown. As time passes this heat level will go down. In this case it meant the Units 1, 2, and 3 needed a way to remove heat from the reactor core. In addition, Units 4, 5, and 6 also needed to remove heat, but to a lesser degree.

Q. What is the reactor core?

A. The reactor core is the area within the pressure vessel which contains the nuclear fuel. It is the area where the fissioning process occurs.

Q. What about the safety of the U.S. reactors?

A. The U.S. Nuclear Regulatory Commission (NRC) issued the following statement: “The NRC requires that safety-significant structures, systems, and components be designed to take into account the most severe natural phenomena historically reported for the site and surrounding area. The NRC then adds a margin for error to account for the historical data’s limited accuracy. In other words, U.S. nuclear power plants are designed to be safe based on historical data from the area’s maximum credible earthquake.”

General Background Information

Several Internet users have prepared some detailed descriptions of the reactors, their operating systems and how the earthquake created problems. These are listed below.

<http://mitnse.com/>

<http://www.nrc.gov/reactors/bwrs.html>

<http://www.nrc.gov/about-nrc/emerg-preparedness/about-emerg-preparedness/potassium-iodide.html>

A semi-technical history of the event.

<http://www.iaea.org/newscenter/news/tsunamiupdate01.html>