

Fort Calhoun Nuclear Station is protected from flood waters by berms, Aqua Dams and sandbags.
(Photo: Omaha Public Power District)

Flood waters surrounding Nebraska nuke plants concerning, but not yet critical

By [Lynda Waddington](#) | 06.22.11 | 7:00 am

At this moment, [19 miles north of Omaha in the small town of Blair](#), Neb., a barrier of Aqua Dams separates the Fort Calhoun Nuclear Power Station from the Missouri River's flood waters. Another [100 miles downstream](#) on the Nebraska side of the river but past the Iowa-Missouri line, more than 5,000 tons of sand was brought in to help protect the [Cooper Nuclear Station](#) from rising waters.

Cooper Nuclear Station (Photo: U.S. Nuclear Regulatory Commission)

The Cooper facility is the largest single unit electrical generator in Nebraska, and is owned and operated by Nebraska Public Power District. It's operating license was issued in January 1974 and renewed in November 2010 (through January 2034). As [The Iowa Independent previously noted](#), this plant has a GE Mark I like the Fukushima Daiichi Unit 1 in Japan.

Early on the morning of Sunday, June 19, Cooper plant officials [declared](#) a "Notification of Unusual Event," due to flood water levels of 42.5 feet or 899 feet above sea level. (The plant was built at 903 feet above mean sea level or MSL, which is 13 feet above the natural grade.) The declaration is part of emergency preparedness and is the lowest and least serious of four classifications established by the Nuclear Regulatory Commission for power plants. Officials have also brought additional diesel fuel to the site just in case the plants three emergency cooling generators need to operate for an extended period of time.

Fort Calhoun Nuclear Station (Photo: U.S. Nuclear Regulatory Commission)

The Calhoun facility, which has garnered the most attention in connection with the floods, was issued an operating license in August 1973 and renewed in November 2003 (through August 2033). It is owned and operated by Omaha Public Power District.

Much of the ongoing speculation of pending catastrophe in relation to Calhoun is a combination of a series of unfortunate and unusual pre-flood events and the public's perceived secrecy by the company and regulatory officials. In fact the rumor mill related to the facility has gotten so bad — *The Nation*, an English publication in Pakistan, [reported late last week that the U.S. government had ordered a "total and complete news blackout](#) relating to any information regarding the near catastrophic meltdown" at the Nebraska facility — OPPD officials have developed [a website page devoted to "flood rumor control."](#)

It has been widely known since a U.S. House Energy Committee hearing in late March, that the Calhoun facility is one of three in the nation singled out by the Nuclear Regulatory Commission for increased oversight. Months before the public acknowledgement, OPPD Vice President and Chief

Nuclear Officer David J. Bannister was [notified by the NRC](#) that the Calhoun facility had been given final “yellow” finding, which was specifically based on the plant’s “failure to maintain procedures for combating a significant flood.” Since the determination, plant officials have been working to resolve the violations that led to the finding, but as recently as May 26 plant officials discovered a “potential flooding path,” according to reports filed with the NRC.

Operations identified a potential flooding issue in the Intake Structure 1007' 6" level. The areas of concern are the holes in the floor at the 1007' 6" level where the screen wash header penetrates the ceiling of the Raw Water Vault. There are five of these penetrations of concern. Flooding through the penetrations could have impacted the ability of the station’s Raw Water (RW) pumps to perform their design accident mitigation functions.
... “A one foot sandbag berm has been placed around each penetration of concern.” The licensee notified the NRC Resident Inspector.

Roughly two weeks after that report, on June 7, there was a fire in an electrical switchgear room. The fire, which was not flood-related, resulted in a 90-minute span of no cooling for the spent fuel rod pool — a situation much shorter, yet eerily similar to what happened in Japan following the earthquake and tsunami.

Time of fire was 0930 CDT. Control room received multiple alarms [and] 480 V bus 1B4A amps were observed to be oscillating. Bus 1B4A was secured [and] buses 1B3A and 1B3A-4A were lost. Halon activated properly. [At] 0956 CDT all notifications to applicable personnel were completed. At 1000 CDT 4160v buses 1A2 / 1A4 were secured to facilitate fire fighting. Spent fuel pool cooling was lost [as a result of the de-energized busses and the licensee] entered AOP-36 for loss of SFP cooling. Heat up rate [was] determined by STA. Current time to boil for SFP is 88.3 hrs. Spent fuel pool cooling is currently back in service. This condition is being reported pursuant to 10 CFR 50.72(a)(1)(i) for declaration of an emergency class specified in the licensee’s approved emergency plan. ...

At 1315 CDT, Fort Calhoun Nuclear Station has exited Alert HA 2, EAL. It has been confirmed that no fire remained in the vital area. Plant shutdown cooling remained in-service and spent fuel pool cooling was restored and temperature verified to be lowering.
... Fort Calhoun remains in Unusual Event HU 1, EAL 5 for River Level greater than 1004' elevation as reported under EN #46929

Walkways are necessary for workers to bridge the height of Aqua Dams and access buildings at Fort Calhoun Nuclear Station. (Photo: Omaha Public Power District)

The cooling pool for the spent fuel is kept at roughly 80 degrees, and company officials have stated that the temperature only rose by about 2 degrees during the outage, which is far from a boiling point that would release radiation. In addition, like Cooper, the Calhoun facility has stockpiled diesel fuel for back-up generators to cool the spent fuel pool and those remaining in the reactor. Officials estimate they have enough fuel already on-site for one month of back-up power, or roughly the same amount of time flood waters are expected to be at unprecedented levels.

But perhaps the most controversial of the string of incidents related to Calhoun was the early June decision by company officials to request the Federal Aviation Administration remind aviators of [a no-fly zone](#) extending 3,500 feet above and two miles around the facility that has [been advised for all such facilities since the 9/11 attacks](#). The OPPD “rumors” page indicates the ban was put in place by the FAA due to flooding, but [OPPD spokesman Jeff Hanson told Business Insider](#) last week that it was due to higher power lines and “security reasons that we can’t reveal.”

According to Victor Dricks, public affairs officer for NRC Region 4, a stream of media helicopters prompted the ban.

“As the level of the Missouri River continued to rise over the past few days, more and more media helicopters buzzed the area. This prompted the [OPPD] officials to contact the Federal Aviation Administration with a request that they remind pilots of the NOTAM, or Notice To Airmen, in effect since September 11, 2001, restricting the airspace around the plant. Similar NOTAMS are in effect for all nuclear plants in the United States, as well as other elements of the critical infrastructure, and are meant to discourage pilots from flying too low or lingering in airspaces,” he said.

The NRC, according to Dricks, has augmented the two resident inspectors permanently assigned to Calhoun with four additional NRC officials, and the regional office has been conducting daily conference calls with on-site managers. Officials have also released [a video showing the ongoing flood mitigation efforts at the facility](#).

The flood battle, however, remains far from over for the Missouri River basin. U.S. Corps of Engineers was releasing 150,000 cubic feet per second from the Gavins Point Dam in northeast Nebraska, but has now announced that will increase the already historic discharge to 160,000 cfs to accommodate continued rainfall in South Dakota. Flood stage for the Missouri River at Omaha is 29 feet, [according to the Omaha World-Herald](#), and Tuesday’s level was 34.5 feet. The additional discharge planned by the Corps is expected to add between 5 and 6 additional inches to the river level around Calhoun.

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