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Lacking a long-term plan, we can at least make on-site storage safer.

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DAVID BREWSTER

The Prairie Island Nuclear power plant as seen from Lock and Dam No. 3.

Minnesota has a nuclear waste storage problem. The problem is simply stated: We generate radioactive wastes at our nuclear power plants at Monticello and Prairie Island, but we have no viable plan for long-term storage of that waste. In other words, every time Minnesotans flip on the light switch, more nuclear waste is produced. And in the near-term future, there is nowhere for that nuclear waste to go.

From the 1980s to 2008, the U.S. government had a working plan to move nuclear waste from the plants where it is generated to a permanent storage facility at Yucca Mountain in Nevada. But in 2008, the Yucca Mountain Repository development ended when scientists established high risk for groundwater contamination there. Until another geological repository can be developed, the Nuclear Regulatory Commission's plan is to continue to store spent nuclear fuel at the plants where it is generated.

A Sept. 3 Star Tribune article quotes Prairie Island Indian Community secretary Ron Johnson saying that spent fuel "was supposed to have been removed in the 1990s. We translate that to mean [the Prairie Island site] is probably more of a permanent storage facility."

The problem isn't unique to Minnesota: Nuclear power plants all over the United States are now storing nuclear waste on site. But, and this is a big one, Minnesota's plants weren't designed or located in places that make sense for long-term storage of nuclear waste.

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Jury is deadlocked on Jeronimo Yanez trial; judge orders them to continue

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Gunman critically injures GOP leader, others before being shot

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Gov. Mark Dayton hires outside counsel for court battle with Legislature

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Both of Minnesota's nuclear facilities are on the Mississippi River. Siting the plants on the river initially made sense: River water can be used for cooling spent fuel and steam. But by their very nature, rivers are geologically hazard-prone. After the destruction of Japan's Fukushima Daiichi plant by major tsunami, we need to give careful thought to where and how we store nuclear waste. In a post-Fukushima world, it is difficult to believe that Minnesota's nuclear facilities are disaster-proof.

For the time being, we may be stuck with on-site storage, but we can take important steps to minimize the risks. Currently, we manage nuclear wastes in two stages. Waste is initially cooled and stored in spent fuel pools. This waste is eventually transferred and sealed in steel and concrete containers called dry casks. The Prairie Island and Monticello plants use both storage methods.

Each method has a key advantage: Spent fuel pools are less expensive, while dry cask storage is far safer, but more costly.

Importantly, the casks are less vulnerable to hazards such as fire, flooding, or even earthquakes and tsunamis. Dry casks at the Fukushima plant were knocked over, but no radiation leaked from them; the release of radiation at Fukushima was entirely from the spent fuel pools.

According to the Sept. 3 article, the Prairie Island Indian Community has concerns about the longevity of the dry casks.

But the casks represent a far better alternative than storage in pools, and moving waste to cask storage is a necessary step before the waste can be moved offsite. The Union of Concerned Scientists, a nonpartisan scientific organization, sees dry cask storage as one of the most obvious sources of nuclear risk reduction.

This week, the Senate Energy and Natural Resources Committee will hold a hearing on a bill to implement recommendations of President Obama's Blue Ribbon Commission on America's Nuclear Future. Unfortunately, neither the commission's report nor the bill conveys the importance of transferring spent fuel waste to dry cask storage.

This is where Minnesota can make a difference.

U.S. Sen. Al Franken sits on the Energy and Natural Resources Committee, and has the opportunity to make important policy recommendations that would accelerate the process of moving spent fuel to safer storage systems.

Ideally, Franken will also urge the Nuclear Regulatory Commission to reduce the risks to the Prairie Island Indian Community by moving waste quickly from the Mississippi River floodplain.

Dry cask storage is the essential first step.

Julie Maxson is an associate professor in the Department of Natural Science at Metropolitan State University.

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Jury is deadlocked on Jeronimo Yanez trial; judge orders them to continue

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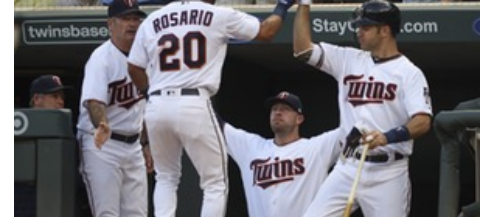
- Kicker Forbath, punter Quigley far from Vikings special teams shoos-ins
- Vikings RB McKinnon hopes more weight means more durability

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- Loons to give bench players a chance to play in Open Cup match
- United announces friendly with Mexico's Club Atlas next month

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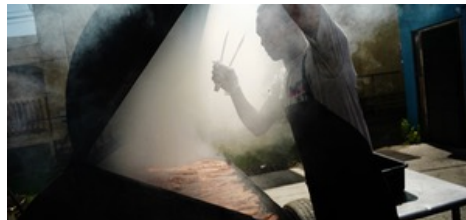
- All-time record 28 hits propel Twins to 20-7 win; Rosario hits three homers
- Burnsville's Carlson hangs out with Mariners at Target Field

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- Illinois-based singer Austin Jones arrested on child porn charges
- Cosby jury reviews accuser's testimony amid deliberations

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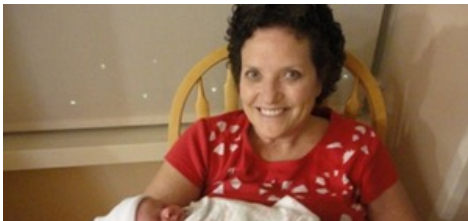
- Local small businesses fight for a chance to cash in on Super Bowl LII
- Group unveils \$1 million campaign to fight Super Bowl sex trafficking

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Poll: Who is the best No. 1 draft pick in Minnesota sports history?

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- I divorced my husband but forged a lasting bond with his ex-wife
- Can the 'No Buy' challenge cure my shopping habit?

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Wander with the Kangaroos at new Mn. Zoo exhibit

Ī˘ 6 ·-˘' @@> At the new Minnesota Zoo Kangaroo exhibit there are no barriers limiting interaction.

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Check out the 'Bigger, better, bolder' Children's Museum



Check out the 'Bigger, better, bolder' Children's Museum

The Minnesota Children's Museum spent 6 years and \$30 million dollars designing ...

Prince's career after death



- Floodgates are about to open on Prince's career after death
- MPR's Cathy Wurzer talks about life, death and Mountain Dew