would be WIPP, the sole US facility licensed for permanent disposal of transuranic wastes. Building an alternate disposal facility would obviously cause the option's cost to mushroom, the report acknowledges.

Senator Lindsey Graham (R-SC) has led congressional opposition to halting construction of the MOX facility, located at the Savannah River Site in South Carolina. Graham insists that there is no cheaper alternative to MOX that will allow the US to meet the 2018 timetable of its agreement with Russia. And he and other lawmakers have noted that changing the disposal method would require renegotiation of the terms of that agreement.

In May the House passed a FY 2015 defense authorization bill that would require the MOX plant construction to continue. The same requirement was included in the version of the bill approved by the Senate Armed Services Committee later that month. The Senate measure also added \$145 million to the \$196 million the administration had requested to put the half-completed project in standby condition. The House version of the appropriations bill that funds DOE also would require that construction continue.

"Now is not the time to change course on the MOX program and try to renegotiate anything with the Russians," Graham said in a statement issued after committee approval of the bill. He has promised to work with project contractors to bring costs down.

Rose Gottemoeller, the State Department's undersecretary for arms control and international security, said that despite the heightened tensions with Moscow, she believes Russia would agree to negotiate a change in the method of disposal if the US requested it. "The Russians have an interest in seeing those 34 tons of US plutonium gone, so my view is that they will work with us," she said in remarks on 13 May.

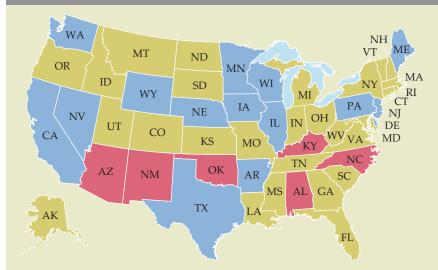
The three other plutonium-disposal options considered in the NNSA report are irradiation in fast reactors, estimated to cost \$50.4 billion; mixing with nuclear waste and glassification, estimated to cost \$28.6 billion; and deep borehole disposal, for which no estimate was prepared. Russia has chosen the fast-reactor route for disposing of its plutonium.

A DOE inspector general's audit released on 22 May blames the project's escalating costs and schedule slippages on a combination of an "immature design," understating the difficulty of installing "various construction commodity items," and high personnel turnover. When approved for construction in 2007, the MOX plant was expected to be finished in 2016. According

to the inspector general's report, if construction isn't halted as the administration wants, the plant won't be completed until 2019.

**David Kramer** 

## Availability of physics in US high schools



Over the past three decades, the percentage of US high school students who take physics has steadily climbed—from 20% in 1986 to 33% in 1997 to 39% in 2013. In that same period, the proportion of high school seniors attending a school where physics was taught at least every other year has hovered around 95%. In the map above, states in yellow hold closely to that national average in availability, while states in blue exceed the average and those in red fall significantly below it; Hawaii opted out of the nationwide survey. More details from the survey can be found in *High School Physics Availability* by the American Institute of Physics's Statistical Research Center; the report can be downloaded at http://www.aip.org/statistics/highschool.



## Points of View

Retired particle physicist Lalit Sehgal recounts how the crash of a military jet outside his university in



India 56 years ago led to his learning, from a book in the university library, that the proton has structure.

## Singularities

In an interview with Physics Today's Toni Feder, theoretical physicists Ben Lillie and Brian Wecht explain how they came to launch the Story Collider, a live forum where members of the public can share how science has touched their lives.





## ◆ The Dayside

In his blog, Physics Today's online editor Charles Day writes about predicting the success of emerging technologies, a competition for energy startups, engaging people who believe in astrology, and the modern history of passive solar heating.

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