



Western States Water

Addressing Water Needs and Strategies for a Sustainable Future

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ADMINISTRATION

EPA/Environmental Justice

On January 15, the public comment period closed for the Environmental Protection Agency's (EPA) Revised Technical Guidance for Assessing Environmental Justice in Regulatory Analysis (88 FR 78358). The Texas Commission on Environmental Quality (TCEQ) and South Dakota Department of Agriculture and Natural Resources (SD DANR) submitted comments. The Guidance is intended to update and outline analytic expectations and technical approaches that EPA can use to evaluate environmental justice concerns with its regulatory actions.

TCEQ expressed its concern that the EPA is requiring more environmental justice analysis from state agencies without statutory authority. TCEQ noted that its jurisdiction is limited and said: "In any rulemaking, EPA must clearly identify any how EPA guidance and authority will account for different jurisdictional limitations and obligations among the different states."

SD DANR said the Guidance exceeds EPA's existing regulations by (1) expanding the definitions of "Environmental Justice Concerns" and "Meaningful Involvement;" (2) including priority for specific issues; and (3) recommending expanded analyses. DANR supported EPA's disclaimer that the guidance would not change any laws or regulations nor be legally enforceable, but was concerned that EPA would not follow the disclaimer. They also noted that as a state agency, they cannot comply with the guidance in the absence of an authorizing statute or regulation. "DANR believes if EPA wants to implement these requirements, they should be adopted through regulation not guidance." <https://www.epa.gov/environmental-economics/epa-drift-revision-technical-guidance-assessing-environmental-justice>

ADMINISTRATION/WATER QUALITY

Emerging Contaminants

On January 19, the White House Office of Science and Technology Policy (OSTP) released The National Emerging Contaminants Research Initiative (NECRI)

Implementation Plan. The plan responds to the National Defense Authorization Act (NDAA) for FY20, which directed the Contaminants of Emerging Concern (CECs) Interagency Working Group to coordinate federal research on CECs. The plan outlines steps to coordinate CEC research, monitoring, innovation, and public outreach between agencies such as the EPA, the U.S. Geological Survey (USGS), and the Food and Drug Administration (FDA).

In August 2022, OSTP released a NECRI report to organize CEC research into five strategic goals. The initiative aimed to improve the identification, analysis, monitoring, and mitigation methods of CECs, and develop any necessary program, policy, or budget to support the implementation of the initiative. The newly released implementation plan provides activities to promote cross-government collaboration on those strategic NECRI goals.

Implementation activities outlined in the document include: (1) developing a resource guide for coordinating CEC research across agencies; (2) establishing a coordinated response to the discovery/identification of potential CECs; (3) formalizing a collaborative CEC network to provide access to research data, methods, and tools.

The NECRI Implementation Plan states: "The NECRI (and its implementation) is built on the premise that every American deserves to drink clean water – free of chemicals and pollutants that harm the health and wellbeing of children, families, and communities." <https://www.whitehouse.gov/wp-content/uploads/2024/01/NSTC-CEC-Strategy-Team-NECRI-Implementation-Plan.pdf>

CONGRESS

Senate Hearing/TSCA

On January 24, the Senate Environment and Public Works (EPW) Committee held an oversight hearing on implementation of the Toxic Substances Control Act (TSCA). Chairman Tom Carper (D-DE) and Ranking Member Shelley Capito (R-WV) questioned the Assistant Administrator of EPA's Office of Chemical Safety and

Pollution Prevention (OCSPP), Michal Freedhoff. In her written testimony, Freedhoff provided an update on TSCA implementation and plans for the increased budget request of \$130.7M for FY24. Regarding per- and polyfluoroalkyl substances (PFAS), she noted recent changes to their framework for evaluating chemicals, and their new rule for reporting chemicals.

She said: “In October of last year, to carry out a provision authored by this Committee, we finalized a reporting rule under TSCA to collect the largest-ever dataset of PFAS manufactured in the United States. We also finalized a rule that will improve communities’ right to know by eliminating an exemption that allowed facilities to avoid reporting PFAS information to the Toxics Release Inventory (TRI) when those chemicals are used in small concentrations.... In May of last year, we proposed a rule to eliminate eligibility for exemptions that had allowed some PFAS to go through an abbreviated analysis – and would instead require that all new PFAS undergo a full safety review. And in June, we announced a framework for evaluating new PFAS and new uses of existing PFAS, to ensure they do not pose risks to people’s health and the environment before new PFAS are approved for use. We recognize in this framework that PFAS can be used responsibly in many products and critical industries, like semiconductor manufacturing. Our approach to managing risks distinguishes uses that could result in environmental releases – and those with expected human exposures – from those that will not, and will require upfront testing for many PFAS. And earlier this month, we finalized a rule that prevents companies from starting or resuming the manufacture or processing of more than 300 PFAS that have not been made or used for many years without a complete EPA review and risk determination.” She noted that her office has been working under EPA’s whole-of-agency approach using the PFAS Strategic Roadmap.

WATER RESOURCES

High Plains Aquifer/Groundwater

On January 15, University of Nebraska-Lincoln (UNL) published a study to quantify how aquifer depletion threatens crop yields and resilience through drought. The study analyzed yields, weather, and groundwater data from the High Plains Aquifer (HPA) which underlies portions of Colorado, Kansas, Nebraska, New Mexico, Oklahoma, South Dakota, Texas, and Wyoming. The research connects aquifer thickness directly to crop yield in dry seasons. It also identifies specific thresholds relevant to maintaining yield in states dependent on HPA water availability.

The study, aquifer depletion exacerbates agricultural drought losses in the U.S. High Plains, used over three decades of historical data to plot county-level yields of

corn and soybean against seasonal water deficits for four ranges of annual estimates of the HPA’s variable thickness. Farmers pumping from the most saturated areas of the HPA (220-700 ft thick) had high irrigated yields even during drought. Some of these farmers, pumping from groundwater 330 ft thick, irrigated 89% of their corn acres. Farmers pumping from areas with less than 100 ft aquifer thickness suffered significantly decreasing crop yields as water deficits increased, beginning at deficits as low as 16 inches. Some of these farmers, pumping from 30 ft thick aquifers, irrigated only 70% of their corn acres. UNL researchers also plotted crop yield for non-irrigated fields and unsurprisingly found them sensitive to even smaller water deficits. All significant reductions in yield were non-linear, with an increasing rate of loss as drought intensified.

The UNL researchers attribute these patterns to the ability of farmers to buffer crops against drought risks. They suggest that aquifer depletion increases the energy costs of pumping water, possibly impacting farmer’s management decisions. Aquifer depletion also lowers the rate of transmission of water to a farmer’s well, limiting availability for farmers to irrigate at ideal rates. Without available groundwater, farmers must either limit the area of irrigated lands or limit irrigation depth. Reducing irrigated lands increases the amount of non-irrigated field crop losses. Reduced irrigation depths leave even irrigated crops vulnerable to drought.

The non-linearity of crop losses indicates important thresholds of aquifer thickness. Based on the study’s historical data, researchers estimated how much yield would be lost under given aquifer reductions. Reducing aquifer thickness from 330 ft to 230 ft only results in estimated losses of 2.5 bushels of corn per acre at extreme water deficits. Reducing the aquifer thickness from 230 ft to 130 ft results in an estimated loss of 15 bushels per acre at the same extreme water deficit levels.

Nicholas Brozovc, study co-author and professor at UNL, said: “As you draw down an aquifer to the point that it’s quite thin, very small changes in the aquifer thickness will then have progressively larger and larger impacts on your crop production and resilience. And that’s a thing that we don’t predict well, because we tend to predict based on the past. So if we base what’s going to happen on our past experience, we’re always going to underpredict. We’re always going to be surprised by how bad things get.... In terms of things that let you address food security under extreme conditions – in particular, drought and climate change – we really can’t do without irrigation. If we want to feed the world with high-quality, nutritious food and a stable food supply, we need to irrigate.” <https://news.unl.edu/newsrooms/today/article/husker-study-finds-aquifer-depletion-threatens-crop-yields/>

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