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Region 10 Briefing Paper -- Umatilla 1431 Petition 02/27/2020

Purpose: Brief ECAD Director to Inform, Receive Feedback & Obtain Decision to Proceed with Recommendations

- Summarize petition request & initial analysis conducted by Region 10
- Provide Initial Assessment/Recommendations
- Confirm Next Steps/Milestone(s) (briefings, meetings, and/or written communications)

Overview: Region 10 ECAD, WD and ORC are evaluating a petition from Food & Water Watch and 8 other organizations asking EPA to use authorities under SDWA 1431 to respond to nitrate exceeding drinking water standards in the Lower Umatilla Basin Groundwater Management Area in north central Oregon. The petition identifies CAFOs as a concern and provides 1500 pages of information to support their request, much of which is publicly available from the GWMA's efforts. The petitioners requested that EPA institute a moratorium on new CAFOs in the GWMA, and requests additional investigation, monitoring, enforcement, and provision of alternative drinking water. Region 10 is coordinating with OECA & OGC and making initial inquiries of state agency contacts for the GWMA at ODA, ODEQ and OHA as we evaluate the information submitted.

Key human health considerations that inform this briefing:

- Nitrate is an acute contaminant, meaning it can cause serious harm in hours or days at concentrations exceeding the 10 mg/L nitrate-N drinking water standard.
- The nitrate MCL is set to protect infants from methemoglobinemia, a condition in which oxygen is displaced in the blood. Infants are the most sensitive population because their digestive systems are underdeveloped. Methemoglobinemia if untreated can result in death.

Assessment/Recommendations

- The LUBGWMA estimates that 30-40 percent of residential drinking water wells exceed the MCL. However, the magnitude of current health exposure is unknown due to a lack of information about total number of residential wells, how many residential wells have point of use treatment or other safeguard, and the level of public awareness to test residential wells and take remedial actions based on those results, especially for vulnerable populations. EJ Screen tool demographics show high concentrations of children under four and English as a second language populations within the GWMA.
- Several of the individual (domestic or monitoring?) wells have had nitrate levels in the 20 to 40 ppm range, based on data collected from roughly 1992 through 2015/6 as part of the LUBGWMA efforts.
- A Second Action Plan (2019) generated by **the LUBGWMA includes actions for 2020 to increase communication and awareness** related to high nitrate levels in domestic wells. Based on EPA's initial assessment, Ex. 5 Deliberative Process (DP)
- **Branch Chief-level meetings with program managers of ODEQ, OHA, & ODA** are recommended for **March 2020** to discuss the petitioner concerns, EPA's initial analysis Ex. 5 DP / Ex. 7(A)

Ex. 5 DP / Ex. 7(A)

  - Ex. 5 DP / Ex. 7(A)

Ex. 5 DP / Ex. 7(A)

- The questions to ask should include Ex. 5 DP / Ex. 7(A)

Ex. 5 DP / Ex. 7(A)

- Ex. 5 DP / Ex. 7(A)
- In response to a request from ODEQ's project coordinator in the LUBGWMA, Region 10 (Winiecki) has agreed to provide a **presentation in April at LUBGWMA** related to EPA's work in the Lower Yakima Valley to control nitrate.
- **DISCUSS:** Whether Region 10 should Ex. 5 DP / Ex. 7(A)

Ex. 5 Deliberative Process (DP)

Timeline

January 16, 2020 – Food & Water Watch and 8 other petitioners ask EPA to take action in response to nitrates in drinking water in the LUBGWMA (eastern Oregon), citing lack of action since the GWMA began in 1990.

January 29, 2020 – R10 RA provided initial response acknowledging receipt and indicating that EPA would respond further when we have completed our review.

Feb 26, 2020 – Initial reviews complete, including contacts with ODA, OHA &ODEQ (primary state regulators) & consultations with OECA & OGC.

Proposed Next Step in March 2020 – schedule management-level (OOO Director, ECAD & WD Branch Chief) meetings with ODA (Stephanie Page, Director of Natural Resources and Wym Mathews, CAFO and Fertilizer Program Manager), OHA (e.g., Andre Orzo or Dave Emme) & ODEQ (Justin Green, Water Quality Division Administrator, Linda Hayes Gorman, Administrator of DEQ's Eastern Regional Office) to discuss Ex. 5 DP / Ex. 7(A)

Ex. 5 DP / Ex. 7(A)

Initial Analysis

- Petition relies primarily on generally-accepted data contained in LUBGWMA reports that are not in dispute, including documented exceedances of nitrates in ground water resulting in widespread exceedance of MCL in both PWSs and private wells.
- The 2019 Second Action Report prepared by the LUBGWMA identifies additional public outreach actions to be undertaken in 2020 by Umatilla and Morrow Counties to inform/educate private well owners
- Region 10's review of Public Water Systems in the petition confirms that PWS's have had to drill new wells or install treatment to address nitrate exceeding the MCL. The petition does not clarify, but EPA has confirmed, that OHA has taken, or is taking, action as primacy agency for SDWA to address nitrate exceedances at PWSs.
- Region 10 has conducted limited review on the petitioner's claims regarding CAFO's specifically, or other sources of nitrates and exceedances across the GWMA area (covering Umatilla & Morrow counties). The GWMA covers 550 square miles and an estimated 46,000 individuals. The identified LUBGWMA

potential nitrate sources include: irrigated agriculture, land application of food processing industrial process wastewater, confined animal feeding operations as categorized sources of nitrates to ground water.

- Ex. 5 AC / Ex. 7(A)

SDWA 1431 Legal Requirements

- There is no legal procedural requirement or timeline to provide a written response to the petition. However, OECA has counseled, Ex. 5 AC/DP Ex. 5 AC/DP
- EPA must determine there is an imminent and substantial risk, based on information, and that state/local authorities have not acted to (adequately) address the risk.
- Notwithstanding any other provision of SDWA, EPA may direct any person to take action necessary to protect public health from an imminent and substantial risk from a contaminant that may enter an USDW or public water system.

Summary of Initial Analysis

Region 10 staff, in consultation with OECA & OGC, have conducted an initial analysis of the information in the petition to assess whether there is an imminent and substantial endangerment and if so whether state and local authorities have acted to address it. OECA/ OGC stressed that ensuring notice to people potentially affected by residential wells is a key first issue.

Source

Concern: The petitioners are concerned about nitrate impacts from CAFOs and irrigated agriculture. Lost Valley Diary is mentioned specifically, in addition to concern about a proposal to permit another dairy operation in the same location.

Assessment: Region 10 (Winiecki) contacted ODA and confirmed The Lost Valley Dairy has been closed, and cleanup actions were taken to clean up wastes associated with mismanagement of the dairy and numerous violations documented during its operation. Ex. 5 Deliberative Process (DP)

Ex. 5 Deliberative Process (DP)

Public Water Systems

Concern: At least 10 public water systems (both community and non-community) have had substantial nitrate problems or are at risk, serving a population of over 25,000 people inside the GWMA. Petitioner argues that continued failure of local authorities to abate nitrate contamination will continue to put these public water systems and the population they serve at risk.

Assessment: Region 10 (Baron) reviewed current data for impacted PWSs listed in the petition (reference email from Baron 01/29/2020, Public well info on Umatilla 1431 Petition) and followed up with OHA by phone during a standard ETT quarterly review meeting. His assessment is that OHA and PWS owner/operators appear to have taken or be taking timely actions to respond to nitrate MCL exceedances at affected PWS. In a phone call with Dave Emme of OHA, he confirmed that 12 public water systems within the GWMA have had to take measures to

respond to nitrate contamination, including drilling new and/or deeper wells or by adding nitrate treatment technology.

Private Wells

Concern: The petitioners expressed concern about the duration and extent of known nitrates in ground water exceeding the drinking water standard of 10 ppm, including data from the LUBGWMA confirming increasing trends over time, and significant percentages of monitoring wells and domestic wells exceeding the MCL for nitrates. Concern was also expressed for risk to individuals relying on domestic wells, citing data of birth rates as evidence of the potential for infants or nursing mothers who would be most at risk to be present and exposed without adequate protections.

Assessment: Based on data from 4 synoptic sampling events in 1992, 2003, 2009, and 2015, **many** wells have (or had) high nitrates exceeding the MCL, and anecdotal information of installation of treatment systems exists, however, there is not a database or other effort to assess the universe of domestic well owners and track by location, percentage, etc. the number of wells that currently exceed the MCL and that currently have treatment in place. Such a database or summary would improve the ability to target additional public health protections (notice, domestic well sampling, treatment and/or alternative water) to areas needing attention. Highlights from the Initial analysis of LUBGWMA on private wells include:

- private wells identified as exceeding nitrate MCL estimated at Ex. 5 Deliberative Process (DP) (if of all private wells in the area would equal approximately Ex. 5 Deliberative Process (DP) . See pp.73 of LUBGWMA Second Local Action Plan (2019), **but information is unclear as to which wells currently exceed the MCL and are without treatment**
- 2019 2nd Action Report identifies actions under "Goal 4: Reduce the potential for contamination of wells and conduct analytical testing for nitrates in domestic wells and educational outreach to domestic well owners on point-of-use treatment options" proposed in 2020 by Umatilla and Morrow Counties for additional outreach to private well owners (see pp. 61, LUBGWMA Second Local Action Plan
- 4 synoptic events (**most recent in 2015/6)** covering 255 wells (including 56 private wells from Real Estate Transaction database) show 48% of wells in LUBGWMA exceed nitrate MCL.
- Data from wells from OHA indicating that of wells exceeding MCL at some point based on required testing during real estate transactions in the past 10 years. **A sample tested at as recently as 2017.**
- Ex. 5 DP / Ex. 7(A)
- Petitioner's Appendix E includes an article from 1996 a summarizing study of demographics and health risks from nitrates for rural northeastern Oregon based on a phone survey of private well owners. The survey included 83 households total and25 of those households had installed treatment devices. While the survey did not identify infants or nursing mothers exposed to well water exceeding the MCL for nitrate at that time, it also highlighted the need for, and issues associated with, maintaining home treatment units and the importance of educational programs. A recent EJ Screen query of the area indicates that portions of the GWMA demographics contain a

higher proportion of the population under age 5 and "linguistically isolated" compared to national averages.

Initial questions posed by R10 WD & ECAD to guide initial staff review of petitioners' information (and preliminary responses as of 02/27/2020 briefing):

TASK 1: Review of the Petition and Appendices: The group shall make specific team assignments to assess and answer these overarching questions:

(1) Is the data on which the claims are based verifiable, has the data been presented accurately in the petition, and does the data available from State agencies confirm the representations made in the petition?
Yes, the data is verifiable and is primarily taken from the LUBGWMA reports. Region 10's initial review of the data differs in some respects from the petitioner's presentation. For example, a review of the PWS data in the petition does not clearly distinguish the most recent data, which would represent current exposure and human health risks.

(2) Is the petition package so compelling and so well substantiated that EPA should issue an immediate 1431 order?

Ex. 5 DP / Ex. 7(A)

(3) If question 2 is "no", is the substantiation behind the claims of imminent and substantial endangerment of drinking water substantial enough to warrant further inquiry with State agencies?

Ex. 5 DP / Ex. 7(A)

(4) Does the petition package result in a substantial question about the adequacy of the State's actions to date, thereby warranting further inquiry with the State agencies?
Same as 3 above.
(5) Does the petition package result in a substantial question about the effectiveness of the LUB GWMA and more specifically, the effectiveness of voluntary approaches?
Same as 3 above.