

**Comments
On
Permitting Guidance for Oil and Gas Hydraulic Fracturing Activities Using Diesel Fuels – Draft
Docket ID No. EPA-HQ-OW-2011-1013
77 Federal Register 27451**

**Submitted by
National Ground Water Association (NGWA)**

The following comments are submitted in response to U.S. EPA's May 10, 2012 Federal Register Notice, page 27541, seeking comments on the document, *Permitting Guidance for Oil and Gas Hydraulic Fracturing Activities Using Diesel Fuels – Draft*.

Draft Guidance Page 10 – The guidance document recommends that biodiesels not be addressed under the described guidelines: NGWA believes that EPA should re-evaluate whether biodiesels should be excluded.

Draft Guidance Page 13 – The guidance document allows for the authorization of multiple wells with a single permit: NGWA agrees with the recommendation to allow for an area permit with the assumption that this would be available if wells are all within the same well field, facility site, reservoir, project **AND** similar unit in the same state. The permit writer should also take into account if conditions are sufficiently homogenous to allow for one area of review permit, given the potential for variations in geology, faulting or other conditions even if the oil or gas reservoir and unit remain the same.

Draft Guidance Page 18 and 19 – Plugging and abandonment plan: NGWA supports the recommendation that abandoned wells, e.g. oil and gas, water wells, and those related to mining operations, be identified in the area of review prior to injection operations. (In some areas, this may require more rigorous on-the-ground reconnaissance due to the lack of historical well record information.) Abandoned wells provide a potential conduit to short-circuit geologic confining layers and allow fracturing fluids and lower quality formation fluids to migrate to drinking water sources. Abandoned wells also can serve as conduits for fluids released at the surface to contaminate shallow groundwater. For those wells in the area of review, both active and abandoned, that penetrate formations affected or potentially affected by the increase in pressure, additional information should be provided on the risk from these wells and potential actions that would mitigate this risk as necessary

Draft Guidance Page 21 – EPA UIC permit writers should ensure that surface casing and cement extend through the base of the lowermost USDW and should review additional information when specifying casing and cementing requirements. NGWA agrees that proper construction and regular maintenance of oil or gas production wells are critical to ensuring the well's integrity and



preventing the migration of both natural and injected fluids that could endanger current or future drinking water sources. Casing and cementing requirements should be based on best available existing data and site specific information collected during the drilling of the well.

Draft Guidance Page 22 – Construction materials should maintain integrity over the life of the well in order to protect the USDWs. NGWA agrees with EPA’s comment that formation fluids may be corrosive to casing and tubing. In addition, the compatibility of the injection fluids and the cement compositions should be evaluated to ensure compatibility with the well materials and the formation.

Draft Guidance Page 23 - The Guidance document notes that existing requirements require that the injection pressures should be limited so that it will not result in the propagation of new fractures in confining zones. NGWA recommends that EPA add a paragraph that identifies technical procedures that should be followed in making the determination that injection pressures will not result in propagation of new fractures in a confining zone.

Draft Guidance Page 25 – Submitting a cement bond log. NGWA suggests that geophysical logs, such as cement bond logs, should be used to ensure the integrity of the cementing bond. Flexibility should be allowed in determining the appropriate geophysical method to use.

Draft Guidance Page 25 and 77 FR 27456 Question Related to Monitoring – Should EPA include baseline and/or periodic monitoring of USDWs as a recommended monitoring approach in the guidance? If so, what water quality monitoring data should be included to best ensure non-endangerment of USDWs? Some constituents related to oil and gas production also occur naturally in the groundwater or can be liberated from other manmade sources or operations. NGWA recommends testing of water wells in proximity to oil or gas development prior to and after drilling and/or hydraulic fracturing. Such testing would assist in determining the source of and liability for future contamination complaints. Site-specific geology and hydrogeology will dictate which water wells in proximity to oil and gas operations should be tested and monitored. Testing should be performed by qualified water well system professionals using certified laboratories. To assist household and public water system owners who are in proximity to oil and gas operations, state agencies should develop a recommended list of testing parameters. The NGWA Information Brief [Water Wells in Proximity to Natural Gas or Oil Development](#) provides a list of constituents for consideration.

State agencies should also compile, maintain, and use the data from baseline testing of water wells in proximity to oil and gas operations to inform applicable policymaking or address specific contamination incidents.

Separate from the permitting process, NGWA generally recommends that integrated groundwater monitoring programs using dedicated wells at both the regional and local scale be developed by governmental entities to establish baseline conditions, and to determine long-term



trends in both water quality and quantity in active oil and gas producing areas. State or other government organizations are best positioned to design, monitor and maintain such networks over time.

Draft Guidance Page 28 - An owner or operator may also choose to use microseismic and titlmeter surveys as suggested by API Guidance Document HF1 to achieve real-time mapping of a HF treatment in progress. NGWA suggests adding the following sentences after the previous sentence regarding microseismic and titlmeter surveys:

EPA UIC permit writers may want to consider, per their authorized discretion under 40 CFR 144.52(a)(9), requiring the use of microseismic and titlmeter surveys in specific situations for a specific well or wells such as when a new fracturing technique is being considered, hydraulic fracturing is taking place in a new hydrogeologic or geologic area, or when a hydraulic fracturing computer model requires calibration. The API guidance indicates that the use of microseismic and titlmeter surveys in these situations is common industry practice, although their use is not done or needed for every well. The surveys would reduce uncertainty, add real time data, and provide evidence that the hydraulic fracturing will not/did not penetrate USDWs.

The National Ground Water Association is a not-for-profit professional society and trade association for the groundwater industry. NGWA members from all 50 states include some of the country's leading public and private sector groundwater scientists, engineers, water well contractors, manufacturers, and suppliers of groundwater related products and services.

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