Injection Surveillance Committee Meeting
San Francisco, CA
April 9 and 10, 2008

RESUME

Members: Ken Carlson, Steve Fields, Pat Abel, Bert Ellison, Glen Muggelberg, Tim Kustic, and Ali Khan

Ex-Official Member: Mike Stettner

U.S. EPA Guests: George Robin, David Albright, Dave Bassinger, Liz Janes and Adam Friedman.

Opening Remarks – Abel and Stettner

Opening remarks were given by Abel and Stettner that included introductions of Ellison as the new District 4 Injection Surveillance Committee (ISC) member and Abel as the new ISC Chairperson.

1. EPA National Database - Janes

Janes gave a detailed presentation on the "EPA National Database Program". The EPA National Database would serve as a management tool to assist in the oversight of all injection well classes. The database would allow the regional EPA office to electronically access information from each participating state instead of the state having to submit the quarterly/annual 7520 reports. The information would then be compiled by the office and electronically transmitted to EPA Headquarters in Washington DC. Although the data elements in the National Database are more extensive than what is currently submitted to EPA, Janes said the database will accept "data not available" for those additional data fields that the Division either does not collect or chooses to not report. ISC members expressed concerns about the amount of data requested, how the data would be used, who would see the data, and possible breach of well confidentiality. Janes said the data fields and its usage are necessary for EPA Headquarters to adequately track injection wells at the national level and would make all injection well data available to the public.

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RECOMMENDATION

ISC recommends that the Division participate in the EPA's National Database Program and that the Computer Users Group be tasked with developing a UIC database that incorporates the data currently in Forms 7520 I-IV and any additional data elements that are deemed appropriate. The proposed database would require each district to keep their portion of the data current and that the UIC Program Manager would ensure it is posted on the Division's web site.

2. Establishing a Policy to Extend Field Boundaries Based on UIC Wells – Ellison and Stettner

Ellison presented information regarding several Tulare zone disposal wells that are beyond the oil field boundary and have a TDS of 7,200ppm. Because the aquifer exemption for the adjacent field was based on the field boundary, the exemption does not apply to any well outside the field boundary. The wells are currently shut in and the operator is working through the process to obtain and EPA aquifer exemption.

This issue raised the question on whether a field boundary could be established based on the location of an injection well if the well is integrally associated with the oil and gas operations. ISC was divided on this issue and did not arrive at a resolution. To resolve the issue of injection wells that are not covered by an aquifer exemption because they are located outside an oilfield boundary, Robin suggested reviewing the adjacent oilfield aquifer exemption to determine if the exemption could be based on some geographic or geometric (such as vertical or lateral limits or gradient) term. The federal UIC regulations provide the State Oil and Gas Supervisor authority to define and describe an aquifer exemption based on a surface or subsurface expression as long as the description is clear and definite. When the Division accepted the federal primacy for Class II wells, aquifer exemptions were grandfathered to all injection zones defined as a USDW. The exemptions were based on the oil field boundary, which is current Division policy.

RECOMMENDATION

1. ISC makes no recommendation regarding the establishment of field boundaries based on UIC wells.
2. ISC recommends amending the MOI to clarify that an aquifer exemption is required for injection wells located outside a field boundary, even if the injection zone is part of an existing aquifer exemption located inside a field boundary.
3. ISC recommends that all districts review their aquifer exemptions to determine whether an exemption should be defined by some geographic or geometric term other than a field boundary.

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3. Certifying Disposal Fluids as Non-Hazardous - Stettner

Stettner described District 2's method of using an operator's self-certification letter to approve Class II injection fluids disposed in commercial Class II wells. District 4 reported a similar situation but requires the commercial operator to submit a more comprehensive geochemical analysis that includes: flash point, reactivity (if high in iron sulfides), metals, volatility, and sulfides. Because there is an inconsistent approach to determine whether a fluid is deemed nonhazardous, ISC makes the following recommendation:

RECOMMENDATION

ISC recommends that Fields, Ellison and M. Habel develop a new section of the MOI that will address the determination and self-certification of Class II disposal fluids as nonhazardous. This will include how and when testing should be conducted and the Division's authority to require more than self-certification. Their recommendations will be submitted to ISC for review before the next Deputies Conference.

4. Frequency and Required Components of a Water Analysis – Fields and Abel

Fields and Abel suggested that the Division should have a more consistent policy regarding the frequency for when to require a quality analysis of the injection fluid. Most districts require a fluid analysis of the injection analysis only once, unless the injection water constituents changed in anyway. One district requires an analysis every five years and another every two years even if the injection water constituents have not changed. CCR Section1724.10 states: "*A chemical analysis of the liquid being injected shall be made and filed with the division whenever the source of injection liquid is changed, or as requested by the supervisor.*"

RECOMMENDATION

ISC could not reach a unanimous recommendation. Instead, the issue of whether the Division should establish a policy that regulates the testing frequency of injection fluids is deferred to the District Deputies.

5. SAPT Policy and Procedures – Stettner

ISC discussed whether a low-pressure SAPT is an adequate internal mechanical integrity test. ISC determined the existing low-pressure testing policy is adequate if combined with a monitoring program. Some members felt that a maximum 200 psi test pressure was sufficient. Others, including Robin, felt 200 psi was to low and that a higher test pressure of at least 300 psi is needed.

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RECOMMENDATION

ISC recommends that additional well testing or monitoring, if warranted, be required for wells that fail or marginally pass an SAPT. Upon review by the Division management and the Deputies, Stettner will further discuss this issue with Robin at the next EPA/DOGGR end-of-year meeting.

6. Review and Update MOI Section 170.7 UIC Project Data – Kustic

Kustic informed ISC that MOI Section 170.7 needed to be rewritten in light of CCR Section 1997.4, Classification As Interpretative Data.

RECOMMENDATION

ISC agrees and recommends that Kustic and Stettner rewrite MOI Section 170.7 to incorporate CCR Section 1997.4 and submit it to the District Deputies for approval.

7. Review UIC Master P-Report Statements – Kustic

Kustic recommended that the P-Report statement referencing initial and revised project approval dates be phased out because the Division should only reference the last project approval date. An additional statement, regarding flow to the surface after well perforation, was revised by ISC.

RECOMMENDATION

ISC recommends that the following UIC P-Report statement no longer be in the "master list" and that it be phased out:

> **This well shall conform to the provisions set forth in our letter dated _____, with revisions through _____, approving the project.**

Instead, the following statement (already existing) should be used:

> **This well shall conform to the provisions set forth in our letter dated _____, approving the project.**

In addition, the following P-Report statement is recommended by ISC:

> **If the well is capable of flowing to the surface after perforating the _____" casing across the proposed injection interval, use of this well for injection is not approved.**

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8. Scanning of Project Data a nd File Order – Kustic

Kustic presented a report on the Division's well-record scanning project and how District 6 well records and logs were organized to facilitate the scanning process. He reported that injection project data must also be organized so it can be electronically scanned in the near future.

RECOMMENDATION S

The electronic project folder should contain three types of PDF files:

1. A file for project application, amendment and approval documents.
2. A file for Area of Review documents.
3. A file for Project Review documents.

The document order in the above files should be arranged in reverse chronological order (newest on top – oldest on bottom) except for the current project approval letter that will be maintained on top of the application – amendments – approvals file.

ISC also recommends that in order to organize the UIC project file, the system should have the following elements as searchable data fields:

District
Field (or "Any" if none)
Area
Zone/Pool
Operator
Type
Status
ID number/code that al lows wells to be linked to a project

9. Discussion of Carbon Capture and Storage (CCS) and Establishing H_2S Regulations – Stettner

A general discussion of CCS in California included the eventual need to record the volume of CO_2 injected and produced in EOR projects. The operator's "credit" for CO_2 EOR sequestration would need to be balanced with the CO_2 that is recovered along with produced oil, so that an operator does not receive credit for the injection of CO_2 a second time. EPA emphasized the need for increased closure requirements for EOR wells and how they should parallel CCS closure requirements. EPA indicated that EOR CO_2 wells should really be classified as CCS.

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Stettner and Ellison also discussed the potential need for Division H_2S injection well regulations. Current requirements for H_2S injection wells could be construed as underground regulations.

RECOMMENDATION

ISC recommends that Ellison, Abel, and Winkler develop draft regulations for H2S injection wells. The draft regulations will be submitted to and reviewed by ISC when completed.

10. Converting Waterflood to Water Disposal – Abel

Abel discussed the need to better define the distinction between waterflood and water disposal wells. There are some concerns in District 3 that an operator is classifying some injection wells as waterflood to circumvent the more stringent MIT requirements.

RECOMMENDATION

ISC recommends no change to existing policy and procedures. The classification of injection wells is defined in MOI Section 170.1. Project engineers cannot indiscriminately change a waterflood project to a water disposal project and vice -versa without justifiable cause. Project engineers currently have authority to require additional well testing or monitoring, if warranted.

11. Geothermal Database Demonstration – Khan

Khan presented a PowerPoint slide show of the operations and injection history of The Geysers Geothermal area. Included in his presentation were graphics on pressure and steam production decline. There were additional graphics depicting the increased amount of reclaimed water, obtained from the City of Santa Rosa, piped to the geysers and injected into the operators Class V wells. This large amount of water has recently been shown to increase steam production at the Geysers (humorously referred to as: "Flush to Flash"). Also shown were graphics on injection vs. seismicity.

Khan demonstrated his geothermal database and how it calculates the Maximum Allowable Surface Pressure for each water injection well and how it can extrapolate the maximum water injection volume vs. time.

Recorder: Ken Carlson

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