SAJB
SPOKANE AQUIFER JOINT BOARD

SPOKANE

Spokane Area Wellhead Protection Program
City of Spokane and Spokane Aquifer Joint Board (SAJB)
Citizens Wellhead Committee
Meeting Summary #1

Riverpoint Higher Education Park, Room 316
Spokane, WA
6 p.m.
July 8 1998

Background

The first meeting of the Citizens Wellhead Committee (CWC) was held at the Riverpoint Higher Education Park in Spokane, Washington Wednesday, at 6 p.m., July 8, 1998.

The following individuals attended the meeting:

Mr. Victor Hill – Committee Member -Automotive
Mr. Dennis Wells – Committee Member – County Citizen At-large
Mr. Dan Kirschner – Committee Member – Spokane Area Chamber of Commerce
Mr. Richard Kjose – Committee Member – Chemical Industry
Mr. Art Bookstorm – Committee Member – City Neighborhood Council
Dr. Hugh Lefcort – Committee Member - Environmental
Mr. Brad Blegen – City of Spokane
Mr. Lars Hendron – City of Spokane
Mr. Charlie Dotson – City of Spokane
Mr. Ty Wick – Spokane Aquifer Joint Board

The following individuals were unable to attend the meeting:

Mr. David Jones – Committee Member – WQAC
Mr. Alan Folino – Committee Member – Manufacturer
Mrs. Suzanne Knapp – Committee Member – Home Builders Association/Realtors
Mr. Michael Heden –Committee Member – Transport/Cargo/Shipping
Mr. Terry Drake – Committee Member – Fuel Storage

Brad Phelps of CH2M HILL was the meeting facilitator. Sharon O'Shaughnessy of CH2M HILL recorded the meeting minutes.

Introduction

Brad Phelps began the meeting by having each individual introduce themselves and relate some information about their background and reason for selection for the committee. Mr. Phelps also noted that all committee members had been appointed by the Spokane Aquifer Joint Board, the Town of Millwood, City of Spokane City Council, and Spokane County Commissioners.

The items discussed in the meeting include:

- Local Wellhead Protection Programs (City of Spokane and Spokane Aquifer Joint Board)
- Idaho's Protection Policies
- Spokane Aquifer Characteristics
- Schedule of Committee
- Committee Concerns
- Committee Goals

Local Wellhead Protection Programs

Brad Phelps gave a review of local wellhead protection activities to date. He stated that the program was mandated by the State of Washington through the passage by Congress of the Safe Drinking Water Act (SDWA), wellhead protection is just one facet of the SDWA and is part of a nation wide source water protection program. Wellhead Protection (WHP) activities will not necessarily change what is done to protect our drinking water supply today, but will protect it for the future. Lars Hendron noted that local wellhead protection programs are administered by the Washington State Department of Health (DOH), and that the DOH only requires purveyors to identify their WHP areas and prepare a contaminant source inventory, any regulatory and/or protection measures are left to the discretion of the purveyor and/or local community (City of Spokane, Spokane County, Town of Millwood).

Brad noted that Spokane County had initiated aquifer protection programs earlier, such as Spokane County's 208 program in the late 1970s. One of the policies developed through the 208 program was the idea to replace septic systems with sewer collection systems over the Spokane Aquifer. The sewering program developed in the mid 80s has shown dramatic improvement of aquifer water quality in areas where sewering has been completed. The program will be complete in 10 to 15 years.

Spokane solely uses groundwater for its drinking water. The water is unusually clean and for the most part untreated. The City of Spokane began its WHP program and serious scientific investigations of the Spokane aquifer in 1994, and the Spokane Aquifer Joint Board (nineteen local water purveyors) began its work in 1996. Brad Blegen noted that the City has an advantage over most of the local water districts, because the City owns its own water department and has the power to enact policies to protect its water. County Private water districts do not have the power to regulate activities that occur over the aquifer. Because the way groundwater flows, most of the City's wellhead protection areas lie outside of the City boundaries, some extending into Idaho. This is also true of SAJB water district's WHP areas. Thus the City and the SAJB decided to work together to build a regional protection system for the resource. The purpose of this Citizens' Wellhead Committee is to assist the City and the SAJB in defining activities to help prevent contamination of drinking water in the Spokane Aquifer.

Dan Kirschner explained WHP as "a number of different strategies that may included public education, land use, and regulations".

Idaho's Wellhead Protection Policies

Ty Wick gave a synopsis of Idaho's wellhead protection efforts. He explained that the Panhandle Health District coordinates efforts in Idaho, which has designated that the entire Idaho portion of the Spokane Rathdrum aquifer be protected as a single wellhead protection area, and has implemented policies to move toward that goal. The District's program is the most active. It conducts water quality testing, and through

its strong materials monitoring program, has identified 600 industries that use hazardous material. Additionally, Idaho works with the lumber industry, regulates land use by limiting building to five-acre lots in prairie areas, and promotes sewer agreements with small communities.

- Idaho's dependency on grants for wellhead protection funding has recently caused them some financial problems.

Spokane Aquifer Characteristics:

Hugh Lefcort asked about properties of the Spokane aquifer. Brad Phelps explained relative water flow rates of the river versus the aquifer (River, Idaho border to downtown = 5 hours, and the aquifer same distance = 7 years). Brad also explained that the aquifer flows only in one direction (no reverse flow) and the aquifer elevation does change on a seasonal basis (lower in the fall). The Spokane aquifer has an average depth of 300 ft (Max 500'), but that most wells drew water from the top 100' of the aquifer.

Ty Wick pointed out that activities over the aquifer had caused contamination of the aquifer in the past, and that in his district, two wells had to be replaced at a cost of $750,000.

Schedule of Committee:

Brad Phelps explained that the CWC was authorized to commence for 6 months only from the first meeting. The group would meet approximately two times per month in the beginning, but would probably be able to reduce the frequency of meetings as goals were met.

Committee Concerns:

- Richard Kjose expressed a concern about the rules governing the chemical industry, noting that small businesses do not have plans to dispose of chemicals properly and were mostly unaware of any requirements. He also stated that there was no enforcement for smaller plants, and that larger plants operated within regulations. Richard was also concerned with dumping and non-enforcement of current regulations. He also stated that EPA did not have a "simple" format to inform businesses and individuals about the regulations and that there was a need to conduct education for business and the public. Additionally, he asked "What should be the committee's definition of protection and what kind of standard is in use?"

Committee members discussed the waste to energy plant, and the costs to business for hazardous waste disposal service.

Dan Kirschner questioned the product the CWC needed to produce, where the CWC would fit into the WHP hierarchy and who would be contributing to this planning effort.

Hugh Lefcort questioned the current "loopholes" associated with disposal of antifreeze in a small auto repair shop. He was recently approached by a mechanic performing work on a personal vehicle and told if Lefcort kept the material (for disposal) the cost for repairs would be reduced. He also commented that excessive regulations would be ignored by small businesses and too large of a cost for disposal would cause illegal dumping.

Victor Hill also expressed concerns about the individuals who work on automobiles as a sideline and about small auto repair shops that could not be regulated. Victor suggested the formation of a co-op disposal process for small businesses. Victor expressed the need for a public education program, so that everyone would be aware of where their water comes from.

Additional concerns expressed were land use changes in wellhead protection areas, and regular monitoring of water quality for all types of chemicals.

Committee Goals:

Handout: Each participant was provided three handouts; Memorandum of Understanding (MOU) and CWC Implementation Process; Contaminant Source Inventory notification information, and focus group application form. In order to help committee members understand their role in the process, Brad reviewed the Implementation Process diagram (last page of MOU), and the MOU

Brad defined the CWC as a "think tank" that would generate the issues pertaining to the "levels of risk we are willing to take with our drinking water and what we need to do in the future to maintain the quality we have presently". The focus groups in turn would develop the issues put forth and plan how to implement strategies and present resolutions back to the CWC.

Action Item: The group would like to see an analysis of potential focus group subjects from contaminant source mailing materials.

Action Item: Each member of the group is to develop a list of focus group subjects and bring the list to the next meeting.

Wrap Up

The group agreed to meet again on July 29th, 1998 at the Riverpoint Higher Education Park, Room #316 at 6:00 p.m.

An agenda items for the July 29th, 1998 meeting is:

- Review focus group subjects.

Meeting Adjourned

SAJB
SPOKANE AQUIFER JOINT BOARD

SPOKANE

Spokane Area Wellhead Protection Program
City of Spokane and Spokane Aquifer Joint Board (SAJB)
Citizens Wellhead Committee
Meeting Summary #2

Riverpoint Higher Education Park, Room 316
Spokane, WA
6 p.m.
July 29, 1998

Background

The second meeting of the Citizens Wellhead Committee (CWC) was held at the Riverpoint Higher Education Park in Spokane, Washington Wednesday, at 6 p.m., July 29, 1998.

The following individuals attended the meeting:

Mr. Victor Hill – Committee Member -Automotive
Mr. Dennis Wells – Committee Member – County Citizen At-large
Mr. Dan Kirschner – Committee Member – Spokane Area Chamber of Commerce
Mr. Art Bookstrom – Committee Member – City Neighborhood Council
Dr. Hugh Lefcort – Committee Member - Environmental
Mr. Alan Folino – Committee Member – Manufacturer
Mrs. Suzanne Knapp – Committee Member – Home Builders Association/Realtors
Mr. Ty Wick – Spokane Aquifer Joint Board
Mr. Tim Conner - Guest

The following individuals were unable to attend the meeting:

Mr. David Jones – Committee Member – WQAC
Mr. Michael Heden –Committee Member – Transport/Cargo/Shipping
Mr. Terry Drake – Committee Member – Fuel Storage
Mr. Richard Kjose – Committee Member – Chemical Industry
Mr. Jamie Tibbits – Committee Member – Valley Chamber of Commerce

Brad Phelps of CH2M HILL was the meeting facilitator. Sharon O'Shaughnessy of CH2M HILL recorded the meeting minutes.

Introduction

Brad Phelps began the meeting with introductions. Brad asked Mr. Folino and Ms. Knapp to give some information about their background.

The items discussed in the meeting include:

- Groundwater Non-degradation Policy
- Committee Concerns
- Focus Group

Updates:

Meeting Summary: The group was asked to review the Draft Meeting Summary for July 8, 1998 and to forward any changes/corrections to Brad Phelps or Sharon O'Shaughnessy. Brad explained that meeting summaries, when finalized would be posted on the Wellhead Protection Web Site (www.ieway.com/sawhp).

Wellhead Protection Implementation Process: Brad reviewed the process by which the committee was formed and its purpose. He reiterated the committee's purpose "to define the issues to protect groundwater and define the need, if any, to do something about those issues".

Completed Science: Brad explained that the City of Spokane's and the Spokane Aquifer Joint Board's (SAJB) wellhead protection program have completed a significant amount of research concerning the Spokane Aquifer. Brad reviewed drawings depicting wellhead protection areas (showing the direction of water flow in the aquifer) and potential contaminant source inventory (CSI) drawings.

CSI Inventory Drawing: Brad stated that the CSI drawing identified approximately 8,000 points of potential contamination. Each of these points represent a business with a SIC (Standard Industrial Code) code used to identify the type of business. Brad explained that each of those businesses (approximately 2,500 points) located within a wellhead protection area (gray areas on the drawing,) were sent letters of notification, along with information about the wellhead protection program, and a invitation to become part of the process by joining a focus group. Included with the invitation was a list of "possible" issues for focus group attention. Approximately 200 businesses telephoned and 30 responded in writing to the invitation. Ty Wick stated that the information collected for the wellhead protection program was, at this time, approximately six months old. He also noted that the CSI information must be updated every two years, and letters of notification to businesses must be sent again.

Groundwater Non- degradation Policy

The group asked what policies were in place that protected the aquifer and if those policies were enforceable. Ty Wick explained that State of Washington has a policy of groundwater non-degradation. Brad Phelps explained that the law was enforceable, but it was not always possible to identify the source of the pollution, and it could cost millions to do so. Ty noted that the group should only look at the wellhead protection areas, and decide if policies made to protect groundwater in general would be sufficient to protect the wellhead areas.

It was noted that in Spokane County, annual charges for the aquifer protection program added to property taxes for sewering was a result of protection programs, and that the community voted to tax themselves to ensure that the aquifer would be protected.

It was also noted that the aquifer protection tax would end in five years, but if given the opportunity the public may choose to reinstate it.

Committee Concerns

Suzanne Knapp stated that the committee needed to review the impact on the public of any of its recommendations, and that any changes must be careful not to penalize people in the attempt to get them to comply.

The group also expressed concern of how they were going to balance economic growth, while protecting the resource that helps the area to grow economically.

Focus Groups

Brad Phelps suggested that the committee reviews the issues on the *Fact Sheet and Focus Group Response Form* and adds any issues of concern the committee would desire to address. He added that the job of focus groups was to relieve the CWC of the task of reviewing each issue in-depth. The CWC's job is to create, and define the issues to protect the resource while considering a balance with the economic development.

Dan Kirschner suggested that issues could be divided into strategies for protection and tactics for implementation. The CWC will develop strategies while the focus groups will develop tactics for addressing an issue within a wellhead protection area. Dan also presented the idea that economics must be considered along with protection. The group discussed the value of clean water as it related to the public's ability to support protection, (i.e. if the public cannot afford to live in an area, then it cannot afford to support its policies).

Suzanne Knapp recommended that education, rather than regulations, was needed. She felt that once people knew where their water came from (local well down the street) that the general public would be much more likely to comply with current regulations, but that they must be told about the aquifer and about the regulations governing it. She also felt that excessive regulations would be ignored by the general public and by small businesses. The current high cost of doing business would continue to result in dumping of hazardous waste. Victor Hill agreed that education should be a higher priority than regulation, that the committee should concentrate on creating more knowledge. Victor also noted that quite often adults did not respond to information, but they did respond to children. Therefore, a major portion of educational efforts should be directed towards children. Suzanne Knapp agreed that a good children's education program was needed, she also suggested that a drawing of each neighborhood should be made that would identify the location of local drinking water wells. Ty Wick noted that Idaho had not included public education as one of the methods they used to protect groundwater. Idaho regulators felt the distribution of public materials was too expensive, and instead elected to make businesses the focal point of their program.

Hugh Lefcort stated that the easier recycling of household hazardous wastes (oil, antifreeze, paint thinner, etc) could be made for the general public, then the more likely they would be to do it. He suggested curbside pick-up for these wastes. Victor Hall added that even a co-op type of drop-off point(s), such as local lube shops, could be used.

Suzanne Knapp noted that she would like the focus groups to be tasked with developing the best process, least costly, and most ecologically sound way to dispose of [sic] hazardous wastes. She noted that the committee should give the focus groups a task and not necessarily give them the solutions.

There was some discussion about programs that offered recognition to businesses that were able to turn their waste streams to recycled streams. It was noted that this type of program needed funding and needed to be highly visible, in order to promote the business's co-operation and thus reward it with advertising and recognition.

Suzanne Knapp asked if the committee could talk to manufacturers to ascertain what programs they manufacturers feel are successful, and what would make their waste handling process easier. Alan Folino, explained that large companies found the hazardous waste process distracting, cumbersome (requiring about

30 reports per month), and costly. Al's company asks their suppliers to make products available that are not dangerous to the environment, thus reducing the required reports.

Suzanne Knapp stated that the committee needed to know "where the biggest problems/challenges lie, ether in big industry, small businesses and/or homes. Victor Hill noted that most large businesses were highly regulated and much closer watched than small businesses.

The group suggested that any programs that were developed must also provide the means for funding. The group agreed that funding was the responsibility of everyone who gets their water from the aquifer, and that the most efficient way of supporting a program would be through an increase on water bills.

The group agreed on a tentative list of issues (both activities and tactics) that would form the basis of focus group subjects. Those issues are:

a. Petroleum pipelines, transportation corridors (including highways and railroads)
b. Regulated substances, chemical handling and storage
c. Surface water regulations and wastewater requirements
d. Hazardous materials spill response
e. Public education
f. Facility relocations and relocation incentives, property transfers
g. Applicability of current aquifer protection-related ordinances
h. Implementation strategies and enforcement
i. Excessive regulations
j. Curbside pickup of waste materials
k. Reward process
l. Education (Children especially)
m. Personalize the issues
n. Large industry versus small industry
o. Cost effective solutions

Action Item: Brad will supply the committee with a listing of types of businesses and their potential CSI ranking.

Wrap Up

The group agreed to meet again on August 12th, 1998 at the Riverpoint Higher Education Park, Room #316 at 6:00 p.m.

An agenda items for the August 12th, 1998 meeting is:

- Focus group issues.

Meeting Adjourned at 7:45 p.m.

SAJB
SPOKANE AQUIFER JOINT BOARD

SPOKANE

Spokane Area Wellhead Protection Program
City of Spokane and Spokane Aquifer Joint Board (SAJB)
Citizens Wellhead Committee
Meeting Summary #3

Riverpoint Higher Education Park, Room 316
Spokane, WA
6 p.m.
August 12, 1998

Background

The third meeting of the Citizens Wellhead Committee (CWC) was held at the Riverpoint Higher Education Park in Spokane, Washington Wednesday, at 6 p.m., August 12, 1998.

The following individuals attended the meeting:

Mr. Victor Hill – Committee Member -Automotive
Mr. Richard Kjose – Committee Member – Chemical Industry
Mr. Michael Heden –Committee Member – Transport/Cargo/Shipping
Dr. Hugh Lefcort – Committee Member - Environmental
Mrs. Suzanne Knapp – Committee Member – Home Builders Association/Realtors
Mr. Jamie Tibbits – Committee Member – Valley Chamber of Commerce
Mr. Ty Wick – Spokane Aquifer Joint Board
Mr. Lars Hendron – City of Spokane
Mr. Tim Conner – Guest
Mr. George Wells – Guest
Mr. Greg Sweeney - Guest

The following individuals were unable to attend the meeting:

Mr. David Jones – Committee Member – WQAC
Mr. Terry Drake – Committee Member – Fuel Storage
Mr. Art Bookstrom – Committee Member – City Neighborhood Council
Mr. Dennis Wells – Committee Member – County Citizen At-large
Mr. Alan Folino – Committee Member – Manufacturer
Mr. Dan Kirschner – Committee Member – Spokane Area Chamber of Commerce

Brad Phelps of CH2M HILL was the meeting facilitator. Sharon O'Shaughnessy of CH2M HILL recorded the meeting minutes.

Introduction

Brad Phelps began the meeting with introductions. Brad asked Mr. Jamie Tibbits and Mr. Greg Sweeney to give some information about their background.

The items discussed in the meeting include:

- Identification of Focus Group Issues
- Spokane County Aquifer Protection Programs

Updates:

Meeting Summary: Meeting summaries for July 29th and August 12th will be mailed the week of August 17th. The group was asked to review the Draft Meeting Summary for July 29, and August 12, 1998 and to forward any changes/corrections to Brad Phelps or Sharon O'Shaughnessy.

Focus Group Issues: Brad reviewed the Focus Group Issues the group defined in the July 29th meeting.

Potential Issues:

- Petroleum Pipelines
- Transportation Corridors
- Surface Water Regulations
- Hazardous Materials Spill Response
- Public Education
- Facilities Relocation/Incentives
- Current Aquifer Ordinances
- Excessive Regulations

Disposal
Risk vs. Consequences

Strategies

- Enforcement
- Curbside Pickup
- Hazardous Mtls. Pickup at businesses
- Rewards
- Education

Personalize the Issues

- Large Industry vs. Small Industry
- Cost Effective Solutions

Focus Groups

Handouts: Risk Rank description and Ranked Facility Type. Brad Phelps passed out Action Item information requested by the group during the July 26th meeting. The handouts covered "types of business activities that exist over the aquifer", and the "process used in the City of Spokane's and the Spokane Aquifer Joint Board's Wellhead Protection Programs to potentially rank each of these activities". The single page handout provided members with a count of the types of business and the relative risk code developed for possible use in developing the wellhead protection program. Brad explained that the ranking system could be used to identify low, medium, and high levels of risk. The ranking system utilizes a system of numbers from 1 to 4. A rank of 4 applies only to a business or facility that is known to be a hazardous site, and that this business/facility is reporting to and being monitored by agencies such as Ecology (Washington State Department of Ecology), EPA (United States Environmental Protection Agency).

Richard Kjose noted that metal platers did not specifically appear on the list provided. Because they are a business that uses highly caustic chemicals, this industry sector should possibly have an individual ranking. Brad Phelps explained that the ranking system was a version of systems used by other wellhead protection programs. Lars Hendron explained that the risk codes indicated the potential threat to the aquifer of a local business relative to the potential of other local businesses. He also noted that these codes were not used in regulations. Lars further explained that the ranks 1 through 3 applied to businesses not known to have a spill, and that metal platers would probably fall under the rank 3, because they have a relatively high potential to cause a problem. Lars added that in actuality, the rank of 4 was not part of the wellhead protection program since wellhead protection is preventative, but was used to show people that problems did exist.

Public Education: Richard Kjose noted that most large industrial companies have someone on staff who is aware of the disposal process for hazardous materials. He further stated that there were few local experts, (individual chemists and small recycling businesses) who were available to help these smaller companies with their waste disposal problems. Dick suggested that a simple handbook be developed, to help individual (small) businesses with disposal problems. Michael Heden noted that the code of federal regulations (CFR 49) covered the storage and transportation of all chemicals. He also said that the document was very large, but possibly, excerpts could be drawn from it to provide Spokane small industries with the information they required.

Victor Hill stated that EPA and Ecology had many books and pamphlets that could be acquired at little or no cost. Suzanne Knapp had brought with her a publication of Spokane County' s Water Quality Management Program (SCWQMP) on the disposal of household/consumer chemicals. Suzanne suggested that the group review the materials available from various agencies prior to developing new materials. She further noted that if new materials were created, they should be simple and added that a long-term distribution system would be needed for these materials.

Brad Phelps observed that public education was an issue that kept coming up at each meeting. Other group members pointed out that public education should be directed toward the homeowner, business and industry, and children. They discussed ways (possibly through the licensing process) to distribute public education materials and the need for a long-term wide-spread program.

Action Item: Brad Phelps will provide samples of educational/chemical handling/recycling materials available from various agencies.

The group agreed to make Public Education an issue assigned to a focus group. The group will outline Public Education directives requirements at the next meeting, and send the issue to a focus group.

Transportation Corridors/Pipelines/Hazardous Materials Spill Response: Hugh Lefcort questioned the location and route of the local underground pipelines, noting that this type of spill (point source) could have a very high potential for contamination. Brad Phelps explained that various petroleum products are sent through a 36-inch pipe originating in Montana, traveling through Idaho (over the Rathdrum Prairie Aquifer) and into Washington. This pipeline runs along Trent Avenue until just before Francher, then splits, one pipe goes north to the Hillyard tank farm, while the other turns south. An additional pipeline moves east (from the Hillyard Tank farm) across the northern part of the Spokane Aquifer. Mike Heden added that pipelines were classified as commodity transport (the same classification as railroads and highways) .

Suzanne Knapp suggested that since they were non-point potential contamination events, those transportation corridors (rail and highways), and pipelines should be investigated relative to our ability to respond, (i.e. the capabilities of local hazardous materials spill response units). The focus group assigned

this issue should look at what is available and should recommend to the group what new procedures/equipment would be needed to ensure the safety of our aquifer. Mike Heden explained that Spokane County and the DOT have an extensive spill response program and at the present time, they were trying to integrate the water purveyors into their program.

Action Item: Michael Heden will bring copies of DOT and County Spill Response Program.

Further discussion was held on railroad safety and the amount of hazardous materials that moved across the aquifer each by rail, truck, or automobile. Mike Heden noted that automobiles alone carried fuel and oil, and the amount of chemicals transported was more than the group would guess. Mike has access to the actual numbers and will bring the information to the next meeting.

Action Item: Michael Heden will bring use information on current Transportation corridors.

The group agreed to make Transportation Corridors/Pipelines/Hazardous Materials Spill Response an issue assigned to a focus group. The group will outline Transportation Corridors/Pipelines/Hazardous Materials Spill Response requirements at the next meeting, and send the issue to a focus group.

Percent of Risk and Strategies: The group discussed several strategies that could effectively implement some of the focus group issues. All agreed that any solution must be cost-effective and potentially long term. It was noted that hi-tech businesses/high wage businesses are sought after, but that these same businesses often carry a high potential to contaminate. Possible special regulations may need to be investigated. A potential change may be to have businesses agree that if conditions arose where the loss of their property or operations came in conflict with the quality of water in the aquifer, then water quality would prevail, (i.e. a warehouse left to burn down versus flooding a fire with water that would carry contaminants into the aquifer).

Hugh Lefcort outlined a disposal pick-up system for both homeowners and small businesses. Most members agreed that getting hazardous waste in the hands of a disposal expert and/or having it stored properly would be worth the potential costs.

Mike Heden asked about the amount of risk the group is willing to accept for drinking water threats. Brad explained that it was up to the group to decide what level of risk they were willing to accept for their drinking water. Mike explained that he was unable to accept a zero risk factor, because the risk had to be balanced against the cost. He also noted that in some situations, the cost of clean up (especially when considering the miles of roadways over the aquifer) would be less than the cost of prevention. Hugh Lefcort noted that all of the changes did not have to happen immediately, but changes could be applied to any new business, and ask established facilities to comply by some date in the future. The group further noted that compliance and cost might cause some businesses to locate elsewhere. It was noted that in some areas of the nation, this was an acceptable practice, businesses with a high potential to contaminant were paid to move, while 'aquifer-friendly' businesses were sought to move into wellhead protection areas.

Spokane County Aquifer Protection Programs

Several members of the group questioned what regulations/programs were in-place to protect the aquifer. Ty Wick explained that Spokane County has a program to protect the aquifer and is developing further programs to protect all groundwater in the County. Additionally, he added that this group needed to review those programs/ordinances as they apply to the wellhead protection areas. If the group feels that current programs/ordinances provide enough protection, then the group needs to go no further. However, if the

group feels that wellhead protection areas need a higher level of protection, issues need to be defined and possible regulations outlined.

Action Item: Brad Phelps will request Stan Miller/Spokane County to address the group about Current Local Groundwater/Aquifer Programs/Regulations.

Wrap Up

The group agreed to meet again on August 26, 1998 at the Riverpoint Higher Education Park, Room #316 at 6:00 p.m.

Agenda items for the August 26, 1998 meeting are:

- Develop objectives for Focus Groups on the two following items:
    - Public Education
    - Transportation/Pipeline vs. Hazardous Materials Spill Response
- Facilities Relocation
- Current Local Groundwater Regulations – Stan Miller
- Current Aquifer Ordinances

Meeting Adjourned

SAJB
SPOKANE AQUIFER JOINT BOARD

SPOKANE

Spokane Area Wellhead Protection Program
City of Spokane and Spokane Aquifer Joint Board (SAJB)
Citizens Wellhead Committee
Meeting Summary #4

Riverpoint Higher Education Park, Room 316
Spokane, WA
6 p.m.
August 26, 1998

Background

The fourth meeting of the Citizens Wellhead Committee (CWC) was held at the Riverpoint Higher Education Park in Spokane, Washington Wednesday, at 6 p.m., August 26, 1998.

The following individuals attended the meeting:

Mr. Victor Hill – Committee Member -Automotive
Mr. Richard Kjose – Committee Member – Chemical Industry
Mr. Michael Heden –Committee Member – Transport/Cargo/Shipping
Mr. David Jones – Committee Member – WQAC
Mr. Art Bookstrom – Committee Member – City Neighborhood Council
Mr. Dennis Wells – Committee Member – County Citizen At-large
Mr. Ty Wick – Spokane Aquifer Joint Board
Mr. Stan Miller - Speaker
Mr. Greg Sweeney - Guest

The following individuals were unable to attend the meeting:

Mr. Terry Drake – Committee Member – Fuel Storage
Mr. Alan Folino – Committee Member – Manufacturer
Mr. Dan Kirschner – Committee Member – Spokane Area Chamber of Commerce
Mr. Jamie Tibbits – Committee Member – Valley Chamber of Commerce
Dr. Hugh Lefcort – Committee Member - Environmental
Mrs. Suzanne Knapp – Committee Member – Home Builders Association/Realtors

Brad Phelps of CH2M HILL was the meeting facilitator. Sharon O'Shaughnessy of CH2M HILL recorded the meeting minutes.

Introduction

Brad Phelps began the meeting with introductions. Since this was David Jones first meeting attendance he was asked to provide information about his personal background.

The items discussed in the meeting include:

- Spokane County Aquifer Protection Programs
- Current Spokane Aquifer Ordinances

Updates:

Meeting Summary: Meeting summaries for July 29th and August 12th were reviewed and approved by the CWC.

Focus Groups

Handouts: Samples of materials developed by local and State governmental agencies intended for use for groundwater protection, and recycling education, (materials relative to the general public, school programs, small business and industry, and households).

Public Education: The group elected to continue this issue to the September 2nd meeting.

Transportation Corridors/Pipelines/Hazardous Materials Spill Response: The group elected to continue this issue to the September 2nd meeting

Action Item: Michael Heden will bring copies of DOT and County Spill Response program to the next meeting.

Action Item: Michael Heden will bring information on current transportation corridors use to the next meeting.

Spokane County Aquifer Protection Programs

Stan Miller of Spokane County reviewed Spokane County's aquifer protection policies for the Spokane Aquifer. He began with a description of the "sole source" designation.

Sole Source Designation: As part of the federal safe drinking water act, the Edwards Aquifer in Texas was the first to be designated as "sole source" aquifer by Congress. On February 8, 1978, the Spokane Valley Rathdrum Prairie Aquifer became the second aquifer in the United States to receive this designation.

Simply stated, the administrator of the United States Environmental Protection Agency (EPA) must designate an aquifer as a "sole source" if there is no alternative drinking water source. That is, if a groundwater system is the only economically viable source of drinking water, and if the applicant includes a map of the aquifer's boundaries with the application. In reality, this designation means that EPA is required to review projects that use federal money. If there is no federal money involved in a project, then EPA does not have the authority to review the project.

One of the problems was the way "sole source" designation was interpreted; there is only a provision to say the aquifer is sole source which meant it was easy to get the designation, but the designation did not provide an increase in protection measures. Because the designation was not well understood in the beginning, most people perceived the "sole source" designation as a tool that could be used to stop unwanted projects. Consequently, action was taken by citizens and environmental groups to use the "sole source" aquifer" designation to delay or defeat projects that were undesired. These efforts failed because the groups did not identify the boundary designations correctly; i.e. in western Washington there were a number of petitions for one mile square blocks (most aquifer's are not square), to be designated as "sole source" aquifers. In these "other" areas, the boundary's typically encompassed a square mile area that contained a proposed a landfill, incinerator, or something that someone did not want located in the area.

Additionally, many local governments were threatened by the actions that might be taken by EPA. At the time, Spokane County was utilizing federal and state grant money to develop groundwater protection plans and recommendations to manage the Spokane Aquifer. As a result, EPA decided not to promulgate any guidelines for development on the County. Instead, once the County was finished with plans during the late 1970's, EPA reviewed the completed recommendations and plans and decided these met the criteria for federal review of projects over an aquifer.

EPA approved and adopted the completed plans. As a result, Spokane County wrote the regulations that EPA used for review. Additionally, EPA stated that if the City of Spokane and Spokane County adopted these rules and used them as guidelines for development, EPA would essentially approve everything that the County and the City approved for development in the community.

Other communities felt different. Most felt that this was another un-funded regulatory mandate, and that EPA would make numerous demands, but would not fund implementation. This resulted in a separate law referred to as a "sole source" aquifer protection act. The act was designed to provide funding, help communities develop the regulatory framework, and to hire staff to manage the new rules EPA would add where "sole source" aquifers were designated. However, the act stalled in Congress for seven to eight years.

Wellhead Protection Program: In 1986, several sections added to the safe drinking water act and the wellhead protection program was established. This program, rather than looking at whole aquifers, reduced the protected area to the capture zone for wells. Reduction of the area to be managed from the size of Spokane Valley Rathdrum Prairie Aquifer (approximately 300 sq. miles) to something that was more manageable was part of the plan. EPA also added a "sole source" aquifer demonstration program section providing support and guidance for communities with "sole source" aquifer designations who were struggling with the funding to implement regulations. This would enable communities who had the designation to use some of the money for that purpose. This happened in the 80's, eventually the "sole source" aquifer designation section was dropped – no funding was set and none has been granted since.

Rather, EPA chose to approach groundwater protection from the wellhead protection standpoint. In 1986, the whole idea of "sole source" aquifers was dropped by EPA. Since then, aquifers have continued to be designated as "sole source", but there is not the emphasis on protecting the entire aquifer as there was in the early 80's. The focus is now on protecting the capture zone of the wells. There is a possibility that in another five to ten years, when wellhead protection proves its worth, EPA may review the program. Stan Miller stated "I believe that in Spokane the way we are approaching wellhead protection will be effective, but in a number of other communities, wellhead protection is going to be a gross waste of money. The system will not accomplish the goals. There are some very serious technical problems with the way that wellhead protection works. I think that wellhead protection is doomed to fail in 50% of the places it is applied."

Spokane County Regulations: Spokane County has developed a set of "regulations" to handle special problems. The County set up a program to manage a number of existing contaminant sources it knew were problems, (i.e., septic tanks, drain fields, and storm-water dry wells). At the time the programs were created it changed the way the County managed storm water and sanitary waste. All of these changes needed to happen for the development of the community, and would have eventually been done anyway. Although now, looking retrospectively, the County did not make enough changes in stormwater management, they will be making changes to meet these needs in the future.

The major areas of the County's recommendations applied to getting rid of septic tanks over the aquifer, and put in a sanitary sewer system. Another element that needed to be dealt with was chemicals and their potential to impact groundwater, (the word "chemicals" is used in the broadest sense of the term).
In some of Spokane County's ordinances the language states that the facilities where chemicals are stored, handled, and used should have stormwater management systems that are designed in such a way, that spills will not enter the stormwater system. The ordinance does not have best management practices, and it does not say that *spill prevention shall be conducted.* Ordinance does state that drywells cannot be used for stormwater management without some type of treatment system attached to them.

Facilities need to be designed so that the stormwater that goes into drywells and is injected into the aquifer, is not going to be contaminated through a spill incident. Another aspect of this is service stations and other underground storage tanks installations. The City and the County have put forth the most restrictive set of rules in this area. Moreover, when the rules were originally adopted, they were much more restrictive than the national standard. Note that the County and the City have proposed the same set of regulations and rules at the same time.

In 1983, Spokane adopted a regulation that said that the underground storage of petroleum products in quantities of more than 100 gallons required secondary containment. In 1986 and 1987, the requirement was amended to add that not only would secondary containment be required on all new facilities, but when any underground storage tank in use today that becomes 40 years old must be removed. Therefore if a site was used for storage of petroleum products, a new tank would have to be installed and would require secondary containment. Under federal regulations every other chemical had to have secondary containment, only petroleum products had been exempt. By 1998, even petroleum tanks would have to a combination of management facilities attached to them. One of which was secondary containment, which would be about equal in cost to any of the other "best management" regulations.

If a facility did not put in secondary containment, it was required to install a monitoring system, a corrosion protection system, and a leak detection system on pipes and tanks. Federal law allowed for a number of systems that could be added, but in the City and the County, only a secondary containment tank system was allowed. This may be more expensive, but the protection of the aquifer warrants it. This has been the most ominous law adopted for wellhead protection. This same law requiring secondary protection for petroleum products, required the same protection for anything called a critical material. Essentially any chemicals that are stored or used or handled in the community have to be stored or used or handled in a manner where if spilled or leaked it cannot get into the groundwater, i.e. secondary containment.

As an example, any drains must trap the chemical before it gets into the ground. Historically, many facilities had a drywell, under a floor drain. One problem with the new regulation is that no programs were designed to make sure that when a new company moved into an old building, the drain was fixed.

In the State of Washington, it is illegal to inject waste into groundwater; (spill is a waste). A drain is therefore an illegal industrial waste discharge. Washington State Department of Ecology has done most of the work to remove these drywells. Unfortunately, The County did not write a grandfather clause about removing all of these drains, we only stated that a new facility could not have these.

Chemical Storage Management:

The way the County manages chemicals is

1) require secondary containment,
2) require systems that will keep chemicals out of the stormwater systems,

3) underground storage tanks have some special provisions to replace and upgrade the tank within a limited time period, and
4) manage chemicals in new facilities with secondary containment.

It has placed restrictions on:

NO new landfills in aquifer sensitive areas
NO sludge disposal
NO septic disposal

The County has also added other regulations that are restrictive. It requires that there be no new landfills of any kind located within an aquifer sensitive area. This regulation has became part of a state law, which states that inert demolition wastes can be deposited within an aquifer sensitive area, but no other kinds of landfills are allowed. Most dumps were moved to central Washington, so that now large landfills have been constructed where Seattle, Portland, and other cities ship their garbage. The County needs to further change stormwater management by eliminating direct injection to drywells.

Capture Zone Design: The problem with capture zones around the well is that the recharge area is not usually near the well. Therefore, the actual recharge area has not been identified. Wellhead protection only requires that the circle be drawn. The long skinny capture zones used in the Spokane Aquifer do not mean that it will be safe for chemical operations just outside of the zones. Imagine the county attempting to issue a permit for a business on one side of the line (requiring major reconstruction to bring the building up to management operations levels), while across the street no permit would be needed. The process should say that we prescribe the recommendations for management not only to be enforced within the capture zones, but that the management practices are applied to the aquifer as a whole.

Brad Phelps noted that one of the problems with wellhead protection areas is that the modeling only looked at short time of travel, (3 – 5 years), and that if the same analysis is ran for seven years, the entire aquifer is blanketed as a capture zone. The wellhead protection areas are for relatively short travel times.

Actually, the whole idea behind this process is what needs to be done to protect groundwater systems and then how that protection needs to be applied, i.e. how the capture zones ideas should be incorporated.

Contaminant Movement, Regulations, Clean up: Some contaminants like, lead, cadmium, and zinc can remain in the aquifer forever. Organics can degrade either to a less toxic or more toxic state, but the degradation is relatively small because the aquifer has a low carbon content. Therefore, there are no sites for the bacteria to grow and consume the organic materials in the water.

There are massive amounts of literature about the half-life of a contaminant in a groundwater system. We can look at the time a contaminant takes to move through a system, but we need to remember that the Spokane Aquifer is unique, because contaminant problems disappear in this system. In 1980, a plume of a chlorinated solvent was discovered in the aquifer. Relative high concentrations were found in the Kaiser Trentwood well, but a lesser concentration was found down-gradient in the City's Parkwater well. Between 1980 and 1988, the plume was monitored as it move through the aquifer and disappeared. Within 3 to 4 years of the original discovery, Kaiser Trentwood's well pumped clean water with no evidence of solvent. The same was true at the Orchard Avenue, and the City's wells. As the plume moved through the Nevada/ Grace well and then through Spokane County Water District #3 wells, the concentration dropped, and began to defuse. The plume took about ten years to travel from the Spokane Industrial Park, through, and out of the aquifer.

Unlike most aquifers, purveyors in Spokane can actually plan to restart a well if the source of contamination is cleaned up. Note that a purveyor further down the line may have to shut their well off for a few years. Most communities that use groundwater do not have this advantage.

The water in the Spokane Aquifer can move up to hundreds of feet per day. There are also variations in the flow in different areas of the aquifer. Along the edges, the flow is slower. The deposition of the materials in the aquifer are the same as any other stream bottom deposit, there are fine materials along the edges and courser materials in the center. As such, water velocity through the finer materials is slower. The northern area of the aquifer is different. Most of the deposits are 200 plus feet of sand, and in places up to 400 ft of sand on top of bedrock. The velocity of the water is slower (10's of feet per day). This is an area where most scientists would consider the movement as almost normal. The valley section of the aquifer is unique, and difficult to monitor because it's rate of movement can be 100's of feet per day of lateral movement through the ground. When the water table is raised just a few inches, this changes where the water flows, and can cause a significant change in the movement of any contaminants.

In actuality there has been very little contamination identified in the aquifer. Nitrate buildup was a concern in the past, and in some areas nitrogen levels are still about 10 ppm. There have been no detectable metals in the aquifer, nor are we aware of any contamination that has come from petroleum spills. If there are petroleum spills, they are not causing any problems. The only spills that have caused major problems are TCE and Carbon Tetrachloride.

One of the things we are <u>not</u> looking for enough is Benzene, xlene, and toluene–(BTEX) soluble carceigeonians from gasoline additives.

Major issues identified by Spokane County are:

1) UST's – there are less than 20 tanks that serve the public that have not been replaced. (40 year limit).
2) CMU – containment through new building permits,
3) Stormwater (208 swales) filter systems,
4) Sanitary: sewer construction is occurring at $12million per year – priority areas will be completed in 2018, and
5) A prohibition was placed on land disposal/land fills and land application of sludge and septic.

Brad Phelps noted that one of the problems with sewering was recent growth. In the recent past for every home connected to the sewer system, a septic system was installed outside of the priority areas. We have been trading one for one. Stan Miller added that septic systems do not remove most containment's, i.e. when lead goes in a septic tank lead comes out. Most organics do the same. Remember that septic systems are creating a discharge to aquifer.

Original critical materials regulations need additional work, because the County did not perform a risk assessment. The County decided that every critical materials activity needs to be managed. This assessment will take a large team of inspectors. The County has required secondary containment since 1983 but has not had the manpower to enforce the program. If the businesses have obeyed the law, then approximately 80% of the existing UST's would have secondary containment. In the last 20 years a lot of facilities have been remodeled so there should be 80 to 90% containment, but the actual number may not be that high.

The County needs to implement a program that eliminates the grandfathering, no matter the level of risk the facility offers. Unfortunately, if laws are passed they are not effective, because they are not enforced. The required containment needs to be done where it will do some good and it needs to be used

This group needs to figure out where the risk is, and look at the risk assessment to figure out if it is complete. Should other things be added, should some of the 2's be looked at closer? When the group is comfortable with the list then pass a law that says that these things have to be managed. The law will need to be enforced and a program will need to be put together to do that enforcement. The citizens group will need to add a time line to the law. The time line should be phased in like the underground storage tank program. That program gave a long time line, and it appears to have about a 90% compliance. That is the kind of thing that needs to be phased in. (over five years or so). The best way to not get them done is to require that businesses have to spend too much money in too short of time.

There a couple of systems in the County that can handle the enforcement of the law, the most obvious is fire departments. They visit each facility once every three years, and they inspect more risky facilities twice a year. Typically, the fire department looks for materials with combustibility, flammable, and not necessarily hazardous waste. Unfortunately, the fire departments feel that they barely have time to perform their current activities. In some cases, additional funds that would allow them to hire extra people would help. Because the fire departments have the best training for this type of job, the group should really try to use that avenue. Some districts do not want to perform the work even if they are paid. City and Fire District #1 would probably be the best candidates.

With regard to spill cleanup, the County HAZMAT team's purpose is the immediate response; their job is not to clean up a spill but to eliminate the danger to health, and the same with Ecology's team. Neither is equipped to clean up or to engineer a soil removal. The City has some additional skills, but again they cannot handle a very large spill. The City is geared toward events that are more toxic. They will go anywhere. Their purpose is to stabilize the situation, whether to control release of toxic fumes or remove people, but not perform cleanup operations.

The State has money that can used to conduct cleanups. The current average cost for cleanup is approximately $50,000 dollars per single site. The State will try to recover the money to clean up a spill, but if they do not get the money back then they write it off. Most businesses do not necessarily want EPA at their sites because they tend to make things too complicated. Most companies do not want their people to handle this material because they do not want them exposed. The company would rather hand the problem to some other business and close the door. Most do not want to be involved.

Transfer stations do not take commercial waste, because it is illegal to use public money for private gain.

Stan Miller noted that when dealing with large industries that stored chemicals a way needed to be found to deal with the cost and the "grand-fathering" problem.

Contaminated Property: Property owners are responsible for what is dumped on their property. The County has less than an acre with a value less than $250,000, and cleanup will cost $250,000. There is a point where the cost of cleanup is more than the value of the property (brown field problem). Anything can be cleaned up, but costs may be prohibitive.

Residential Vs Commercial Waste Production: This is a creeping problem. As urban density increases more residents produce more waste. Removal of septic systems will allow our water to remain clean in the future. With proper education about fertilizer and water use hopefully we can build to the Idaho border and not degrade the aquifer. The other problem is people dumping oil and antifreeze. This can be a serious problem, and needs to be eliminated. It can be handled through education, acceptance of product at transfer stations, and recycling. An option needs to be provided because most people dumped because there was not option. Now there is an option.

Additionally, the County has done a tremendous amount of education. Stan Miller stated "I believe that there are a lot less people that dump oil on the ground. Now we recycle most of it. Education makes people aware of where their drinking water is and how they have an impact. If they do it at home they may do it at work where they are dealing with larger amounts of products."

Mining/Gravel Pits: Ty Wick identified a potential problem connected with the open gravel pits in the area. Gravel pits that are no longer being mined are attracting birds. At present, a flock of geese has taken up residence in one of the large pits rather than fly south. As an example, Cheney's wastewater system (wetlands) is being inundated with ducks and is being rendered useless.

Stan Miller felt that as long as we can keep trains from falling into the pits because of the close proximity of a number of railroad tracks to open pits, then the primary concern about gravel pits would be bacteriological contamination. There are a number of gravel pits exposing the aquifer and their worse potential for contamination is from waterfowl.

The reason birds are a problem, is because they poop in the water, and there are some parasites that use birds as an intermediate. When water moves from the lake into the aquifer, the bacteria are trapped in the first four or 5 feet of soil at the bottom of the ponds. Not so in the gravel pits because there is no sealed bottom, the pit bottom is the aquifer material. When the water goes up in the aquifer, the water goes up in the pits, and the same with the water goes down. Over time, as dust falls from the air, the sediment in the pits will eventually form a seal, and the water in the aquifer will be able to go up and down without effecting the level in the pits. Then the duck poop will not be a problem because it will get filtered out just as it does in the surrounding lakes. A lake can be contaminated to the point where you don't want to swim in it, and when it is recycled to groundwater, it will be perfectly clean because of the filtering.

The west end of Central Pre Mix's pit north of the Spokane County fairgrounds was reclaimed about twelve years ago. A peninsula sticks out and divides the pit into two halves. The east half was mined until two years ago, and the water level changes more rapidly in that half than in the west half. The water actually flows back and forth between the two halves. One side moves up and down with the aquifer while the other moves much slower. This indicates that in the last ten years there has been enough silting in the bottom of the west half of the pit to disconnect it from the aquifer, and the recharge is through the east half. In 10 or 12 years, there should be a complete disconnection, and then the ponds will become separate from the aquifer. Stan noted that there is a need to monitor the problem, and that the gravel pits are a potential problem, but if they can be sealed there should be no problem.

Current regulations reclaiming the pits require re-contouring, and require that silt material is saved, and used to seal the pits up and re-vegetate them. However, three of the pits were dredged to water twenty years ago, and no soils were saved for reclamation.

Brad Phelps noted that the gravel pits were not used for the TCE contamination in Coeur d Alene or for the problem that contaminated two Water District #3 wells in North Spokane. Spills on the ground cause contamination.

Current Aquifer Ordinances

Brad Phelps reviewed the research for current aquifer ordinances in the United States. Brad noted that what had been done by Stan Miller and the Water Quality Management Program, was "cutting edge" and ahead of most of the programs in the United State because most communities had not fully identified their issues or developed their goals. Stan has been "in the business" for twenty years.

At the previous meeting, the group had requested of examples ordinances used by other communities. The information was obtained from a compendium of wellhead protection ordinances. The following is an example of goals, missions statements, and objectives for wellhead protection developed by some of the larger communities in the United States.

Albuquerque-Bernalillo County's policy is "ensure the quality of our ground-water resources so that the public health, quality of life, and economic vitality of this and future generations are not diminished" and "protect and clean-up the ground water resource...".

Elhart County will "enforce and observe all state laws and legally promulgated regulations pertaining to the preservation of health..."

Marion County states that "certain land uses are allowed only by special exception....commercial and industrial land uses must be permitted only with the grant of a Special Exception." These permits are based upon the businesses minimal use and storage of chemicals.

State of Minnesota: states that " by 2003, all public water suppliers will be required to: maintain isolation distances from potential contamination sources defined in the state code, monitor non-complying sources located on their property, and report to Minnesota Department of Health violations to the isolation distance.

Brad Phelps noted that a number of wells had been shut down in Maine over the years.

State of Maine: has set guidelines that "protect, conserve and manage Maine's groundwater resources to protect the public health, safety, and general welfare, to meet future water supply needs and to sustain economic growth" Activities and regulations in Maine state: 1) Municipalities must require appropriate siting of new facilities and activities, (i.e. like Burlington Northern issue in Idaho), 2) Performance standards, (much like the critical material users issues develop in Spokane), and, 3) Identification and protection activities,(i.e., road salt was a issue for them, but not for this area because the City and the County use magnesium chloride). Another of the activities that Maine uses is *Information and Education* (Non-Regulatory), and that they used existing regulatory measures rather than develop new ones. Maine also adopted *Capital Intensive Methods* such as sewer lines, removal of hazardous chemicals from the soil, and the acquisition of easements on wellhead protection areas to preserve land.

State of Idaho's policy about *Animals and Fowl* states that no person owning or controlling the possession of horses, mules, cattle, sheep, or other animals shall willfully or negligently keep or maintain such animals in enclosures or permit such animal regularly to graze so as to constitute a public health hazard and/or a hazard to water quality.

Wrap Up

The group agreed to meet again on September 2, 1998 at the Riverpoint Higher Education Park, Room #316 at 6:00 p.m.

Agenda items for the September 2, 1998 meeting are:

- Develop objectives for Focus Groups on the two following items:
    - Public Education

    - Transportation/Pipeline vs. Hazardous Materials Spill Response
- Facilities Relocation
- Current Aquifer Ordinances (continued)

Meeting Adjourned

SAJB
SPOKANE AQUIFER JOINT BOARD

SPOKANE

Spokane Area Wellhead Protection Program
City of Spokane and Spokane Aquifer Joint Board (SAJB)
Citizens Wellhead Committee
Meeting Summary #5

Riverpoint Higher Education Park, Room 316
Spokane, WA
6 p.m.
September 2, 1998

Background

The fifth meeting of the Citizens Wellhead Committee (CWC) was held at the Riverpoint Higher Education Park in Spokane, Washington Wednesday, at 6 p.m., September 2, 1998.

The following individuals attended the meeting:

Mr. Victor Hill – Committee Member -Automotive
Mr. Richard Kjose – Committee Member – Chemical Industry
Mr. Michael Heden –Committee Member – Transport/Cargo/Shipping
Mr. David Jones – Committee Member – WQAC
Mr. Art Bookstrom – Committee Member – City Neighborhood Council
Mr. Dennis Wells – Committee Member – County Citizen At-large
Dr. Hugh Lefcort – Committee Member - Environmental
Mr. Ty Wick – Spokane Aquifer Joint Board

The following individuals were unable to attend the meeting:

Mr. Terry Drake – Committee Member – Fuel Storage
Mr. Alan Folino – Committee Member – Manufacturer
Mr. Dan Kirschner – Committee Member – Spokane Area Chamber of Commerce
Mr. Jamie Tibbits – Committee Member – Valley Chamber of Commerce
Mrs. Suzanne Knapp – Committee Member – Home Builders Association/Realtors

Brad Phelps of CH2M HILL was the meeting facilitator. Sharon O'Shaughnessy of CH2M HILL recorded the meeting minutes.

Introduction

Brad Phelps began the meeting with introductions.

The items discussed in the meeting include:

- CARA (Critical Aquifer Recharge Areas)
- Wellhead Protection Areas

Updates:

Meeting Summary: Meeting summary for August 26, 1998 was not ready for review.

Focus Groups

Public Education: The group elected to move this issue to the September 16 meeting.

Transportation Corridors/Pipelines/Hazardous Materials Spill Response: The group elected to move this issue to the September 16 meeting

Action Item: Michael Heden will bring copies of DOT and County Spill Response program.

Action Item: Michael Heden will bring information on current transportation corridors use.

C.A.R.A. (Critical Aquifer Recharge Areas)

Ty Wick of the Spokane Aquifer Joint Board and Water District #3 presented a review of Spokane County's C.A.R.A program.

The goal of the C.A.R.A Committee is "to prevent degradation of groundwater quality in Spokane County and improve water quality where feasible". The committee is concerned with water quality throughout Spokane County rather than focusing on just the Spokane Valley aquifer. The committee looked at all types of aquifers in the county. Information for this review was obtained from well logs, U.S. Geological Survey, Department of Natural Resources, and various other agencies.

The committee used an easy to apply, technically defensible modification of the SHADI water (**S**oils, **H**ydraulic conductivity, **A**nnual recharge, **D**epth to water, **I**mportance of vadose zone) system to rank eighty acre tracts of land with a high, medium, or low aquifer susceptibility rank. SHADI establishes a relative ranking for the susceptibility of ground. As an example, a SHADI ranking of below 80 has very low susceptibility. This would be common for confined and artesian aquifers because degradation would be unlikely even if degradation occurs in the groundwater units above. The Spokane Valley aquifer could be ranked as 135 to 165 – high susceptibility of an unconfined aquifer.

Once the C.A.R.A committee had applied the susceptibility ranking to the county, they turned their attention to uses and activities. A matrix of land uses and activities for recharge areas was developed. A high, medium and low aquifer susceptibility rank was applied to areas with sewers and separately, without sewers. An example of the matrix appears below.

Activity	**No Sewers**			**Sewers**		
Susceptibility	**H**	**M**	**L**	**H**	**M**	**L**
Activity Name	**S 1,2,3**	**Sx**	**N**	**S 1**	**S 2**	**P**

Codes in the chart are:

H – High aquifer susceptibility

M – Moderate aquifer susceptibility

L – Low aquifer susceptibility

P – Permitted (the activity)

N – Not Permitted

Sx – Permitted with Performance Standard x (1 through 6)

S – Performance standard for uses and activities must follow the best management practices (BMP) denoted by the number(s) following the "S". The performance standards have six categories 1 – Agriculture, 2 Critical Materials Use and Storage, 3 Waste Water Disposal, 4 Storm Water Disposal, 5 Mining, and 6 Landfill. Therefore, an activity with the ranking of S 2,4 must follow the performance standards for both critical materials use and storage and for storm water disposal. The performance standard is the active laws and ordinances of the county. C.A.R.A. did not have to create any new laws, but utilized those already on the books.

Ty Wick also noted that Thurston County had used the same type of system, but had not recommended any action for sensitive areas. The council that had reviewed did not approve the ordinance, but sent it back for the group to add cost and burden to their plan. He also noted that C.A.R.A allowed for aquifer susceptibility ranking changes to be made when additional information about any area warranted a change of rank.

Ordinances Parameters

Victor Hill suggested the group develop a "neighbor watch" type of program for wellhead protection. The program could be staffed by volunteers to give out information and inspect businesses.

Victor also asked if the group intended to focus on the entire aquifer or on just wellhead protection areas. For the groups' information, Brad Phelps reviewed the shapes of the wellhead protection areas for the City of Spokane and for the SAJB, and flows, geologic characteristics, and purveyor times of travel of the Spokane Valley aquifer. The group discussed the feasibility of protecting the entire aquifer. They decided that the entire aquifer could present too large of an area for the purveyors to manage effectively, and the County's existing policies along with C.A.R.A. would sufficiently cover all of the aquifer and it's recharge areas

Additionally, Ty Wick explained that originally purveyors had used the "best available science" to define their wellhead protection areas. This would allow them to keep their special wellhead protection areas at a reasonable size and therefore manageable and defensible.

Michael Heden suggested that "buffer strips" be added to the outside of each wellhead area. This could compensate for areas where stormwater and runoff may be within the guidelines set by Spokane County.

Most members of the group felt that the CWC should concentrate on the wellhead protection areas, but prior to making a final decision members should review the final draft of the C.A.R.A. program to make sure they were not "covering the same ground" as current policies and groups. Ty Wick felt that the C.A.R.A. draft would be available for the next meeting.

Wrap Up

The group agreed to meet again on September 16, 1998 at the Riverpoint Higher Education Park, Room #316 at 6:00 p.m.

Agenda items for the September 16, 1998 meeting is:

- Update of C.A.R.A.'s Ordinances
- Develop objectives for Focus Groups on the two following items:
    - Public Education
    - Transportation/Pipeline vs. Hazardous Materials Spill Response
- Facilities Relocation
- Current Aquifer Ordinances (continued)

Meeting Adjourned

SAJB
SPOKANE AQUIFER JOINT BOARD

SPOKANE

Spokane Area Wellhead Protection Program
City of Spokane and Spokane Aquifer Joint Board (SAJB)
Citizens Wellhead Committee
Meeting Summary #6

Riverpoint Higher Education Park, Room 316
Spokane, WA
6:00 p.m.
September 16, 1998

Background

The sixth meeting of the Citizens Wellhead Committee (CWC) was held at the Riverpoint Higher Education Park in Spokane, Washington, Wednesday, at 6:00 p.m., September 16, 1998.

The following individuals attended the meeting:

Mr. Victor Hill—Committee Member—Automotive
Mr. Richard Kjose—Committee Member—Chemical Industry
Mr. Michael Heden—Committee Member—Transport/Cargo/Shipping
Mr. David Jones—Committee Member—WQAC
Mr. Art Bookstrom—Committee Member—City Neighborhood Council
Mr. Ty Wick—Spokane Aquifer Joint Board
Mr. Lars Hendron—City of Spokane

The following individuals were unable to attend the meeting:

Mr. Dennis Wells—Committee Member—County Citizen At-large
Dr. Hugh Lefcort—Committee Member—Environmental
Mr. Terry Drake—Committee Member—Fuel Storage
Mr. Alan Folino—Committee Member—Manufacturer
Mr. Dan Kirschner—Committee Member—Spokane Area Chamber of Commerce
Mr. Jamie Tibbits—Committee Member—Valley Chamber of Commerce
Mrs. Suzanne Knapp—Committee Member—Home Builders Association/Realtors

Brad Phelps of CH2M HILL was the meeting facilitator. Sharon O'Shaughnessy of CH2M HILL recorded the meeting minutes.

Introduction

The items discussed in the meeting included:

- C.A.R.A. (Critical Aquifer Recharge Areas)
- Existing Regulations
- Wellhead Protection Areas

Updates:

Meeting Summary: Meeting summary for September 2, 1998 was not ready for review.

Focus Groups

Public Education: The group elected to move this issue to the September 23 meeting.

Transportation Corridors/Pipelines/Hazardous Materials Spill Response: The group elected to move this issue to the September 23 meeting.

C.A.R.A. (Critical Aquifer Recharge Areas)

Handout: Synopsis of C.A.R.A Committee Draft Report and Recommendations

Ty Wick of the Spokane Aquifer Joint Board and Water District #3 gave a review of Spokane County's C.A.R.A committee draft report and recommendations. Ty explained that the committee looked at the entire County and designated areas that are recharge areas as high, medium, or low susceptibility recharge areas. Ty reviewed the maps as follows:

- Yellow is highly susceptible areas
- Green is medium susceptible areas
- Blue is highly susceptible areas
- Dark blue is rivers

The map is segregated into 40-acre parcels, and each parcel was given a susceptibility rating. The majority of the County ranked as low susceptibility, stating that susceptibility was based on the SHADI rating system (see Meeting Summary #5, September 2, for an explanation of SHADI). The C.A.R.A committee looked at many things such as: minimum lot size for areas outside the growth management area, used nitrogen loading to determine the impact a septic tank can contribute to an area, and the number of acres needed for each onsite disposal system to contain this impact on the property. The committee agreed that 10-acre lots would protect the aquifers and enable the program to be administered in a reasonable manner. This lot size conflicts with interim growth regulations, but the information available supports the committee's position, and the 10-acre limit agrees with the county's comprehensive plan. Because these recommendations are not retroactive, the approximately 500 existing lots outside of growth management area (GMA), will not be affected.

When reviewing the critical materials management regulations, the committee supported updating the listing by the further addition of substances, and then used a matrix to categorize land use activities as high, medium, and low risk. The listing also included "best management practices" for handling the materials in an agricultural environment.

In order to define the goals and support potential regulations, the committee developed three primary components, 1) map, 2) matrix, and 3) performance standards. The committee then applied existing regulations as now used to protect the Spokane Aquifer to be applied over the entire County. At this time, the committee is reviewing storm water disposal. Under the present County policy, the use of stormwater collection swales is required only over the Spokane Aquifer. Note: swales are being used along roadways throughout the County as "good practice," but are not required outside of the Spokane Aquifer sensitive area.

The committee also identified agricultural practices for inclusion in any regulation because of a history of problems (see handout). At first, the committee recommended that no dairy farm be allowed to expand or any new farms be built in high susceptibility areas. However, on additional review, if an existing dairy farm desired to expand, and if the expansion included upgrading the way they handled their dairy waste, then it would be reasonable to allow this activity. But in order for a farmer to expand, they would be required to: 1) determine nitrogen loading, based on the 10-acre lot size, and 2) substantiate that there will be no increase in nitrogen levels.

Existing mining regulations were deemed to be acceptable, but the committee added that when reclaiming a mining site (such as local gravel pits), the site would apply the regulations from the next higher category for any use of the site. For example, if the site were ranked for use under medium standards before excavation began—when reclaimed, it would be subject to the next highest standard.

The committee recognized that people who owned large tracts (40 acres or more) could be on the edge of a zone. Under this condition, the owner could show, through a hydrogeological study, the land should be placed in another susceptibility category, then the owner could get the classification changed, and conduct activities that are acceptable to that designation. Another option that was suggested was if a parcel of land was in a medium zone, but requires a lot of special provisions, then rather than go through all of the requirements of a hydrogeological study, the owner would be allowed to build/operate at the next higher zone classification. For example, if a parcel of land has a medium classification with a lot of special provisions, then the owner could build/operate as if the parcel of land was in a high susceptibility zone.

Mr. Wick suggested that the excerpt "Relation to Wellhead Protection" from the report was important to the committee. That excerpt reads as "Wellhead Protection" is mandated by the Safe Drinking Water Act amendments of 1986. It is a set of regulations that focus on operators of community water systems that draw from groundwater. All of the water purveyors in Spokane County are required to develop a wellhead protection plans. The focus of wellhead protection is on the immediate area surrounding the well itself. This area of attention is the location where a release of contaminants has the potential to travel to a specific community well. The Spokane Aquifer Joint Board and the City of Spokane are currently developing a set of proposed management strategies for wellhead protection. Their proposed management strategies will be reviewed and approved by the Spokane County's and the City of Spokane's Planning Commissions for adoption by the City of Spokane, the County of Spokane, and the Town of Millwood early in 1999. The focus of wellhead management strategies is to protect the "capture zone." Wellhead capture zones are a very small part of the County and apply to public water systems only. C.A.R.A. includes the entire County and applies to all water systems (public AND private). C.A.R.A.s and Wellhead protection zones overlap. Further, they both depend on City and County powers to implement any protection programs to accomplish their purposes.

While both programs will ask the cities and counties affected to protect drinking water, they are not certain to do so identically. To minimize this potential conflict, care has been taken to assure communication between the boards. Further, some people are members of both boards.

Ty Wick added that the C.A.R.A report is a public document that will go to the planning commissions first. The planning commissions will review the document, and hold public hearings. If changes are required, the commissions will consider those changes and make recommendations then be forwarded to Spokane County's, Town of Millwood's, and the City of Spokane's commissions to be reviewed, offered at public hearings, possibly changed, and then adopted.

To summarize, C.A.R.A. is part of the growth management plan, which requires that critical aquifer recharge areas be designated and protected.

Existing Regulations

The CWC members reviewed the regulations for underground storage tanks (double containment). Members noted that existing regulations required that underground storage tanks must be removed after 40 years and that these tanks may no longer be a problem in Spokane County, because of this regulation. Additionally, tanks must have a double containment system that can contain 110 percent of the liquid held, and have a monitoring system.

Wellhead Protection Areas

Brad Phelps suggested that the group review the wellhead protection areas (WHPAs) shown on supplied drawings. He reminded the group that if/when C.A.R.A. is accepted, it would apply to the entire County as well as the Spokane Aquifer. He noted that if the committee had two types of regulations, C.A.R.A. and the WHPAs, with C.A.R.A. covering the Spokane Aquifer and WHPAs (shown as gray areas on the drawing), then very little area existed in the Spokane Aquifer to be covered by C.A.R.A. Brad suggested that the group review the supplied C.A.R.A regulations, then decide if they wanted more management for the WHPAs.

Ty Wick noted that the WHPAs are a smaller unit. The committee has to answer the question, do they want to do anything differently, for these smaller areas.

The group asked that they be supplied an inventory of the number of businesses on the C.A.R.A. matrix that were in WHPAs.

Action Item: Sharon O'Shaughnessy to supply suggested inventory at the next meeting.

Wrap Up

The group agreed to meet again on September 23, 1998 at the Riverpoint Higher Education Park, Room #316 at 6:00 p.m.

Agenda items for the September 23, 1998 meeting are:

- C.A.R.A—What is needed for wellhead protection areas?
- Develop objectives for Focus Groups on the two following items:
  - Public Education
  - Transportation/Pipeline vs. Hazardous Materials Spill Response
- Facilities Relocation
- Current Aquifer Ordinances (continued)

Meeting Adjourned

SAJB
SPOKANE AQUIFER JOINT BOARD

SPOKANE

Spokane Area Wellhead Protection Program
City of Spokane and Spokane Aquifer Joint Board (SAJB)
Citizens Wellhead Committee
Meeting Summary #8

Spokane Home Builders, Conference Room
Spokane, WA
6 p.m.
October 14, 1998

Background

The eighth meeting of the Citizens Wellhead Committee (CWC) held in the Spokane Home Builders Association's Conference Room in Spokane, Washington Wednesday, at 6 p.m., October 14, 1998.

The following individuals attended the meeting:

Mr. Victor Hill – Committee Member -Automotive
Mr. Richard Kjose – Committee Member – Chemical Industry
Mr. David Jones – Committee Member – WQAC
Mr. Art Bookstrom – Committee Member – City Neighborhood Council
Dr. Hugh Lefcort – Committee Member – Environmental
Mrs. Suzanne Knapp – Committee Member – Home Builders Association/Realtors
Mr. Dennis Wells – Committee Member – County Citizen At-large
Mr. Ty Wick – Spokane Aquifer Joint Board
Mr. Walt McKee - Spokane Aquifer Joint Board
Mr. Leon Sproule - City of Spokane
Mr. Lloyd Brewer – City of Spokane
Mr. Reid Knight - Exxon (guest)
Mr. Ron Askelson - Conoco Inc. (guest)
Mr. John Beatson - Yellowstone Pipeline (guest)
Mr. Larry Springer - Yellowstone Pipeline (guest)
Mr. Greg Sweeney - Sweeney Marketing
Mr. Chuck Gruenenfelder - CH2M HILL
Mr. Brad Phelps – CH2M HILL
Ms. Sharon O'Shaughnessy – CH2M HILL

The following individuals were unable to attend the meeting:

Mr. Terry Drake – Committee Member – Fuel Storage
Mr. Alan Folino – Committee Member – Manufacturer
Mr. Dan Kirschner – Committee Member – Spokane Area Chamber of Commerce
Mr. Jamie Tibbits – Committee Member – Valley Chamber of Commerce

Brad Phelps of CH2M HILL was the meeting facilitator. Sharon O'Shaughnessy of CH2M HILL recorded the meeting minutes.

Introduction

Brad Phelps began the meeting with introductions.

The items discussed in the meeting include:

- Focus Group Meeting Report
- Yellowstone Pipeline Presentation
- CARA Review

Updates:

Meeting Summary: Meeting summaries for September 16, and September 23 were not ready for review.

Terry Drake has relinquished his position to John Beatson. Terry has been unable to attend the meetings and has requested to resign.

Focus Groups

The first focus group meeting was held on Tuesday October 13, 1998 at West Valley High School. Three concurrent focus sessions are being conducted. Brief reports of the meetings are provided below.

Pipeline Focus Group: The group did not have sufficient information about how the pipeline is regulated. Because of the concern expressed with regard to petroleum products, it was decided to allow Yellowstone pipeline to present information to the CWC. Knowing that the pipeline information would be available at this meeting, the focus group members elected to attend this meeting. All pipeline focus group members are present at this meeting.

Business Focus Group: The following topics were discussed: Amnesty days for commercial businesses, grand-fathering businesses into wellhead protection areas that are potential contaminant sources (smaller businesses), and what can be done to help businesses to meet/exceed regulations.

Transportation Corridors Group: The following topics were discussed: methods to deal with the transportation of many different types of materials. Various methods of protecting the environment from spills. An item most people are unaware of is the placement of spill response containers along Washington highways for police and Ecology to use for the disposal of hazardous materials.

Yellowstone Pipeline Presentation

Handouts: Exxon "Rely on the Tiger" and Yellowstone Pipe Line Company Brochure

Larry Springer and John Beatson of Yellowstone Pipeline, Ried Knight of Exxon, and Ron Askelson of Conoco gave a presentation on local fuel transportation and storage facilities. Larry Springer began with a description of the pipeline and where it is located.

The main pipeline that transports most all petroleum products from Billings MT through Spokane WA was built in 1954. It is 644 miles of 10 inch diameter coated steel pipe that is co-owned by Conoco, Exxon, and Unocal pipeline companies, and operated by Conoco. Yellowstone pipeline is a transportation company that is paid to ship unleaded gasoline, super and regular, diesel and jet fuel. These fuels are made at refineries in Billings MT and supply the market in Montana, Idaho and most of Eastern Washington. In 1997, an average of 2.3 million gallons was shipped daily by Conoco Inc. and Exxon USA through the Spokane area (over the aquifer).

The pipeline is regulated as a common carrier, which makes it available to carry permitted petroleum products from any entity in proximity of the pipeline. Rates are set by the Federal Energy Regulatory Commission. Yellowstone's safety and operational standards are regulated by the Office of Pipeline Safety of the U.S. Department of Transportation. This pipeline supplies about 30 to 40 percent of the fuel used in the Spokane area.

Conoco and Exxon are working to make environmental protection a part of their daily procedures. The Yellowstone Company has set a goal for its employees of zero accidents and leaks.

The pipeline is visually examined from the air for intrusive activities about every two weeks. This is standard procedure within the industry.

A new computer controlled system was installed this year, and it will help detect leaks, breaks or other problems. A video was shown to the group describing the computer-controlled system.

Pipeline leaks: The most common cause of leakage is someone digging into a pipeline and breaking it. Other causes of leaks are corrosion (rust), manufacturer defects, flanges/valves (moving parts), geological (landslides that break or expose a pipe), hydrological events (floods that expose and/or break a pipe), and operations errors.

One call law: "Call before you dig". When called, Yellowstone will mark the area or will be present during excavation. Both Yellowstone and the contractor that is digging are responsible for any accident that occurs and can face serious penalties and liabilities if the one-call rules are not followed.

Corrosion: Pipelines are coated and protected with cathodic protection. This is the major barrier to corrosion. If the pipeline is scratched, the coating could be removed and corrosion could occur. This can cause major problems if the company is not notified. Regular internal inspections are performed by a tool called a "smart pig". This checks the pipe for wall thickness and weakened areas in the pipeline.

Manufacturer defects: Some pipe from the 1950's has been found to have weak seams. Yellowstone performs pressure testing using water pressure to identify pinholes, and other hard to find weak or stress points. These tests have identified weak areas and allowed Yellowstone to replace pipe in the problem area. The pipeline in the Spokane area was water tested in 1996.

Flanges/valves: These connection areas pose the greatest potential for leaks. Regular inspections and equipment changes are removing this cause of leaks. Fluid amounts lost are very low, but Yellowstone continues to improve the system.

Landslides: Geotechnical (soil) surveys have been performed all along the pipeline to assess landslide potential. As a result, certain areas of the pipeline will be relocated, and special warning instrumentation will be placed in other areas. The Spokane area is not effected by that type of problem.

Streams: Eroded areas caused by water flow in streams can undermine the pipeline causing it to break. Pipelines have been strengthened in these areas to minimize the chance of breakage. Manually operated valves are placed on each side of streams, in compliance with DOT regulations.
Operation Errors: Yellowstone has initiated aggressive operations training programs for employees and has installed a computer monitoring system.

Additionally, it is the company's policy to meet or exceed the requirements of the oil pollution act of 1990, and other laws in planning for or responding to any spilled fuels along the pipeline. Yellowstone's plan includes maps, access points, common fractures, equipment, who to contact in the government, who to contact in the water companies, effected areas, contractors certified to do the clean-up work, identified response zones, sensitive zones (i.e., drinking water wells), objectives for each area, recovery plans and instructions, etc. Yellowstone continuously tests and upgrades this plan, by working with groups like Spokane County, local emergency planning teams, and Ecology. Using information obtained from staged/mocked drills, Ecology and spill response teams, to improve the plan. Yellowstone retains special trained local clean-up crews, and has access to all of the spill response and technical resources of the parent companies for spills that occur.

When a spill does occur, regulatory agencies have the final decision to determine if an area is clean. In case of a spill, Yellowstone:

- Has first a concern for the safety of people in the area:
- Has identified and mapped the sensitive areas (sensitive receptors) in each area, i.e. wells, schools, etc
- Will recover spilled fuel in a safe manner.
- Will clean the area to meet the standards
- Will respond to any agencies responsible.
- Will repair the pipeline and get it back in service.

Capability to close off pipeline. The pipeline can be shut down by both automatic valves controlled in Houston, TX or with manual valves by keys carried by every employee. The placement of valves depends on the topography, and limits the amount of fuel that can escape from the pipeline during a spill.

C.A.R.A. (Critical Aquifer Recharge Areas)

Handouts: Existing Local Aquifer Policies and new CARA Matrix

The CARA committee has completed its assignment. The group elected to reduce the size of the matrix by consolidating business types, in to order to make the document more understandable. Additionally, the group granted dairy farms the ability to upgrade their facilities. The new regulations if adopted will apply to all aquifers in Spokane County, not just the Spokane. The system used to define the regulations and "best management practices" remains the same. The committee also stated that no landfills would be allowed over highly susceptible aquifers, but they may go into low - medium risk areas with best management practices

Suzanne Knapp questioned if CARA was in agreement with the current solid waste management plan. Ty Wick explained that the County's solid waste management ordinance does not say you can or can not build a solid waste disposal facility; only that the entity was required to do an environmental impact statement prior to beginning. Ty explained that the CARA is for any new business that comes to the area and does not cover grandfathering.

Brad Phelps explained that the CWC might want to add another code for wellhead protection areas to this matrix. Building on the CARA document would make the process less cumbersome and make it easier for people to understand. Brad added that the next step for CARA is the public hearing process.

Wrap Up

The group agreed to meet again on November 4, 1998 at the Spokane Home Builders, at 6:00 p.m.

Agenda items for the November 4, 1998 meeting is:

- Focus Group Meeting Report
- Review of Issues
- Additional Focus Group Issues

Meeting Adjourned at 8 p.m.

SAJB
SPOKANE AQUIFER JOINT BOARD

SPOKANE

Spokane Area Wellhead Protection Program
City of Spokane and Spokane Aquifer Joint Board (SAJB)
Citizens Wellhead Committee
Meeting Summary #9

Spokane Home Builders, Conference Room
Spokane, WA
6 p.m.
November 4, 1998

Background

The ninth meeting of the Citizens Wellhead Committee (CWC) held in the Spokane Home Builders Association's Conference Room in Spokane, Washington Wednesday, at 6 p.m., November 4, 1998.

The following individuals attended the meeting:

Mr. Richard Kjose – Committee Member – Chemical Industry
Dr. Hugh Lefcort – Committee Member – Environmental
Mrs. Suzanne Knapp – Committee Member – Home Builders Association/Realtors
Mr. Dennis Wells – Committee Member – County Citizen At-large
Mr. Michael Heden –Committee Member – Transport/Cargo/Shipping
Mr. John Beatson - Committee Member - Fuel Storage
Mr. Ty Wick – Spokane Aquifer Joint Board
Mr. Walt McKee - Spokane Aquifer Joint Board
Mr. Ron Welch - Spokane Aquifer Joint Board
Mr. Pat Blau - Spokane Aquifer Joint Board
Ms. Gail Nelson - Vera Water District
Mr. Lars Hendron - City of Spokane
Mr. Leon Sproule - City of Spokane
Mr. Lloyd Brewer – City of Spokane
Mr. Reid Knight - Exxon (guest)
Mr. Kim Barr - Yellowstone Pipeline (guest)
Mr. Brad Phelps – CH2M HILL
Ms. Sharon O'Shaughnessy – CH2M HILL

The following individuals were unable to attend the meeting:

Mr. Victor Hill – Committee Member -Automotive
Mr. Alan Folino – Committee Member – Manufacturer
Mr. Dan Kirschner – Committee Member – Spokane Area Chamber of Commerce
Mr. Jamie Tibbits – Committee Member – Valley Chamber of Commerce
Mr. Art Bookstrom – Committee Member – City Neighborhood Council
Mr. David Jones – Committee Member – WQAC

Brad Phelps of CH2M HILL was the meeting facilitator. Sharon O'Shaughnessy of CH2M HILL recorded the meeting minutes.

Introduction

Brad Phelps began the meeting with introductions.

The items discussed in the meeting include:

- Focus Group Meetings Review
- Purveyors & City Presentation of Issues/Concerns

Updates:

Meeting Summary: Meeting summaries for September 16 and October 14th were distributed for review. The meeting summary for September 23 was not ready for review.

Focus Groups

Handout: Focus Group Meeting Summaries

Focus group meetings # 2 and #3 were held on October 20th and 27th, 1998 at West Valley High School. Handouts of the Focus Group meeting summaries were distributed for review. Meeting attendees' review of the meetings is provided below.

Pipeline Focus Group: The group met all three times. John Beatson stated that the group reviewed the regulations and oversight of the pipeline's operating parameters, especially in sensitive areas. Questions were:

1) How often does the petroleum pipeline located near the Parkwater Electric well operate? It operates about 15 days a month. This section of the pipeline is placed approximately 19 feet from the Parkwater-Electric well. This is a transfer line partially encased in concrete, and this location is least likely to break. The line was replaced in 1989 and operates at about 7 percent of its full capacity. There is a possibility that if someone digs in this area and breaks the pipe (completely severs), then the pipe would disperse about 200 barrels per hour if not shut down. The pipe was designed to withstand an internal pressure of 1,500 psi, and normally operates at only 150 psi.

   John Beatson stated that a small leak over a long period of time could cause a larger problem, but because of the precautions taken by Yellowstone, contamination through this type of leak has an extremely low probability. If the City desires Yellowstone will heavily mark the area around the pipeline.

   Mike Heden asked the City if they had added/or changed any regulations concerning the pipeline. He also noted that the pipeline people appeared to be doing all that they could do to protect local groundwater, and the City should help. The City stated that it had reviewed a number of possibilities to detect problems, including continuous sampling, but most of the solutions would not be financially feasible.

   Lloyd Brewer noted that the City of Spokane approved the installation of the petroleum transfer line in 1987, prior to the installation. He added that the Parkwater well produces 32,000 gallons per day and is one of the City's main water supply sources. Given the type of spill and the time of day, a spill could reach that well in as little as ½ a day. Even though the line is protected and tested, it still is a cause of concern for the City because of the location. The City may want the line moved.

2) What are the effects of MTBE (gasoline additive) and, what can be done about it? A California agency that studies cancer and its causes has stated that MTBE does not cause cancer. Nonetheless, Exxon is looking at the use of this product and its necessity in the Spokane area. Exxon is also looking at an alternative premium shipping system, a rail system. Conoco uses this system and does not allow MTBE in its product. When Exxon uses the new transport system it will no longer be able to use this product. Therefore, MTBE may prove to be a non-problem.

3) Storage facilities: May be grandfathered in, and must have earthen berms surrounding them. At the present time, all of the fuel storage tanks are regularly inspected and do have berms and are being lined (18 to 24 inches) up the sidewalls, and have cathothic protection. One of the sections from the guidelines of the Department of Ecology program, "Operations and Design Standards for Storage Facilities", addressed storage facilities, both existing and new. Ty Wick noted the need to coordinate with local emergency responders in case of a fuel storage fire. The need to decide if water would be used to protect the fuel facilities or whether to allow them to burn. By allowing them to burn, flushing of the fuel into the aquifer would not occur. It was recommended to conduct tabletop drills with the fire department, department of ecology and emergency responders annually, and run all scenarios in case of a major spill incident. Gene Brand of Ecology runs this type of program. No recommendations were made about storage facilities.

Business Focus Group: The group decided that pro-active education was considered far more helpful, cost effective and less restrictive on businesses than additional enforcement. This was a reiteration of what the Citizens Wellhead Committee had discussed.

1) Amnesty days (collection of contaminants) for farmers are funded by Ecology in the Columbia Basin, and it was suggested that this program could be a model for this area's small businesses.

2) The areas of wellhead protection zones should be marked with signage. This same idea came out of the transportation focus group, that is to place signs along the major highways letting people know that they were traveling over the local drinking water supply. These signs could also list whom to call in case of a spill.

3) A pollution prevention permit in conjunction with an educational program for small businesses along with proof of insurance to cover the costs of clean up of spills could be implemented. The insurance would be required for new businesses over the aquifer that present the potential to contaminant the water source.

4) Education for small businesses and funding for those education activities needed to be addressed.

Transportation Corridors Group: The group identified a number of the same topics that the small business focus group identified.

1) Local businesses could be supplied a sticker by the local water purveyors that gave directions for proper disposal of potential contaminants.

2) Signage could be placed on the major highways, notifying truckers, etc. about the local drinking water supply. These should be friendly but informative signs.

3) When this group discussed the proposed BNSF refueling station and the railroads local initiatives when cleaning up past spills and working with communities to prevent pollution, the situation appeared fairly dismal. Since railroad representatives had not returned any calls and were not present after being invited

to the meetings, the only thing the group could hope for was that the railroads would give their personnel more training about pollution prevention.

4) There was a suggestion that the trucking industry be limited to hauling fuel and other contaminants with double axle vehicles only, versus single axle, for load stability in bad weather.

5) Need to know: Mixed loads of chemicals currently do not have to be identified if the individual container quantity is below regulated quantities, i.e., 3 or 4 materials may be below the regulated quantities, but a combination of the materials could be over the limit and deadly.

6) The Department of Transportation has no information on the effect of spillage to dry-wells at this time. The DOT intends to do testing in the near future (next couple of years) to determine treatment assimilation of dry-wells for stormwater control. Some members noted that dry-wells, especially near water supply wells and susceptible areas should be eliminated.

Purveyors & City Presentation of Issues/Concerns

A number of purveyors attended this meeting. Mr. Phelps invited them to attend and express their viewpoints about their issues and concerns to the Committee. Brad noted that the purveyors had waited to present their concerns, in order not to sway the Committee's view and to allow the Committee time to understand the wellhead program.

City of Spokane:

Lars Hendron stated that coming into this process, the City had a good idea of what groundwater was all about. At the end of this, the purveyors have the ultimate responsibility for the water served to the public. The public is not always confident in the purveyor to protect the water system.

The City held a meeting with its key department heads for water, environmental etc. the prior week. The City and the SAJB are definitely stakeholders with a slightly different perspective in this process, neither wants more regulations. Since both need some way to assure that the program is working, there must be some regulatory aspect to it, and all entities need to find a way to fund the program. How to do this fairly, depends on how it is looked at it. Some costs may be more fairly borne by a business or type of industry; while some others may be better borne community wide.

1) Funding methods need to have the opinion of the community wide survey. Purveyors need to know to what degree the community believes there should be more money spent on protecting their groundwater. They also need to tell the purveyors if it is appropriate to have the funding added to their water bill, or use some other method to collect the fee. What amount of funding the community considers equitable to fund a wellhead protection program?

2) Land Use and grandfathering: It was noted that there is a range to grandfathering. Should it be denied if a business is sold and changes hands, or if the business stays in the family, and is passed along to the children. There are a lot of variables. Purveyors need to find out to what extent the public is willing to spend public funds to assist to relocate businesses outside of the wellhead protection areas. Purveyors are definitely not looking to harm the economic validity of the area, but to balance the economics against the overall safety of the water and costs. It is an economic question with a political and public feasibility component.

3) Regulatory: There is lot of regulations on the books at the present time. Some of it may need to be simplified/clarified to allow a more pro-active rather than reactive approach to wellhead protection. For instance, a sticker placed on products could list the proper (local) disposal methods. Compliance needs to be made easy.

4) Inspection: Purveyors need to find a way to keep tabs on the quantities of contaminants used and stored, and about the business ownership. This task will depend on available funding.

It should be noted that some of these suggestions might have legal barriers, such as the amnesty program. If the public shows very strong support for collecting contaminants, then the purveyors need to review the legal obstacles.

Other ideas discussed by the City was special insurance for particular types of activities, areas where swales could not be installed (the City or other entity may then have to install storm sewers and pipe the runoff out of the wellhead area and dispose of it in a large swale made for that purpose in order to move the risk away from the well), and retroactive protection: (lining tanks). Will the public want to spend money on retroactive protection? The City also discussed bans on certain activities : such as phosphates (previously banned in Spokane to protect the river), and if a similar control should be initiated for nitrate fertilizer.

The City is looking at gathering more information that will tie into inspection. It is also looking into how much dissemination of this information should be made; i.e. does the public care? Or will the public trust the purveyor to do the job. Additionally, the City discussed education and decided that it would be helpful to find out what methods of education that should be used and what messages should be conveyed.

The City also decided that it needed to know what kinds of action the public desires to have taken. When the policy committee uses that information to write a program, the amount of monies reasonably available, and the public policy will determine how the implementation of this program is created.

A lot of this program will be a matter of degree, as education for the general public, and small businesses, purveyors will start with a limited amount of monies. We must also realize that the program will develop over time.

Ty Wick -SAJB and Water District #3: The current Spokane County Aquifer protection program will sunset in the year 2001, there should be a question about if it should continue, and if so, should the fees be increased to cover sewer costs and increased monitoring. How should the entire aquifer program be maintained or financed?

Gail Nelson – Focus Group & Vera Water and Power: Many of the ideas are the same as the City has presented. People are unaware of where their water comes from. The message to the general public must be simple, aimed at the head and the heart. Possibly put it on a billboard. Must add to public's awareness. Discussed in the group, emphasis must be placed on the education of small business owners in their homes. These are identified through their business license. – Any ideas on how to control their use and disposal of these chemicals.

Susan suggested asking businesses to use their reader boards to inform the public. Things like "did you know that if just 100 homeowners dumped 1 gal of oil it would take xx time to reach your drinking water.

Pat Blau of Kaiser Trentwood: felt that most suggestions had been covered.

Ron Welch of Pasadena Park Irrigation District: Stated that his customer base would rather be proactive, because if I have a spill, I cannot afford what WD#3 had to pay to replace wells. As a former small business owner, I know that I would have liked to have a reputation as being in support of clean water rather than on the other side.

I would like to see zoning for the wellhead protection area, removal of dangerous business, need to enforce present regulations, to help us minimize the potential of a major catastrophe. We need to ensure the future. We need to be proactive. We need to support our fire departments; we need reaction teams, disaster preparedness team.

From a proactive view – why not step up the sewering project and get the small home business owner off of the septic tanks and on to the sewer system.

Bob Ashcraft of Consolidated Irrigation district (written comments) were:

- Strengthen monitoring and requirements for tank farms and other large commercial users of fuels, chemicals, etc.

- Develop emergency response cooperation between various agencies including water districts, with regard to railroad and interstate and highway spills and large fires. etc-

- Work with Spokane County on stormwater management to eliminate the proliferation of dry wells. They require developers to install ponds and swales but continually install standard drywells along roadways throughout the County.

- Work toward a combined wellhead/aquifer protection district (water purveyors and County in partnership). Strengthen Inspections. Enforcement and reporting requirements. When business type changes, District should be notified if chemicals used etc. - updated databases would also be part of District's responsibility.

John Beaston noted that the County seems to be fairly progressive, but it still has people that will dump garbage, etc. in the middle of a field. There should be some kind of fine for this type of action. Maybe the penalty should equal the amount people dump. If you talk criminal fines against offenders they will start to pay attention. Industry needs to be educated. I am surprised that there is a not a rep. from the retail gasoline stations. Retailers of gasoline are in the process of installing new underground storage tanks in their system. Since everyone goes to the gas station, we should enlist these people to help us educate.

Walt McKee of Hutchinson Irrigation District noted that the district is sending out newsletters a couple times of the year to bring up the awareness in our district.

City of Spokane: Spoule...Maybe we should look at checking the mechanism, so that the City's process will catch the type of problem that allows people like Yellowstone to end up right next to a well. In the future, there should be only business near wells that are compatible with maintaining high quality groundwater. This is a process that needs to be put into place so that this will not happen in the future.

The City is fairly cautious about advertising where the wells are. They are not hiding the wells locations, but feel the need to protect where are major wells are located. A balance will need to be found. When adding signage, purveyors must be very careful that they do not attract pranksters, or terrorists.

Discussion concerning the upcoming community wide survey ensued. Lars Hendron noted that a professional company would do the survey. The objective of the survey is to give the policy committee an idea of what the public will support, i.e., what kind of project will be acceptable to the public and what will it support?

Suzanne Knapp noted that the survey must be worded in a way that does not render it useless. Questions must be asked directly and must be specific, and if possible educate the people. The Committee will review survey before it is implemented.

Both Brad Phelps and Lars Hendron thanked all who attended for taking part in the focus groups, and the CWC.

Wrap Up

The group agreed to meet again after the completion of the survey questionnaire. Members will be notified of the meeting time and place.

Agenda item for the final meeting is:

- Review of Survey Questionnaire

Meeting Adjourned at 8 p.m.