Community Informational Group Meeting Minutes
Motorola 52nd Street Superfund Site
March 23, 2011, 6:15 to 8:25pm
Gateway Community College, Phoenix, AZ

Project Team and Regulator Attendees:

United States Environmental Protection Agency (EPA): Janet Rosati, Leana Rosetti, Gerry Hiatt

Shaw Environmental, Inc. (Shaw): Sue Kraemer, Doug Hulmes

Arizona Department of Environmental Quality (ADEQ): Wendy Flood, Brian Stonebrink, Delphina Olivarez, Felicia Calderon, Joellen Meitl

Technical Assistant Grant (TAG) Technical Advisor: Mario Castaneda

CIG Members:
Wendoly Abrego, Phoenix Revitalization Corporation
Martha Brightenbach, Resident
Les Holland, Resident
Ruth Ann Marston, Phoenix Elementary School Board
Mary Moore, Lindon Park Neighborhood Association
Doug Tucker, Resident
Rena Chase-Dufault, Lindon Park Neighborhood Association
Todd Schwartz, Resident

Additional Attendees:
Barbara Murphy, Freescale consultant
Brian Stonebrink, ADEQ
David Abranovic, ERM
Jenn McCall, Freescale
Jerry Worsham, Attorney and resident
Judy Heywood, APS
Tom Suriano, Freescale
Troy Kennedy, Honeywell
Tianna Saucedo, Gateway student
Mike Buil, Gateway student
Sarah T. Wilkinson, U of A Superfund Program
Denise Moreno, U of A Superfund Program
William Palmisano, Gateway student
Nancy Dewald, Gateway student
Jerry Johnston, Gateway student
Arnim Wiek, PhD, ASU School of Sustainability
Harold Pickering, Sunbeam Neighborhood Association
Kathy Trapp, CH2MHill
Daniel Griswold, Nalco Company
Susan Determan,
Peggy Eberhart, Resident
Adam Schorer, Phoenix Revitalization Corporation
Ahmed Deer, Student
Tasha Lewis, CH2MHill
Michelle Verdugo, Resident
Maria Rodriguez, Gateway student
Braden Kay, ASU
Michael Busby, Clear Creek Associates
Chuck Gordon, Terranext
Rolf Haden, ASU
Linda Connell, Resident
Steve Brittle, Don't Waste Arizona

The Community Informational Group (CIG) meeting was held at Gateway Community College in Phoenix, Arizona, from approximately 6:15 pm to 8:25 pm, March 23, 2011. Mario Castaneda called the meeting to order. Leana Rosetti, EPA Community Involvement Coordinator, opened the meeting. She introduced Ruth Ann Marston, CIG member, who moderated the meeting. Wendolyn Abrego, CIG co-chair, explained the roles of the various entities involved in the CIG. Ms. Rosetti indicated that the meeting would cover recent data collected from Operable Unit (OU) 2 and the upcoming vapor intrusion investigation in OU1, as well as the End Use Report. Ms. Rosetti informed the audience that the meeting provides a forum for interaction between stakeholders, regulators, and the public.

Dr. Marston welcomed the public and noted the large number of community attendees. She encouraged attendees to review the posters to obtain background information on the Motorola 52nd Street Superfund Site (M52).

Janet Rosati, EPA Remedial Project Manager (RPM), was the first presenter. Ms. Rosati summarized the history of the three OUs. She explained how ADEQ became the lead for OU1 and OU2 and how EPA became the lead for OU3 and the soil vapor intrusion study in OU1. She briefly summarized the ongoing investigations in each OU.

Wendy Flood, ADEQ OU1 Project Manager, was the second presenter. In response to a request from the previous CIG meeting, she gave a brief presentation on the 56th Street and Earll Drive Site, which is located north of OU1. This site was a former Motorola facility and is located in an ADEQ Water Quality Assurance Revolving Fund (WQARF) Site. A map showing the TCE concentrations in groundwater exceeding five parts per billion was displayed. Ms. Flood stated that remedial activities were being implemented and that interested parties should contact the ADEQ project manager for the site, Danita Hardy. She also informed the audience of an upcoming Community Advisory Group meeting for the site on May 19th.

Dr. Gerry Hiatt, EPA Toxicologist, was the third presenter. He discussed the recent vapor intrusion investigation conducted at the Kachina Joray site in OU2. He stated he could not discuss specific numbers, as the data had not gone through the quality assurance/quality control process. Dr. Hiatt defined vapor intrusion and explained the concerns to human health if contaminants reach indoor air.

Soil gas results from samples collected at the Kachina Joray facility were elevated (in the millions), but dropped quickly as one moved away from the facility. The PCE results near the site boundary were up to 35,000 microgram per cubic meter ($\mu g/m^3$), which exceeded the residential screening level for soil gas. The primary chemical detected was tetrachloroethene (PCE) as opposed to trichloroethene (TCE), which is prevalent throughout the rest of M52. These detections prompted EPA to conduct sub-slab gas, indoor air, and ambient air sampling in residential properties immediately south of Kachina Joray. Sub-slab gas was also conducted at and two commercial properties immediately south of the former Kachina Joray facility.

In the 5 homes sampled, PCE was found in a few sub-slab samples, but indoor air samples did not contain chemicals above outdoor air concentrations. Dr. Hiatt indicated that vapor intrusion did not appear to be an issue for the residences, but it may be an issue with commercial properties. EPA did not collect indoor air samples in the businesses due to potential interferences of chemicals that the businesses may use. Instead, EPA is relying on modeling from sub-slab samples to estimate indoor air concentrations. EPA did collect indoor air samples in the Kachina Joray facility and found elevated PCE within the facility; however, emergency response is not required. EPA is working with the property owner to address the issue.

Mary Moore, CIG member, asked about the delay in sampling at Kachina Joray as the soil vapor data is from a 2010 report. Dr. Hiatt explained that the PRPs were working on a vapor intrusion study work plan, but issues with the insurance coverage were delaying its completion. Due to the elevated levels and delay, EPA decided to mobilize their emergency response team to address the concern.

A citizen asked about contaminants other than PCE and TCE. Dr. Hiatt explained that PCE and TCE concentrations were much higher than other contaminants; therefore, these compounds are the primary contaminants of concern. However, samples were also analyzed for other chemicals.

A citizen asked about additional follow-up investigations in the homes, such as 30-day passive sampling. Dr. Hiatt indicated they are focusing on the response at the facility itself and haven't been able to evaluate the need for follow-up sampling. He indicated that they have talked to most of the residents and current business owners. EPA's effort is focused on the facility because they have found elevated levels in the facility's indoor air. Dr. Hiatt explained that he was not going to give specific sample result numbers because the data had not been validated yet.

Dr. Marston asked when the quality control procedures would be complete. Dr. Hiatt said he was unsure of the schedule, as it depended on the emergency response team's schedule. Dr. Hiatt indicated EPA would not publish the results from specific homes due to privacy issues, but would provide an update without identifying homes.

A citizen asked about the lack of groundwater beneath the Kachina Joray facility. Dr. Hiatt explained that bedrock was higher in this area and there is no alluvial groundwater. The citizen inquired as to who would perform the cleanup. Dr. Hiatt explained that EPA is working with the facility about potential PCE mitigation for the building to protect the workers. The citizen inquired specifically about cleaning up the source. Dr. Hiatt responded that the source will be addressed under remedial actions for the whole Superfund site.

Dr. Hiatt was asked to explain the decrease in concentrations from the sub-slab samples as one moved further from the facility. Dr. Hiatt explained that the concentrations in the sub-slab samples in the homes were a lot lower than those measured at the facility. He was asked how to explain the drop off. Dr. Hiatt explained that the soil vapor concentration decrease may be a function of the tightness of the soil as well as other factors.

Steve Brittle, a citizen, asked what brought EPA to Kachina Joray. Ms. Rosati answered that eight to ten years ago, EPA had a civil investigator that worked along with ADEQ on the M52

site to identify potential PRPs. The work included reviews of various records, 104e questionnaires, and other methods. The work was used to identify potential source sites. The Kachina Joray site was identified as a potential source site.

Jenn McCall with Freescale was introduced by Dr. Marston and presented on the End Use Report for treated groundwater from the OU1 treatment system. Ms. McCall explained that treated water is currently used by ON Semiconductor. She discussed the history of the end uses of effluent (treated water) from their pump and treat operations. ON Semiconductor will cease using the treated water in June 2011. Freescale has a temporary permit to put their treated water into the City of Phoenix sanitary sewer.

Ms. McCall presented the two options for permanent discharge points for the effluent, which are: 1) reinjection into OU1 or 2) discharge into the Old Crosscut Canal (OCC) for beneficial irrigation use. The End Use Report concludes that discharge into the OCC is the best option due to access issues, time frame, and maintenance issues with injection wells. Map slides were shown of the various routing options for the effluent pipeline.

Mr. Tucker (CIG member) asked if the pipeline would run alongside or under the OCC. Ms. McCall responded that the piping would go under the OCC. Another citizen asked if the entire pipeline would be underground. Ms. McCall responded yes. Mr. Tucker stated that the pipeline is supposed to be 30 feet below grade. Ms. McCall agreed and indicated that it is a difficult route. Mr. Tucker asked if they considered going over the canal. Ms. McCall answered that their engineers are leaning toward underground, with directional boring.

Ms. Brightenbach asked why the pipeline can't have a more direct route. Ms. McCall explained the logistical issues, existing infrastructure, access, etc. She further described landmarks on the map. Mr. Tucker asked why they could not go directly out of the plant and indicated they will need enough gradient to get under the freeway. Ms. McCall stated it was much easier to get access from Arizona Department of Transportation (ADOT) and the City of Phoenix than from private property.

Ms. Moore asked why the injection option was rejected. She further stated that she believed 90 percent of the water in the OCC was used for residential irrigation and only 10 percent for agricultural irrigation. Ms. McCall indicated that those numbers were not correct. Dr. Marston indicated "we're not going to settle that one here," and emphasized we needed to cover the remaining material quickly.

Ms. McCall continued displaying schematics of injections wells and areas in which injection would not work due to lack of alluvium and other logistical problems. She summarized the reasons why discharge to the OCC is the preferred alternative, including that the reinjection method is four times higher in cost.

Wendy Flood summarized the process of changing the OU1 Record of Decision (ROD) in regards to the end use of treated water, which will require an Explanation of Significant Differences. When the Explanation of Signficant Differences is released, there will be a public meeting and public comment period. She made it clear that the treatment standard for the effluent

will not change. A citizen asked when they will move forward with altering the ROD. Ms. Flood said ADEQ was waiting for this meeting to allow for the public's input before moving forward.

Ms. Brightenbach asked about the expected flow rate through the pipeline. Ms. Flood replied a rate of 250 gallons per minute (gpm) was expected and explained it would take about 44 hours to fill an Olympic-sized pool at this rate. A citizen asked if the increased flow in the canal would be something that the Salt River Project (SRP) would have to address. Ms. McCall indicated that the canal already varies in flow and that the added amount of effluent should not create a problem. Ms McCall indicated that they already have a verbal agreement with SRP and are now waiting on agency approval. Ms. Moore indicated she thought the OCC belonged to the City of Phoenix. Ms McCall indicated they've spent a year "ironing out" access issues and that the OCC does indeed belong to SRP. Dr. Marston voiced her concern about the pipeline crossing the school grounds and wanted assurance that the water would be treated to drinking water standards. Ms. McCall stated "yes, absolutely" and the pipeline will be underground and out of sight.

Mr. Brittle voiced concerns about subsidence and when subsidence studies would be conducted. A citizen was concerned that the groundwater extraction without reinjection would be a concern for subsidence. Mr. Suriano indicated that the Arizona Department of Water Resources (ADWR) actively studies subsidence zones and has determined that the subject area is not such a zone. Mr. Tucker stated that "I'm going to take issue with that very strongly"; he continued that he lives in a place where there has been one to two inches of subsidence and he could show people a place on Roosevelt Street where it can be clearly seen.

Ms. Flood suggested they could request Freescale to get the latest information from ADWR regarding subsidence. Mr. Tucker asked to see where the extraction wells were on the map and asked questions about the effluent pipeline route and why Freescale could not backtrack on existing pipeline system. Ms. McCall explained the logistical problems and the reasoning of the pipeline route.

Another citizen asked how long the treatment plant has been running and how long it will continue to run. Ms.McCall said the pilot plant began in 1986, the main plant in 1991, and they do not have current projections on how much longer it will run. Mary Moore asked about the standards, as they've been told that the water has been "super clean" in the past. She also asked about taking out inorganics so that the water can be used by the plant. Ms. McCall indicated that they treat the water for VOCs only and that the plant processes (distills) the water further for its own use, but the plant will no longer do additional processing when ON Semiconductor ceases operations.

Ms. Moore asked about the difference between the effluent water and what ON Semiconductor puts in the sewer after it's been used in its processes. Ms. McCall indicated she does not exactly know what ON Semiconductor puts in their water; she does know they have a permit from the City of Phoenix. Dr. Marston moderated and suggested it is more important to know if the water in the canal is of better quality than the effluent water. Ms. Moore discussed the OU1 treatment processes, which led to several people talking at the same time. A citizen asked for a comparison

of OCC water to treatment plant effluent water. Ms. McCall explained again that they only treat for VOCs and must meet permit requirements.

Mr. Tucker asked about monetary exchanges, specifically to SRP. Ms. McCall stated they haven't gotten to that point in negotiations. Dr. Marston moderated and forwarded the question to Ms. Flood, who stated the important issue is to get SRP to accept the water. Ms. McCall indicated Freescale will not be getting money from SRP for the water, as no one wants the effluent; rather, Freescale will have to pay SRP to accept the water. Ms. Brightenbach asked about moving the injection to several different locations. Ms. McCall indicated they have looked at many locations. The groundwater modeling used to evaluate the injection program was briefly discussed.

Dr. Marston indicated they will not have a break and introduced Ms. Rosati for the soil vapor sampling discussion. Ms. Rosati provided the dates of soil vapor sampling and a brief overview. She indicated that if soil gas action levels are exceeded, Freescale will be required to prepare an indoor air sampling plan. Ms. Moore indicated that she would like to see results ASAP, especially since they are using a mobile lab. Ms. Moore asked about the rationale for the OU1 soil gas sampling and sample locations. Mr. Suriano, and Ms. Kraemer, EPA's consultant explained the sample selection process, which is based on past sampling data as well as a special grid to ensure all areas are represented.

Mr. Castaneda began his presentation and discussed the recent vapor intrusion information from EPA Region 6 and possible shortcomings of the soil gas sample collection and analysis process. Mr. Castaneda suggested that there was poor correlation between sub-slab and indoor air sampling data. A citizen asked if modeling will be used to assess sub-slab concentrations. Mr. Castaneda said no.

Ms. Moore asked about how TCE is detected at such low concentrations in soil vapor, which led to a discussion about the Health and Safety Plan for the sampling crew. Ms. McCall explained that the Health and Safety Plan only applies to workers and not visitors or residents as they are kept back from the sampling location.

Mr. Castaneda stated that the community preferred the reinjection solution. They had some concerns that some contaminants may not be treated and gave boron and arsenic as examples. Numerous issues were raised that had been discussed earlier, such as the problem of subsidence and who would be monitoring the discharge to the canal.

Mr. Castaneda raised the question of what may happen to the canal when all water is mixed together and discussed the advantages and disadvantages of reinjection. Mr. Castaneda described various reinjection models used in OU1 and OU2. Mr. Suriano explained they are slightly different, but have similar operating principles. Mr. Castaneda raised the issue of sediment in the wells. Mr. Suriano explained that turbidity will likely come from injection well scaling and is not a result of improperly treated water.

Mr. Castaneda indicated they are looking for a new technical advisor to replace him. He introduced student interns from Gateway College that would be working with him on the M52 data as part of a school program.

Ms. Rosetti requested a discussion of the agenda for the next meeting. Mr. Brittle made a statement regarding his displeasure with the progress of the cleanup with the site. Dr. Marston thanked him.

Ms. Rosetti asks for suggestions. Ms. Brightenbach suggested spending less time on presentations and more time for comments. Dr. Marston stated it is not fair to people who have spent a lot time preparing presentations and not have the time to present the material. Ms. Brightenbach said it is not fair to us when we have questions and are told to meet outside after the meeting; Dr. Marston agreed. Ms. Rosetti, suggested a longer meeting, Ms. Brightenbach suggested reducing the length of the agenda. Ms. Rosetti indicated that currently, there is a lot of activity.

Ms. Rosetti suggested perhaps two meetings. Ms. Flood indicated that suggestions for agenda changes could be sent to her. Ms. Rosetti indicated there may be a meeting in May and in June. Ms. Brightenbach concurred that there is just too much on the agenda and maybe two meetings are necessary. A citizen suggested dividing the agenda for separate meetings and also suggested asking questions at the beginning of the meeting, or prior to the meeting.

The Possible June Meeting Topics include:
2010 Annual Effectiveness Report
Update on the End Use Report
Honeywell Risk Assessment – may require one separate meeting

8:25 pm: Dr. Marston adjourns meeting.