

**North Pole Refinery Technical Project Team  
Summary Comments  
July 14, 2010  
Fairbanks, AK**

**Technical Project Team Members**

Bill Butler	City of North Pole, Director of City Services
Cindy Christian	DEC Drinking Water Program, Compliance Program Manager
Mark Coggeshall	Flint Hills Resources, Project Manager
Dennis Elliott	Williams, Director of Environment, Health, and Safety (Via Telecon)
Ann Farris	DEC Contaminated Sites Program, Project Manager
Brian Jackson	DEC Prevention and Emergency Response Program (PERP)
Lee Johnson	DEC Drinking Water Program
Elizabeth Page	REISS Remediation
Scott Pexton	DEC Industry Preparedness Program (IPP)
Bob Tisserand	DEC IPP
Dr. Lori Verbrugge	DHSS, Toxicologist

**Support Personnel**

Stephanie Buss	E & E Toxicologist (via telecon)
Denise Elston	DEC Contaminated Sites Program, Environmental Program Specialist
Susan Erben	DEC Contaminated Sites Program, Community Involvement Specialist
JoAnn Grady	Grady and Associates, Team Facilitator
Nim Ha	DHSS, Health Educator
Daren Knowles	Flint Hills Resources, EH&S Manager
Lisa Minnear	OASIS Environmental, Project Manager
Eric Zentner	OASIS Environmental, Asst. Facilitator

**INTRODUCTIONS AND DISCUSSION OF MEETING AGENDA**

The meeting began at 9:00 AM as team members introduced themselves and briefly discussed and approved the team's agenda for the meeting.

**STATUS OF THE EPA'S PRELIMINARY ASSESSMENT AND HAZARD RANKING**

The team briefly discussed the status of the EPA's preliminary assessment of the refinery. Ms. Farris informed the team that the EPA has solicited bids from E&E to perform the preliminary investigation on the site. She briefly discussed a possible conflict of interest on the part of E&E since they are currently working as subcontractors for OASIS and the DEC. Ms. Farris informed the team that DEC is currently considering the issue and will report to the team if a conflict exists.

Ms. Farris said that she believes the EPA will rank the site and that the timeline for the assessment will most likely take place this fall. She said that there are several possible alternative scenarios for the organization of the project's leadership if the assessment score (28.5 or higher) qualifies the site for possible listing on the National Priorities List (NPL). She said, for example, the State could take the lead

while working with the EPA, or the State could enter into a formal agreement in which it takes the lead without an NPL listing. The approach will be coordinated between EPA and the State once the assessment is complete.

### **DISCUSSION OF THE ASSESSMENT OF THE RELEASE AT THE NORTH POLE REFINERY LABORATORY**

Mr. Coggeshall and Mr. Knowles briefly updated the team on the potential for a leak from the drainage system of the laboratory of the North Pole Refinery. Mr. Knowles said that the systems were inspected in May during the turnaround while the system was shut down and the sump system was out of service. During the inspection, FHRA performed a hydrostatic test on the plumbing in the lab's drainage system which indicated that it had failed the test and that the drain may have at least one leak. Immediately following the test, FHRA took the system out of service, made a report to DEC, and hired a 3<sup>rd</sup> party engineer to perform a root-cause failure analysis based on a hydrostatic test and a visual analysis of the plumbing by bore-scope camera. He said that while they could not identify the source of the leak with the camera, the hydrostatic test revealed a leakage rate of approximately 21.6 gallons per day while the pipes were in full liquid state. He stressed that this is a highly conservative estimate since the pipes are not likely to be at full liquid state given the inherent operational process in a lab environment.

Mr. Knowles informed the team that review of the engineering plans indicated that the drain system was not built according to specification. No-hub style neoprene connectors were inappropriately used that are not compatible with this type of service. He said that, consequently, the drainage system could have failed any time between its construction in 1985 and the date of the inspection.

Mr. Coggeshall described efforts underway to assess the possibility of contamination. He said that FHRA intends to continue using a temporary piping system while it develops a long-term engineering solution. He said that soil sampling is not feasible since all the piping connections that are suspect are located under a building. He said that FHRA intends to collect groundwater samples from temporary borings to sample areas down-gradient of the lab to determine if there have been impacts to the groundwater from the lab sump piping system. A work plan will be prepared for ADEC review and approval which will include a list of analysis based on the materials that have been discharged to the system.

The team discussed various considerations associated with the assessment of possible contamination from the leak. The team considered whether particular legs of the system could be isolated to determine whether the leak was located in a significant location, but Mr. Knowles explained that the various components of the system could not be segregated and analyzed in this way. The team agreed that the analysis of the potentially contaminated area should be based on the list of chemicals that were sent into the drainage system, as well as considerations of how and where they moved and whether they are volatile. Ms. Farris said FHRA should consider performing gas soil tests and possibly taking sub-slab samples to get a better idea of where the leaks occurred.

The team discussed the concern that any of the fifty connectors beneath the foundation could be leaking and single data points from bore holes might not be sufficient to determine if and where contamination occurred. Mr. Knowles said that FHRA intended to draft a proposal based on geo-probe

locations and then discuss other assessment options with DEC. He said that he hoped to schedule the discussion sometime around July 20<sup>th</sup>.

The team discussed the possibility of sampling sediments from the sump to try and identify COPCs that had been sent down the drain. Mr. Knowles remarked that the sump had just been cleaned, but he said that he would look into the possibility.

**ACTION ITEM:** *Mr. Knowles and or Mr. Coggeshall will schedule a meeting with DEC to discuss geo-probe and other options to assess whether contamination was caused by the leak from the refinery's drain. (July 20<sup>th</sup> of before)*

#### **UPDATE ON THE SOURCE INVESTIGATION AND CONTINGENCY PLAN**

The team took up discussion of the source investigation and contingency plan. Mr. Coggeshall presented a schematic of the refinery's wastewater system while Mr. Knowles briefly described the system and the sump inspection program. He said that FHRA hoped to finish the inspection process sometime in August. He said that Tank 192 will be removed from service later this year for a mechanical integrity inspection and general cleaning. He said that FHRA hoped to complete this process sometime in October or November of this year.

Mr. Knowles further described the refinery's wastewater system. He said that all of the wastewater from the refinery is routed through tank 192 at the start of the process. From there it goes to the CTX boxes where it flows through a system of treatment bacteria, water strippers, and finally to the lagoons. The team discussed EPA's historical concern with Lagoon B. Mr. Knowles explained that the concern arose from a previous failure of the lagoon's liner which caused sulfolane and benzene to leak into the environment. Mr. Coggeshall explained that the lagoon was entirely removed from service sometime in 2005-06 and has not been used under FHRA's management of the refinery. He said that the water now coming out of the strippers goes to the C pond. Mr. Knowles provided an update of the C pond liner replacement that was initiated due to a failure of the secondary liner (the secondary liner is the top liner in contact with effluent). Given that the C pond has a two liner system, Mr. Knowles indicated that this secondary liner failure in the C-pond did not result in contamination but has prompted FHRA to move to install triple liners. Mr. Knowles explained that there is a leak detection system consisting of a grid work of leak mesh and pipes running to the gauging well between the primary and secondary liners.

The team talked about the permitting authority for the water discharge system. Mr. Butler explained that the program is currently administered by the EPA and DEC but the city is in the process of becoming the pretreatment permitting authority.

#### **UPDATE ON THE SITE CHARACTERIZATION AND INTERIM REMEDIAL ACTION PLAN**

Ms. Page described recent updates in the development of the Site Characterization Work Plan (SCWP) and the Interim Remedial Action Plan (IRAP). She said that the only item to update for the team was the status of the process. She said that both the SCWP and IRAP were going through the internal review process which she hoped would be completed by next Friday (July 23). She informed the team that Reiss Remediation has assigned Mr. Steven Fienhage to oversee the fieldwork being performed at the refinery as well as the work that is being performed with the City. She said that he will be the point person for all contractors in the field.

**ACTION ITEM:** *Ms. Page will provide the contact information of Mr. Fienhage to the team.*

Ms. Page said that Reiss Remediation intended to hand-deliver two hard copies of the SCWP and IRAP to DEC along with one copy on CD. She said these copies would be produced in Minnesota and delivered via FedEx with a transmittal letter attached.

Ms. Farris stated that given the large amount of scheduled work, it is important that FHRA regularly update DEC via interim update meetings and that they seek approval for any changes made to the SCWP and IRAP during the interim period. She is considering whether updates during regular future TPT meetings could be the main means of providing these interim updates. She said that she intends to outline ways that FHRA should obtain approval of changes from DEC in her approval letter.

Ms. Page described the results of recent efforts to delineate the sulfolane plume and permafrost. She said that the delineation of the shallow plume is almost complete, delineation of the supra-permafrost is awaiting the completion of the SCWP, and delineation of the sub-permafrost is awaiting ADEC approval. She commented on water quality trends and specifically that selected wells show variability in their concentrations over time that may be due to seasonal water gradient changes.

The team discussed the status of water level management data. Mr. Coggeshall said that FHRA is currently working with Shannon and Wilson to find a way to meaningfully convey the most recent data. Ms. Farris remarked that she will need to have this data very soon since she must present briefings to the DEC commissioner and the State legislature. She said that the possibility that changes in concentration are due to recent releases rather than seasonal fluctuation cannot be ruled out without coherent data. The team agreed to establish protocols to ensure that the data from well analysis and other relevant project data are sent to the DEC as soon as practicable.

**ACTION ITEM:** *Mr. Coggeshall will establish protocols to ensure that results from well analysis and other relevant project data are sent to Ms. Farris as soon as practicable.*

Ms. Page presented a slide showing data from the analysis of drinking water wells positioned in and outside of the plume. She said that while there had not been any detections in the northernmost monitoring wells, there had been several results showing concentrations between 10 and 20 ppb between the plume limit and the slough in drinking water wells. She added that FHRA is currently trying to fill in data gaps by sampling drinking water wells from people who had been away from their North Pole property during the winter. Mr. Coggeshall indicated that FHRA is still adding concentration data to its maps of the plume as they become available and that the current versions of these maps are probably missing 5-8 drinking water well samples.

The team discussed the status of FHRA's modeling effort. Mr. Coggeshall informed the team that the modeling effort is moving forward, but at this point they are waiting for additional site characterization data, which in turn, is predicated on completion of the SCWP. Ms. Farris remarked that DEC's acceptance of statistical modeling is sometimes complicated by a number of issues. She said that

in light of this, FHRA should submit or discuss with DEC the details of the model input and structure as early as possible.

Dr. Verbrugge asked Ms. Farris whether she would request that FHRA include retrospective modeling in their SCWP. Ms. Farris replied that she would make her decision once she had the appropriate data from the SCWP. The goal is to try and understand the historical migration of the sulfolane and the concentrations over time, but there may not be a way to obtain sufficient data to model those historical concentrations. She said that she was particularly concerned with the permafrost characterization. If the permafrost configuration and vertical movement of the water cannot be determined through the time period, it will be difficult to reliably predict those concentrations in the wells.

### **DISCUSSIONS ON THE GENERAL COMMUNICATIONS STRATEGY, THE COLLABORATIVE EDITING PROCESS, AND SHAREPOINT**

The team discussed ways to improve collaborative interactions between the DHSS and DEC when both departments worked together on documents to be released to the public. Ms. Grady suggested that the team's representatives from the departments establish a decision making hierarchy to streamline the editing process.

**ACTION ITEM:** *Team members will discuss how to streamline the editing process for factsheets, press releases, and other communications co-developed by the EPA and DEC.*

The team discussed the need to transition the emphasis of its communication efforts away from the initial emergency response effort and segue into developing more regular communications based on the work of the TPT that are intended to educate and update the public on the work plan and other aspects of the remediation efforts. Ms. Erben said that she intends to prepare an update to the community to explain the SCWP once it is approved. Ms. Farris remarked that it is important that the responsibility to educate and update the public does not fall on DEC's shoulders alone and that it is truly the result of a collaborative process by team members.

The team took up discussion of various issues that its members have been having with SharePoint. Ms. Elston informed the team that Ben Sapp, the team's IT specialist who manages SharePoint will soon be moving to a new position and that all questions regarding SharePoint should be directed to her. Ms. Farris remarked that many of the editing issues that arose during the collaborative drafting effort between DEC and DHSS could have been alleviated if the agencies used SharePoint to exchange editing suggestions. She added that she expects that there will be considerable turnover among the personnel involved in this project and that SharePoint offers a way for team members to familiarize themselves with the history of the project by acting as the project's document library. She said that she would like to schedule a SharePoint tutorial for team members to give them an opportunity to further familiarize themselves with the program.

**ACTION ITEM:** *Ms. Farris will arrange to have a SharePoint tutorial for the team.*

## **DRINKING WATER SUB GROUP UPDATE**

The team reviewed the results of the ongoing sampling of North Pole city wells, the progress on determining the location of the new wells, and updates on the proposed distribution system extension. Ms. Christian informed the team of the results of the analysis of the most recent samples taken from North Pole's municipal wells. She said that testing is ongoing and that the distribution system is still non-detect.

Mr. Butler said that the City is still operating off of well number 1. Well number 2 is currently being tested and the City is fully prepared to switch to well number 2 as soon as the testing is complete. He stated that well number 2 is the well that the City normally uses in the spring after thaw. He remarked that since the state lab is still down, the City is considering having samples sent to SGS Environmental Services for analysis once a month.

Mr. Coggeshall updated the team on the status of efforts to sample private wells. He said that as of June 21, 768 locations have been visited and 404 wells have been sampled. He said that 208 wells have shown sulfolane concentrations of less than 10 ppb, 61 have shown concentrations greater than 10 ppb but less than 25 ppb, and 125 have shown concentrations above 25 ppb. He said that approximately 300 locations are being supplied with bottled water and that 6 bulk water tanks have been installed.

Ms. Page presented a graphic that showed the results of well samples taken from various locations inside and around the plume area. Ms Farris remarked that she would like to see the results of sampling performed north of the Slough north of Badger road since there are private wells located in that area. She said that she believes the slough may be acting as a barrier in the shallow zone of the aquifer. This may not be true in the deeper part of the aquifer, though, where the drinking water wells are more likely to be set.

The team discussed detections in private wells at the northernmost end of the plume that were marked yellow on the graphic. Ms. Page commented that the monitoring wells were drilled to a depth of 15 feet and the detections in private wells in the area could indicate something deeper. Ms Farris asserted that it is critical to address this monitoring gap since the delineation of the northern extent of the plume shown in the figure would change significantly if there are detections in those wells. Ms. Page responded that delineation would be completed upon ADEC approval of the SCWP.

Mr. Coggeshall presented an update on the progress of the locating efforts for the proposed new wells for the city of North Pole. He said that the efforts are proceeding according to schedule and Shannon & Wilson is currently requesting bids from drilling companies. He said that FHRA has modeled the capture zone and that its current model is based on their most conservative assumptions. Mr. Coggeshall briefly described the locating process for the proposed wells. He said that the analysis from test wells in the vicinity of the proposed site indicate that the water quality from the area compares favorably with water from the current municipal wells. He said that the test results at the 150 foot level did not reveal any issues with nitrate, nitrile, VOCs, DRO, inorganics, or sulfolane.

Mr. Coggeshall presented a brief overview of the design specifications for the proposed municipal water well. He said that the proposed system would consist of two wells designed to produce 1200 gallons per minute each. He remarked that while this rate far exceeds current use and needs, the designers wanted to allow for City growth. Mr. Coggeshall said that he would provide a hard copy of a full set of the design information for the proposed new well to Mr. Butler.

**ACTION ITEM:** *Mr. Coggeshall will give Mr. Butler a hard copy of a full set of the design information for the new North Pole water well.*

Mr. Coggeshall presented a slide showing the proposed water transmission line routing from the proposed new supply wells. He said that FHRA is currently facilitating access agreements with property owners in the proposed route, but the final agreements will ultimately be between the City of North Pole and the property owners. He said that FHRA will purchase the property for the City which will then manage all ongoing issues after the transfer of ownership. He described the status of the negotiations with each of the property owners and remarked that overall he felt that the process was going well.

Mr. Coggeshall updated the team on the status of efforts to connect well owners in the city limits to the North Pole municipal water system. He said that FHRA received approval from ADEC for construction on June 6<sup>th</sup>, and on June 21<sup>st</sup> its building permit was approved by the City of North Pole. He said that FHRA began construction on these connections on June 22<sup>nd</sup>, and that homes on 6<sup>th</sup> Avenue are nearly complete. He added that FHRA has begun working on 4<sup>th</sup> and 7<sup>th</sup> Avenues, and intends to start work on Andrea Drive and the Highway Park homes. Mr. Coggeshall said that of the 28 connections planned for the project, FHRA has visited all 26 owners, obtained 20 access agreements, and is currently working to obtain agreements from the remaining owners.

The team considered various ways to coordinate its approach to the permitting process for the installation of the new transmission lines and changes to the water treatment plant. Mr. Johnson asked whether it was possible to separate the approval process of the city council from that of the DEC so that the council's approval was not contingent on the DEC's approval. Mr. Butler remarked that once he received the pertinent documents he would pass them on to the city's consulting engineers for review and then wait for DEC's approval. The team continued to discuss the schedule for construction. Mr. Coggeshall said that they would like to begin construction as soon as possible, but they were waiting for materials that were at least six weeks out so they could not start sooner than early August.

The team discussed concerns about how construction might affect people living near the construction areas. Mr. Coggeshall said FHRA is currently communicating with people living near the construction sites and that Marissa Sharrah is coordinating that effort for FHRA. The team agreed that Ms. Erben should be added to the email list of those being sent information regarding construction. Mr. Coggeshall said, in summary, that he feels that the project is going well overall and that FHRA's goal is to finish the water extension sometime between the middle and the end of August.

**ACTION ITEM:** *Ms. Page or Mr. Coggeshall will include Ms. Erben on the appropriate mailing lists to ensure that she receives all information sent by FHRA to the public regarding the extension of North Pole city water service, and/or the development and construction of the proposed new City of North Pole wells.*

Mr. Coggeshall presented a brief overview of the various options FHRA is considering in the development of its plan to provide water to residents living outside the service area. He said that FHRA hopes to finalize and present its plan to these residents by the end of the summer. He said that FHRA is currently considering a wide range of options including water tanks, onsite treatment, and extended water service. He mentioned that the 35 percent drawings for the water extension option have been completed but significant questions remain about how it would be built and operated. The team

discussed considerations associated with the individual home treatment option. Ms. Farris requested that DEC be periodically updated as these options are further investigated.

### **THE RISK COMMUNICATION SUB GROUP**

Ms. Erben updated the team on the recent activities of the Risk Communication Subgroup. She said that the subgroup recently finished a fact sheet to distribute to participants of the Garden Study. The team discussed whether the factsheet could be presented to legislators, city council members, and other interested parties. Dr. Verbrugge and Ms. Ha said that it should probably be reformatted and vetted through the appropriate DHSS officials before being presented to the public.

**ACTION ITEM:** *Ms. Ha will contact the appropriate DHSS personnel to ensure that the fact sheet written for the benefit of the participants of the Garden Study has been properly vetted through the department before it is sent to legislators, city council members, or other interested parties.*

Ms. Ha informed the team that the subgroup had prepared a press release to be sent out the following morning. She said that the press release was written to address the potential concerns of neighbors and other onlookers and to try to ensure that readers would have realistic expectations of the goals of the study. The team took up consideration of the press release and decided that it might be prudent for the subgroup to review its content and formatting before submitting it to the public.

Ms. Erben updated the team on recent efforts made on behalf of the subgroup to carryout suggestions made during the last meeting on how to improve communications between the TPT and residents of North Pole. She said that the subgroup had decided to continue publishing community updates on the project but it had decided not to publish a formal newsletter because it wanted to maintain a more flexible format for these updates.

The team took up consideration of the possibility of creating a permanent information display in a prominent public place in the city. Ms. Erben said that if such a display were to be created, it should probably be placed in the North Pole Mall since it is an accessible area with a large amount of public traffic. Mr. Butler added that if the display is small enough, it might also be possible to place it in the North Pole City Hall. The team agreed that information presented in the display should be brief and concise and that the display should be updated to reflect changes to the project's schedule. The team discussed whether it should include a graphical representation of the plume's dimensions in the permanent display. Mr. Butler remarked that of all the questions he was asked by the public, questions about plume's dimensions were perhaps the most common. Mr. Coggeshall said that he would like to have an opportunity to further consult internally with FHRA before proceeding with the development of a permanent display.

**ACTION ITEM:** *Mr. Coggeshall will consult with FHRA management about the possibility of establishing a permanent information display in the North Pole Mall.*

### **THE TOXICOLOGY SUB GROUP**

Ms. Ha described the sampling phase of the Garden Study to team members. She listed the

participants of the study and the types of vegetables sampled from their gardens. She informed the team that the field group made a few adjustments to the sampling procedures during the study. She said, for instance, that at Hawk's greenhouse they found that the pea stems from several different plants were intertwined and it was impossible to identify which plant had produced a given pea pod. She said that in this case, the team treated all of the intertwined peas as though they had come from a single plant. She said that according to the SAP protocol, sugar snap peas were to be shucked, however, a participant told them that people typically eat the whole pod so the team decided to sample the whole pods. She said that Hawk's greenhouse actually uses water from three sources; well water, water bottled from a source in the community of Fox, and municipal water from North Pole. She said that the team obtained water samples from each source and carefully labeled the source of water used for the sampled vegetables.

Ms. Ha described additional field adjustments made by the team to the sampling procedure. She said that the protocol for labeling the quality control samples was not clear and the team decided to follow procedures that matched the labeling of the plant samples. She said the team decided that in the future it would treat samples from composite plants such as the peas as samples from a single plant. Ms. Ha said that there had been some confusion concerning the labeling of drinking water samples since the SAP calls for a distinction between the labeling of drinking water and that of well water samples. Ms. Ha said that currently everyone is on bottled water and no one is drinking from their wells. Ms. Buss responded that all samples should be labeled as originating from well supply.

Ms. Ha remarked that the sampling efforts took much longer than she had imagined given the relatively small number of participants and samples involved. She suggested that the team consider adding another field team during the next sampling round. She said she thought a team of three members would probably be ideal, but two teams of two members would be an improvement over the previous arrangement. She added that the participants said they would keep in contact with her as their crops matured.

Ms. Ha said that the sampling efforts went very well from her prospective and she felt that additional gardeners would join as more people heard about the study. Mr. Coggeshall remarked that he would like to maintain the same team during the next round of the study and that he would have to consider whether to add additional volunteers during the following phase since this might alter the base and scope of the study.

## **THE GREENHOUSE STUDY**

The team took up discussion of the Greenhouse Study. The team discussed which organization would take the lead in the project. Ms. Farris remarked that unlike the Garden Study, which was a part of the site characterization, the Greenhouse Study would be a research project in which the DEC would not have regulatory authority and thus, it would be extremely difficult for them to take the lead on this project. She said that if the DEC is going to do the contracting they would like control over the work review process. The team considered the possibility of a joint effort on the part of the DEC and DHSS to lead the project. The team decided to schedule a follow-up meeting on July 29<sup>th</sup> to discuss the administrative organization and RFP for the Greenhouse Project.

**ACTION ITEM:** *Ms. Buss will schedule a meeting of the Toxicology Subgroup by July 29<sup>th</sup> to discuss the RFP for the Greenhouse Study.*

The team discussed whether it might contract with UAF or a private institution to conduct the study. The team decided that it may consider a contract with a private institution since they would likely have better quality control and a more amenable timeline. The team agreed that Mr. Coggeshall should send FHRA's draft RFP to the DEC so that they could use it as a basis for creating their own RFP.

**ACTION ITEM:** *Mr. Coggeshall will send Ms. Buss and Ms. Farris FHRA's work to date on a RFP for the Greenhouse Study by July 29<sup>th</sup>.*

**ACTION ITEM:** *Ms. Farris will look into options for who will carry out the RFP for the Greenhouse Study.*

#### **AGENDA ITEMS FOR THE SEPTEMBER 14<sup>th</sup> MEETING**

The team discussed the agenda items for the next meeting scheduled for September 14<sup>th</sup>. The team tentatively agreed that the agenda should include updates on; the SCWP and IRAP, the municipal well project, the Ford Subdivision Extension Project, the development of options for people living outside the city limits, and the status of the EPA's Superfund Ranking Process. The team discussed the content and format of the Open House meeting schedule for September 15<sup>th</sup>. Mr. Coggeshall remarked that FHRA would probably focus on presenting information about the SCWP and IRAP during the Open House. The team agreed that the Open House should include something about the North Pole City well design and update.

The team adjourned the meeting at 5:00 PM Alaska Time.