STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
4601 N Monroe Street • Spokane, Washington 99205-1295 • (509)329-3400

February 13, 2014

Mr. Jerry Eide
Harvest States
763 Willoughby Lane
Stevensville, MT 59870

RE: CHS Quincy Site: Periodic Review Response Actions – Ecology Acknowledgement of Satisfactory Completion

Dear Mr. Eide:

The purpose of this letter is to provide the Washington State Department of Ecology's (Ecology) formal acknowledgement of actions taken by Cenex Harvest States Inc. (CHS) in response to the document *Cenex/Quincy Site Final Periodic Review – Quincy, WA* (June 2009). This document was the first Periodic Review of cleanup-related actions performed at the CHS Quincy Site (Site) following implementation of the final cleanup remedy. The cleanup-related actions taken by CHS in response to the Period Review findings were conducted from 2009 through 2012. These actions addressed several data gaps and uncertainties, which were believed to impact the timeframes to successfully complete site cleanup.

This letter briefly documents the steps and actions taken by CHS since 2009 to satisfy the technical and administrative requirements of the Periodic Review process. These efforts have helped to advance the overall understanding of site conditions and possible limitations associated with certain remedial technologies. This letter also provides a recommended path forward to continue building upon the post-Periodic Review work completed so far. The specific administrative framework and mechanism for conducting any additional work—beyond the scope of work specified in the existing Consent Decree—will require additional discussion and agreement between CHS, Ecology and the Washington State Attorney General's Office, Ecology Division.

Overview of Periodic Review Process and Findings

Ecology and CHS entered into a Consent Decree No. DE-00TCPER-1815 to perform remedial actions at the site. Section XXIII of the Consent Decree describes the completion of periodic reviews (Five Year Review) to assess the progress of remedial actions at the site. The first periodic review following implementation of the cleanup remedy was initiated in 2008, and finalized in June 2009. Findings from the periodic review indicated a need for additional actions, beyond those specified in the Consent Decree, to improve remedial performance. More specifically, the remedial actions did not appear capable of achieving cleanup levels throughout the site within the 10-year cleanup timeframe (for groundwater) specified in the Final Cleanup Action Plan.

Overview of Periodic Review Response Actions Performed by CHS

In response to recommendations from the 2009 Periodic Review, CHS agreed to conduct a series of actions to enhance and potentially expedite the cleanup efforts at the site. An April 16, 2013 memorandum prepared by Farallon Consulting, LLC on behalf of CHS summarizes the actions which were to be taken in response to the findings from the June 2009 Final Periodic Review. In brief, the Periodic Review recommended the following actions:

- Evaluate new and alternative cleanup technologies – focusing on demonstrated in situ treatment approaches for chlorinated VOCs.
- Delineate the downgradient extent of constituents of concern (COCs) in groundwater.
- Record Environmental Covenants for properties overlying areas of known contamination.
- Collect groundwater samples from nearby domestic water supply wells.
- Include MW-8 as part of routine quarterly groundwater monitoring events.

Addressing Data Gaps

CHS developed a Supplemental Remedial Investigation Work Plan (dated June 29, 2011) to address recognized data gaps and uncertainties related to certain site conditions. Actions to be performed included:

- Confirmation of COC concentrations in soil and soil gas on the CHS Quincy property.
- Delineation of the downgradient extent of COCs in groundwater.
- Evaluation of potential hydraulic effects of the West Canal on groundwater flow and contaminant migration in downgradient areas of the site.
- Assessment of possible vapor intrusion into residential buildings located directly over the contaminant plume in areas hydraulically downgradient from the CHS Quincy property.

Details of the supplemental remedial investigation field activities were documented in a March 26, 2012 *Supplemental Remedial Investigation Report* prepared by Farallon Consulting, LLC. The Supplemental RI work provides an enhanced understanding of site conditions and contaminant distribution at the site. Farallon's April 16, 2013 memorandum identifies CHS's major conclusions and findings from the Supplemental RI phase of work. Ecology acknowledges and appreciates the work put into this document. However, based on our independent evaluation and interpretation of the data and the current status of site contamination, we do not necessarily agree with all of the conclusions presented on Page 3 of the April 16th Farallon memo. Some of our alternative hypotheses regarding selected site conditions were discussed with you during our January 17, 2014 conference call.

Additional technical discussion and exchange is scheduled for the near future between Ecology and CHS's technical representative (Farallon). This meeting is expected to provide additional opportunity to discuss conceptual site model elements from the Supplemental RI work, and allow the parties to consider other possible data interpretations and contaminant pathways of potential concern.

Recording Environmental Covenants

Groundwater contamination is present beneath several properties owned by an assorted collection of individuals, businesses and/or municipalities. Environmental covenants still are needed for several of these parcels, in accordance with the notification requirements of the Washington Model Toxics Control Act. This requirement was specified in the February 2001 Final Cleanup Action Plan (Section 9.3), and reiterated in Section 5 of the June 2009 Final Periodic Review document.
Ecology recognizes CHS has attempted to contact all property owners whose properties overlie areas of known contamination. Ecology recommends further discussions with CHS on how best to obtain environmental covenants for parcels where (1) the property owner and/or managing entity has proven difficult to contact or is non-cooperative, and/or (2) contamination has been identified relatively recently (e.g., downgradient properties such as City of Quincy parcels and/or Grant County parcels) and restrictive covenant discussions have not yet been initiated. Discussions on this topic may be more focused and fruitful once the technical issues described above have been further vetted, and the agreed upon path-forward is more fully developed.

Evaluating New and Alternative Cleanup Technologies

Ecology acknowledges CHS's efforts to evaluate a number of alternative groundwater treatment technologies. The need for further evaluation of improved technology options was identified in Ecology's *2009 Final Periodic Review* document. CHS's February 10, 2011 memorandum *Periodic Review Response Summary and Strategic Plan, CHS Quincy Site, Quincy, Washington* identifies the need to "evaluate new and alternative cleanup technologies, particularly those related to in situ treatment of chlorinated VOCs in groundwater, and perform bench-scale, field or pilot studies, as appropriate, of the applicable cleanup technology options identified." The remedial technologies evaluation process has involved several steps and phases over the past several years, as described below.

An alternative technologies evaluation was initiated by the preparation of an October 26, 2009 technical memorandum prepared by Farallon titled *Literature and Technology Review and Data Gap Analysis – Cenex Quincy Site, Quincy, Washington*. The purpose of this initial literature review and data gap analysis was to help focus discussions between CHS and Ecology regarding possible pilot testing of alternative treatment technologies – in particular those deemed most applicable/feasible for addressing known contaminants and site conditions.

Bench and column testing was performed in 2010 and 2011 to assess the use of zero valent nano-iron formulations. In 2011, CHS also contracted with Washington State University (Department of Civil and Environmental Engineering) to conduct a series of treatability studies involving catalyzed hydrogen peroxide and base-activated sodium persulfate applied to site soil-groundwater slurries. The outcome from the WSU treatability study spurred CHS to seek a proposal for pilot testing from a remediation contractor (ISOTEC) with in situ chemical oxidation experience. Costs estimates from the remediation contractor raised concerns on the part of CHS over disproportionate costs associated with a full-scale remediation system involving this type of treatment technology.

Ex Situ Air Stripping also was evaluated by CHS in 2011 and 2012. This remedial technology option was not found to be implementable due to potential restrictions over reinjection of the treated groundwater and restrictions by the City of Quincy over acceptability criteria for treated wastewater.

In summary, the alternative cleanup technologies evaluation conducted by CHS did not identify a specific, cost-effective remediation approach which would achieve the cleanup goals for the site within a reasonable restoration timeframe. With respect to the cleanup technologies evaluation process, Farallon's April 16, 2013 memorandum concludes: "[t]he evaluation of alternative cleanup technologies has not identified any new practicable and cost-effective cleanup technologies that have been demonstrated to actually reduce concentrations of COCs in groundwater over the entire area of the Site to below the Site cleanup levels in a reasonable restoration timeframe." While Ecology understands the basis for CHS's conclusion in this regard, we do not believe the actions taken to date have exhausted all potentially feasible options for furthering the reduction of residual contaminant mass at this site (as described below).

Steps Ahead

These aforementioned steps, efforts and actions taken over the past several years, in response to the 2009 Period Review findings and recommendations, highlight a considerable body of work and effort on the part of CHS that Ecology wishes to formally recognize and acknowledge. Despite these concerted efforts, cleanup of the Cenex Quincy site is not likely to be achieved within the foreseeable future via sustained operation of the existing SVE/microsparge system (source area), or via natural attenuation processes (downgradient plume area). Ecology looks forward to working closely with CHS and its technical representatives to identify ways to expedite the current cleanup process at this site. We believe the proposed steps and actions identified by Ecology during our conference call with you on January 17, 2014 can help move us further toward identification of a technically feasible and cost-effective cleanup remedy for this site.

In closing, Ecology again wishes to acknowledge CHS's efforts at the Cenex-Quincy site in response to the 2009 Periodic Review findings and recommendations, and the considerable cleanup progress that has been made since implementing the 2001 Consent Decree. We remain confident that cost-effective and technically viable modifications to the existing remedial strategy can be found, and believe these forthcoming efforts will help achieve the goal of expediting cleanup at this site.

Please contact me at 509-329-3439 if you have any questions about this letter.

Sincerely,

Chuck Gruenenfelder

Chuck Gruenenfelder
Project Manager
Toxics Cleanup Program

CG:ew

cc: Valerie Rickman, AAG/Olympia
Jeremy Schmidt/TCP-ERO
Ginny Darrell/TCP-ERO