

**CH2MHILL • B&W West Valley, LLC**  
*West Valley Demonstration Project*

Mr. C. S. Haugh, P.E.  
 Chief, Source Surveillance  
 New York State Department of Environmental Conservation  
 Division of Water  
 Bureau of Watershed Programs  
 625 Broadway, 4<sup>th</sup> Floor  
 Albany, New York 12233-3506

AC-EA  
 WR:2012:0029  
 June 7, 2012

**SUBJECT:** State Pollutant Discharge Elimination System (SPDES) Surfactant Study, SPDES Permit No. NY-0000973, West Valley Demonstration Project (WVDP)

Dear Mr. Haugh:

The West Valley Demonstration Project (WVDP) site is required to perform a Surfactant Study as stated in the Schedule of Compliance contained on page 30 of 32 of the site's SPDES permit (NY0000973). The first phase of the study is to collect and evaluate the sampling results. This information is included herein.

The primary influent containing surfactants at the WVDP was from the on-site laundry facility. Since December of 2011, the WVDP has procured the off-site laundry services of Doritex for non-radiologically contaminated clothing and UniTech Services for radiologically contaminated clothing and respirators. The transition to the off-site laundry services was completed in December 2011. At that time, the on-site laundry was temporarily placed out of service. This was to verify the change to off-site laundry services could be performed without interruption. Since then, the on-site laundry has not been used and is considered permanently out of service. As such, the use of Clean Environment Company's Natural Detergent and Softener (N-45) – the primary contributing source of surfactants to Outfall 001 – has been eliminated.

In support of this phase of the study, the WVDP collected effluent discharge samples from outfall 001 as required by the permit. Those results are presented in the following table that includes data for the time period of January 1, 2007 through March 21, 2012. The results indicate four instances when the reported surfactants were above the final permit limit of 0.04 mg/L. Three of these were actual quantified results, while the fourth was reported as an estimated ("less than") result due to sample dilution performed by the laboratory. All of these data were generated by TestAmerica. Note that all four exceedances occurred prior to discontinuation of the on-site laundry service, and that the average surfactant concentration over this five-year period is <0.033 mg/L that is below the final permit limit of 0.04 mg/L.

| Date     | Result (mg/L) | Date                 | Result (mg/L) |
|----------|---------------|----------------------|---------------|
| 2/14/07  | 0.081         | 2/22/11              | 0.031         |
| 10/17/07 | 0.025         | 7/13/11              | 0.014         |
| 3/5/08   | < 0.013       | 9/14/11              | <0.052        |
| 8/1/08   | 0.042         | 12/7/11              | < 0.013       |
| 2/19/09  | < 0.013       | 2/1/12               | 0.036         |
| 8/5/09   | < 0.013       | 3/21/12              | 0.013         |
| 2/17/10  | < 0.013       |                      |               |
| 8/11/10  | 0.103         | Average <sup>1</sup> | <0.033        |

<sup>1</sup>The average is calculated taking each estimated value at it's PQL

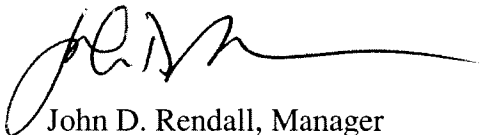
(Note that it is unclear if the single historical estimated value, from September 14, 2011, that exceeded the proposed limit of 0.04 mg/L, was from an actual surfactant contribution or was the result of analytical method limitations. The WVDP has discussed analytical considerations of Standard Method 5540C (anionic Surfactants as MBAS) with our contract laboratories, Test America (TA) and General Engineering Laboratories (GEL). Method performance by both laboratories are similar. TA has a Minimum Detection Level (MDL) of 0.013 mg/L and a Practical Quantitation Limit (PQL) of 0.040 mg/L. GEL has an MDL of 0.016 mg/L and a PQL of 0.050 mg/L. Ideally, to reduce the possibility of generating false positive results above the proposed limit of 0.040 mg/L, the PQL should be well below 0.040 mg/L. As a result of the discussions with WVDP, both laboratories are evaluating changes to their procedures and protocols that will improve method sensitivity and reduce the PQLs to below the final permit limit.)

If conditions at the WVDP change or the analytical results obtained from the batch discharges at outfall 001 start to display an upward trend, a more robust study may be necessary that will require an evaluation of process modifications and/or additional treatment methods. If process modifications are necessary, and/or additional treatment methods are required, they will be certified by a licensed Professional Engineer in the State of New York.

As a result of the change to performing laundry services with an off-site vendor, and based upon the results presented above, the WVDP expects that wastewaters will continue to meet the effluent limit of 0.04 mg/L for surfactants, and therefore the WVDP does not expect that wastewaters will require any additional water treatment modifications to address that parameter.

If you have any questions, please contact Moira N. Maloney of the US Department of Energy at (716) 942-4255 or David P. Klenk of my staff at 716-942-4061.

Very truly yours,



John D. Rendall, Manager  
Regulatory Strategy

ATTACHMENT: Professional Engineer Certification

JDR:DPK:bnj

cc: M. A. Jackson, NYSDEC-Region 9 DOW  
E. W. Wohlers, Cattaraugus County Health Department  
J. M. Dundas, DOE-WVDP, AC-DOE  
M. P. Krentz, DOE-WVDP, AC-DOE  
M. N. Maloney, DOE-WVDP, AC-DOE  
L. E. Bennett, AC-PRES  
H. H. Dukes, CHBWV, WV-PL6  
D. P. Klenk, CHBWV, AC-EA  
J. D. Rendall, CHBWV, AC-EA  
R. L. Scharf, CHBWV, WV-PL6  
A. W. Upshaw, CHBWV, WV-PL6  
R. West, URS, Buffalo  
W. N. Kean, URS SMS, AC-URS  
Letter Log (B. Jeffery), CHBWV, AC-BUS

Please be advised that I have reviewed the attached State Pollutant Discharge Elimination System (SPDES) Surfactant Study, SPES Permit No. NY-0000973, West Valley Demonstration Project (WVDP)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Executed on May 30, 2012  
[Date]

*Randolph West*  
[Authorized Signature]

Randolph West Sr Civil Engineer  
[Print or Type Name and Title]

Bryan C. Bower  
[Print or Type Permittee's Name]

NY-0000973  
[Print or Type the SPDES Permit No.]



**CORRESPONDENCE CONTROL SHEET**  
(Printed on Pink Paper)

|  |  |  |                                    |                           |
|--|--|--|------------------------------------|---------------------------|
| <b>Correspondence Code</b><br><u>WR : 2012: 0029</u> | <b>Author's Name &amp; Extension</b><br>D. P. Klenk/4061 | <b>Date Review Submitted</b><br>04/26/12 | <b>Date Review Due</b><br>05/03/12 | <b>Record Series Code</b> |
|--|--|--|------------------------------------|---------------------------|

**Subject** Surfactant Study

**Does this Correspondence Respond to any DOE or Regulator Correspondence?**  
 No  
 Yes - If yes, then identify the following: Correspondence Code: \_\_\_\_\_ Action Number: \_\_\_\_\_

**Administratively Confidential or Proprietary Information**  
 Does this correspondence/attachments contain administratively confidential OR proprietary information?  
 No  
 Yes - If yes, then ensure documentation is properly marked as administratively confidential OR proprietary AND as OOU per requirements of WVDP-402.

**Export Controlled Information (ECI)**  
 Does or could this correspondence/attachments contain ECI (OOU, FOIA Exemption 3)?  
*[i.e., technical information that would be restricted by statute; refer to WVDP-402 for guidance on this determination.]*  
 No  
 Yes - If yes, then obtain export control review from the Export & Technology Control Officer (E&TCO) (or designee) AND ensure documentation is properly marked as ECI with E&TCO signature & date AND properly marked as OOU per requirements of WVDP-402.

**Official Use Only (OOU) Information**  
 Does or could this correspondence/attachments meet the definition of Official Use Only (OOU)?  
*[i.e., information is certain unclassified information that may be exempt from public release under the Freedom of Information Act (FOIA), (Exemptions 3-9) and has the potential to damage governmental, commercial, or private interests if disseminated to persons who do not need to know the information to perform their jobs or other DOE authorized activities; refer to WVDP-402 for additional guidance on this determination.]*  
 No  
 Yes - If yes, then ensure OOU information is properly marked per requirements of WVDP-402.

**Action/Funding Commitment**  
 Does this correspondence/attachments commit CHBWV to an action or commit funds?  
 No  
 Yes - If yes, then obtain CHBWV Project Manager, Deputy Project Manager, or Business Services Manager review AND approval by a cognizant President's Direct Reports team member.

**Additional Instructions or Comments**

**REVIEWER APPROVALS (only used for hard copy process)**

| MS/Printed Name          | Signature | Date    | Concur                              | W/Comments                          | Nonconcur                |
|--------------------------|-----------|---------|-------------------------------------|-------------------------------------|--------------------------|
| AC-URSW/ N. Kean         |           | 4/30/12 | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |
| AC-EA/D. P. Klenk        |           | 4/30/12 | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |
| AC-PROC/L. K. Hollfelder |           | 4/30/12 | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |
| AC-EA/J. D. Rendall      |           | 5/1/12  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| AC-DOE/J. M. Dundas      |           | 6/4/12  | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |
| WV-PL6/ A. Upshaw        |           | 5/24/12 | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/> |

**Reviewer initial & date indicating satisfactory resolution of nonconcur (only used for hard copy process):**