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memorandum

Environmental Stewardship Division (ENV-DO)
Water Quality & Hydrology Group (ENV-WQH)

SUBJECT: FINAL SURFACE WATER ASSESSMENT TEAM MEETING MINUTES FOR FEBRUARY 16, 2005

1.0 PURPOSE

The Surface Water Site Assessment Team (SWAT) consisting of staff members from LANL, DOE, DOE-OB and NMED is tasked with providing a review the Laboratory's Storm Water Management Program for the Multi-Sector General Permit and the Federal Facilities Compliance Agreement (FFCA). The SWAT role is to provide a review of storm water issues and to build consensus on recommendations associated with Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs). Items of discussion will include but are not limited to; monitoring locations, potential pollutants, action levels, corrective actions, BMP effectiveness studies and permitting concerns.

2.0 DISCUSSION

General discussion: Mr. Veenis discussed the new challenges before the SWAT, including setting priorities, providing timely information to stakeholders, scheduling activities, staying on schedule, meeting FFCA deliverables, trying to build consensus on addressing storm water issues, developing corrective actions and establishing a path forward to meet the intent of the regulations. Mr. Veenis requested NMED involvement in the SWAT meetings and throughout the decision making process to develop common sense approaches to reducing storm water impacts thus reducing costs to the taxpayers. Mr. Veenis proposed meeting every third Wednesday of the month and rotating the meeting place (NMED, LANL. DOE, etc.) to optimize attendance from SWAT members. Mr. Veenis handed out a draft agenda for review and comment (Handout 1). Introductions were made for new SWAT members (Elmer Alcon, Joe English).

2.1 Review of January 14, 2005 Draft Meeting Minutes

The "*Draft Surface Water Assessment Team Meeting Minutes For January 14, 2005*" (Handout 2) were presented. Barbara Hoditschek asked that Shaw E&I be added to the distribution list. There were no other comments. Steve Veenis will finalize the January 14th meeting minutes and distribute to the SWAT.

At the January 14th SWAT meeting the Laboratory asked for comments on the proposed FFCA report format for wSAL exceedances and the annual storm water data report. As of February 16th, no comments on the proposed FFCA report format were received.

2.2 Update of Federal Facilities Compliance Agreement (FFCA)

The FFCA Administrative Order Docket No. CWA-06-2005-1701 has been signed by EPA and DOE and became effective February 3, 2005. The funding for the FFCA is in place for FY05 to initiate FFCA requirements. The SWAT will be an integral part of this and it is hoped will take the lead in prioritizing the work.

The Laboratory hopes that each member of the SWAT will participate in an open and honest manner. It is up to the Laboratory to stay on schedule and work towards consensus. The Laboratory hopes that NMED will continue to be engaged and involved in the process and that they will help to make decisions in a timely manner and help the Laboratory move this project forward. The Laboratory hopes that NMED will help make appropriate decisions so that the funding associated with this project is spent wisely and the pubic gets positive benefits for their tax dollars.

The first FFCA deliverables were the wSAL exceedance table and Volumes 3&4 of the permit application for the individual storm water permit. Both deliverables are due February 28, 2005. On March 31, 2005 the Laboratory is required to submit the final portion of the permit application to meet the requirements for an "*administratively complete*" application, finalize the storm water monitoring plans for FY05 (site specific and watershed), modify and submit the SWPPP to meet FFCA requirements, and submit the annual storm water results for CY04. These deliverables are discussed in further detail below.

2.3 Review of LANL FY04 Storm Water Monitoring exceedances of wSALs (site-specific and watershed scale)

Cathy Smith handed out the "*Monitoring Year 2004, Site Monitoring Areas Sites List*" (Handout 3) and presented the "*SMA Sites With Results > wSALs*" graph that displayed the overall number of wSAL exceedances for each parameter by the number of sites (Handout 4). Cathy walked everyone through the tables. Samples were collected at 44 Site Monitoring Areas (SMAs) covering 71 SWMUs/AOCs. Sampling at SMAs consists of single staged samplers, some ISCO samplers and a few gaging stations. Based on this graph, Mg, COD, Al, and Gross Alpha are by far the most common wSAL exceedances observed in storm water discharges at LANL.

Ralph Ford-Schmid asked how many of the Sites had Mg and Al listed as contaminants of potential concern (COPC) where we detected Mg and Al wSAL exceedances. Cathy Smith informed Ralph that we have not looked at this extensively but her feeling was that Mg and Al are not prevalent COPCs at sites. At sites where there are no surface soil data, we have to use knowledge of process with the site history. Knowledge of process for these sites indicate that these constituents are not common COPCs and are most likely associated with the parent soil material.

Ralph indicated SWAT needed to define substantially identical outfalls. Steve Veenis indicated that SWAT had already defined representative sampling but not specifically substantially identical outfalls. Steve suggested this definition be incorporated into the modified SWPPP.

The next report discussed was a table "*Site-Specific Storm water Runoff Monitoring, 2004 Analytical Results greater than wSALs, Summary for Potential Non-Laboratory Derived Pollutants*" that summarized potential non-laboratory derived pollutants for site specific locations with analytical results greater than wSAL (Handout 5). The Laboratory believes that Mg, Al, and COD are naturally occurring and not derived from the Laboratory. The table shows that we are detecting analytical results for Mg and Al that are about an order of magnitude greater than the wSAL. This table represents the report format that will be used for the February 28th 2005 FFCA report submittal. The second portion of this handout detailed potential Laboratory-derived pollutants for site specific locations where we had analytical results greater than wSAL.

Barbara Hoditschek asked why Suspended Sediment Concentration (SSC) was not reported on the table. According to Barbara, SSC helps to determine if we have problems with contaminants. The SSC can be used to determine if constituent is associated with a large or small volume of sediment. Cathy Smith and Mike Saladen responded that we do not have a wSAL for SSC therefore, we do not report the results. All results, including SSC, will be reported in the annual storm water report due March 31, 2005. SWAT can use the SSC values from the annual report to evaluate storm water runoff.

Ralph Ford-Schmid asked if the results for site 21-011(k) were from a runoff sample with a single stage sampler directly from site 21-011(k). Kevin Buckley responded that the samples for that site were collected from a site specific sampler that sampled runoff directly from 21-011(k).

The next table "*Site-Specific Storm Water Runoff Monitoring, 2004 Analytical Results greater than wSAL, Summary for Gross Alpha*" (Handout 6) details gross alpha wSAL exceedances. The sampling data indicates that LANL exceeded the gross alpha wSAL at 75% of the site specific sites. There was a wide range of gross alpha values, and the Laboratory thinks that this indicates mostly background values but may have some combination of a potential source term. The values provided in the handout are total concentrations for unfiltered samples.

Ralph Ford-Schmid asked if the Laboratory had corrected the gross alpha data for Uranium. Both Cathy and Bruce Gallaher responded that correction for U was not done and they were not sure how helpful this would be given that gross alpha is a gross measurement of rad and the measurement of U gives a precise measurement. A footnote should be added to the table indicating that gross alpha is not adjusted for Atomic Energy Act (AEA) by-products.

Handout 7 "*LANL Site-Specific Storm Water Runoff Monitoring-2004, Analytical Results for Radionuclides greater than DOE DCG-Summary*" presents the results of the 2004 radionuclide sampling at single stage and gage station locations. Please note, the FFCA does not require the Laboratory to report analytical results for radionuclides. However, the Laboratory voluntarily provides this data to EPA and the New Mexico Environment Department. This information will also be submitted on February 28, 2005. Mike Saladen suggested the table indicate that the results are greater than the DCG "*value*" (column 8) and that a footnote be placed at the bottom of the table indicating that

DCGs are annual averages (chronic criteria). The table includes values for Gross alpha, Gross beta, Plutonium-239/240, and Americium-241.

Ralph indicated that the reporting format looked good.

The next set of handouts (Handouts 8 and 9) detailed analytical results greater than wSAL at gage station (watershed) locations. There are a total of 60 gaging stations in the FFCA, **43 (?)** stations had flow and **17 (?)** did not flow during CY04. Handout 8 " *Watershed Stations With Results > wSALs*" is a graph that displays the watershed stations with results greater than a wSAL for each constituent by the number of times it was observed at a gage station. Handout 9 "Watershed Storm water Monitoring, 2004 Analytical Results greater than wSAL, Summary for Potential Non-Laboratory Derived Pollutants" and "*Watershed Storm Water Monitoring, 2004 Analytical Results greater than wSAL, Summary for Potential Laboratory Derived Pollutants*" is the tabular report of this data. As with the data for site specific sampling, the Laboratory feels that there are constituents such as Mg, COD and Al where the wSAL exceedances observed are due to non-laboratory sources.

At the last SWAT meeting John Young of the Hazardous Waste Bureau asked to see a report that cross referenced site specific results with results at gage stations. This report was prepared and provided as Handout 10 "*Status of Watershed/Site-Specific Storm Water Monitoring-2004*". One interesting result is the lack of wSAL exceedances at gage station E039 given that the Laboratory observed wSAL exceedances at gage station E038 located upstream. Data gaps were also noted due to lack site specific data.

After reading over the report Ralph Ford-Schmid asked why there were no data for gage station E110 located in Los Alamos Canyon near Otowi Bridge. Cathy informed the group that the Laboratory was not sure what the problem or reason why there were no samples collected from E110. This may have been due to a malfunctioning station. Cathy indicated LANL would follow up.

Barbara Hoditschek asked if all the data was presented in the reports. Cathy responded that all of the data collected during FY04 is presented and that reviewers should be aware that in some cases data is reported twice when a site specific location is sampled by a gage station.

Gene Turner, DOE/LASO has been working on a procedure for evaluating radiological data. The procedure titled "*NNSA Self-Regulation of Sites Contaminated with Radionuclides*" (Handout 11) was presented to the SWAT in draft form. The procedure will be used to report rad data to regulators and DOE and will be used by DOE to drive decisions. Doug Stavert, ENV Deputy Division Director, had indicated to Gene that he is willing to use a parallel process to drive decisions or corrective actions at sites. Gene asked for a coordinated review and response from the SWAT on this procedure by March 16. This topic will be discussed at the next SWAT meeting.

Ralph Ford-Schmid asked if wSAL exceedances will drive the ENV-ECR group to do additional site characterization at site where LANL has very little soil data. The Laboratory responded that ENV-ECR's sampling schedule is driven by the Compliance Order and it is unclear if the FFCA can influence their sampling schedule. Cathy indicated that ENV-ECR is currently updating their database and this information will be used to identify COPCs. Additionally, this information will be provided in support of the individual permit application and SWPPP to be submitted on March 31st. The Hazardous Waste

Bureau could request that ECR conduct additional sampling based on the results of our sampling. Ralph Ford-Schmid informed the group that additional sampling could help determine locations where BMPs and sampling were not needed. According to Ralph, it is in the Laboratory's best interest to conduct additional soil sampling at certain Sites.

2.4 Update of SWMU/SWPP Plan

The SWMU/SWPP Plan is due on March 31st, 2005 pursuant to the FFCA. The SWPPP will remain an umbrella document for Sites. However, the Laboratory is reformatting the document to meet the FFCA and MSGP requirements. A total of 294 sites will be included in the SWPPP. The maps used for the Individual Permit Application will be used for the SWMU/SWPPP.

2.5 BMP Status Based on Results of SMA Sampling

In FY04, the Laboratory conducted site specific sampling at 44 SMAs and had wSAL exceedances at 39 locations. BMPs are required to be installed or enhanced at these 39 locations. To date, the Laboratory has completed installation of BMPs at twelve locations (PCB sites) and is in the process of installing BMPs at the remaining 27 Sites. The remaining actions will be completed before March 31, 2005, weather permitting. Steve Veenis briefly discussed the corrective actions to be completed at Hillside 137 (run-on diversion). Corrective actions will be documented in the Laboratory's first FFCA Quarterly Report, as required by the FFCA.

Ralph Ford-Schmid asked if there would be additional training on SOP 2.01. If there is he would like to attend. Ralph Ford-Schmid suggested that the SOP 2.01 be revised to give more weight to storm water run-on. His feeling was that the revision would help more sites achieve an erosion score greater than 40 and move them onto the FFCA sampling list that are being missed under the old procedure. Ralph asked that the Laboratory plot the locations of storm drain outlets onto a map of Sites to determine where run-on was impacting Sites. Steve Veenis thought that the SOP 2.01 is adequate and evaluates sites appropriately. At a Site where run-on is a problem, there will most likely be visible erosion and the SOP 2.01 score should reflect the conditions. Sampling will drive actions under the FFCA. Steve committed to conducting re-evaluations of sites with scores in the 35 to 45 range. Ralph requested that LANL conduct a storm drain review. Kevin stated that he has initiated this with LANL and Los Alamos County.

2.6 Site Proposed to be Eliminated or Reduced for FY05 Sampling

Cathy provided a new table entitled "*FFCA Status of Site-Specific Storm Water Runoff Monitoring-2004*" (Handout 12). Based on this table, the Laboratory is proposing to eliminate sampling at 5 site-specific locations during FY05. The Laboratory collected four samples at these locations during FY04 and no wSAL exceedances were observed other than background.

At six locations, no flow was observed during FY04. If no flow is observed during the next year, these six locations will be removed from future monitoring per the criteria set forth in the FFCA. Additionally, the Laboratory is proposing not to sample at 8 sites due to a HSWA Module VIII permit modification, a determination of No Further Action (NFA) was authorized under the RCRA permit.

Since these are no longer on the RCRA permit, they are not categorized as a SWMU, and not defined as an industrial activity under the MSGP.

2.7 Introduction to Soil/Sediment Background Tool

Bruce Gallaher presented a series of graphs (Handout 13) "*Mg vs Fe*", "*Aluminum vs Iron*", and, "*Vanadium vs Iron*". that displayed results of the Laboratory's CY04 site specific and gage station sampling plotted against samples collected from 2001-2004 at gage stations located upstream of the LANL boundary. In the sampling plan, the Laboratory analyzed for metals and sediment, Bruce has suggested that Fe can be used as a proxy for sediment load and other analytes can be correlated against Fe to determine if it is part of the background load. Bruce has calculated the correlation for Mg, Al and V. Bruce thinks that this tool is useful to determine if results are related to background values. Where there are Laboratory influences for these constituents, one would expect to see multiple analytes with values above background.

Bruce found that all of the Mg values collected at site specific and gage station locations during CY04 are consistent with what are considered background values for this constituent. The same can be said for Al. Bruce feels that both of these constituents are derived from natural sources and not due to Laboratory activities.

The analysis for Vanadium (V) was a little different. Most values are consistent with background values. However, at two locations the values were above the statistical representation of the upper limit of background values for V. These locations are LA-SMA-1 and the gage station E230.

Ralph Ford-Schmid asked if there were detections of V above background at site specific locations above E230. Bruce Gallaher indicated that the values for V at site specific locations above E230 did not plot above the 95% PL.

Ralph Ford-Schmid asked how these numbers compared to Suspended Sediment Concentration (SSC). Bruce Gallaher explained that the data appears to have a poor correlation between SSC and the constituents (R2=0.5). Bruce explained this may be due to the following factors: samples are drawn from different sample bottles (e.g. SSC vs. metals); no time/linear relationship; and grain size factors.

Ralph Ford-Schmid explained that he and Barbara Hoditschek have converted measured values to total load using SSC. Their method estimates what the concentration of a constituent is in SSC and then compares to value to background. Steve Veenis asked Ralph and Barbara to present this information at the next SWAT meeting.

Kevin Buckley stated he will be selecting locations for the FY05 sampling year for Sites in the very near future. Kevin requested NMED's support in the evaluation process. Weather and NMED scheduling issues caused the cancellation of the field evaluations portion (Airport Landfill/Ashpile) of the SWAT meeting. Kevin will re-schedule site evaluations.

The next SWAT meeting will be on March 16th, 2005 in Santa Fe.

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Gene Turner
Brett Lucas
Ralph Ford-Schmid
Barbara Hoditschek
Joe English
Elmer Alcon
Mike Saladen
Steve Veenis
Cathy Smith
Bruce Gallaher
Kevin Buckley

SV/tml

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