Western Refining
GALLUP

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September 24, 2009

John Kieling, Program Manager
New Mexico Environmental Department
Permits Management Program
Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

Joel Dougherty (6EN-HE)
Hazardous Waste Enforcement Branch
U.S. EPA Region 6, Suite 1200
1445 Ross Ave.
Dallas, TX 75202-2733

RE: **INTERIM MEASURES WORK PLAN, WESTERN REFINING COMPANY, SOUTHWEST INC., GALLUP REFINERY; EPA ID #NMD000333211**

Dear Mr. Kieling,

Enclosed please find the Western Refining Gallup's ("Gallup") Interim Measures Work Plan (Work Plan) pursuant to Section IV (Compliance Order) item 100.D of the Consent Agreement and Final Order ("CAFO") between Western, NMED and U.S. EPA Region 6.

I certify that the information contained in or accompanying this submission is true, accurate and complete. As to those identified portions of this submission for which I cannot personally verify the truth and accuracy, I certify as the company official having supervisory responsibility for the person(s) who, acting upon my direct instructions, made the verification, that this information is true, accurate, and complete.

Thank you for your review of this Work Plan. Please feel free to contact Ed Riege at 505-722-0217 with any questions.

Sincerely,

Mark B. Turri
Refinery Manager

cc: Hope Monzeglio NMED HWB
Carl Chavez OCD
Ann Allen Western Refining
Ed Riege Western Refining

Interim Measures Work Plan to Comply with RCRA Standards for Discharge of Wastewater to Surface Impoundments

Western Refining
Gallup, New Mexico

September 2009

Interim Measures Work Plan
WESTERN REFINING SOUTHWEST, INC., GALLUP REFINERY
EPA ID #NMD000333211
September 2009

Executive Summary

This report describes Western Refining's Interim Measures Work Plan to comply with RCRA standards on discharge of wastewater containing benzene to surface impoundments. The proposed Interim Measures fall into 3 categories: (i) physical/design changes to the wastewater treatment system; (ii) an aggressive monitoring and reporting schedule; and (iii) submittal of status reports to the NMED. The most important element of this plan is to install a fourth stripper prior to the two existing strippers that processes effluent from the new API separator. This new stripper will substantially increase the removal efficiencies of the current stripper system and will consistently result in benzene levels less than 0.5 ppm in our treated wastewater before it enters Aeration Lagoon-1 (AL-1). In addition to the fourth stripper, we propose aggressive monitoring and sampling schedules (divided into three distinct periods). We hope that by establishing compliance well ahead of any mandatory need to do so (the CAFO provides a period of 120 days for Western Refining to come into compliance), we will be able to satisfy our future compliance requirements with a relaxed monitoring schedule (to be set by the NMED).

Since early 2009, many months before the Consent Agreement and Final Order ("CAFO") went into effect, the Gallup Refinery undertook to evaluate, develop and implement a series of improvements to the Refinery's existing wastewater treatment system. The goal is to achieve consistent compliance with RCRA standards for benzene containing wastewater discharges to surface impoundments. A working group of the refinery manager, engineers, and operators was created that meets bi-weekly. Personnel from our sister refinery in El Paso were invited to visit the Gallup Refinery and share their experience. Consultants and manufacturers' representatives were brought on-site and their recommendations were implemented. A temporary tank was located next to the new API separator which allowed all overflows to be contained and later sent through the wastewater treatment system. This ensures that only treated wastewater enters AL-1.

Key issues related to the existing benzene strippers were identified as – improper mixing of air and water; fouling of the internal packing media; and inefficient oil recovery in the new API oil/water separator. A series of steps to improve the performance of the strippers by addressing these key issues were identified. Some have been implemented and others are in progress. Simultaneously, a program of source control to reduce oil reaching the sewers was instituted. A need for rapid screening tests was also identified, and we implemented a testing program at our internal laboratory to provide screening data on a more frequent basis than the analyses done at an external EPA and NMED certified laboratory. Performance of the strippers has been considerably enhanced, and overall benzene levels in the strippers' outlet have dropped substantially. In the past two months, on average, we have maintained outlet benzene levels below 0.5 ppm.

The Interim Measure Work Plan surveyed the compliance requirements of other refineries in the nation and proposes that compliance for the Gallup Refinery be determined based on a rolling annual average calculated from weekly grab samples of our treated wastewater. We present a detailed discussion of this issue in Appendix A.

In summary, our major requests for approval are –

- Western Refining will install a fourth benzene stripper as an interim measure. However, Western Refining proposes that it retain the discretion not to implement measures that would, therefore, be unnecessary to achieve compliance. For example, if improved performance of our existing two strippers meets compliance, the fourth rental stripper may be discontinued.
- Western Refining has proposed an aggressive monitoring plan designed to provide meaningful information to the NMED and Western Refining well enough in advance of the conclusion of the Interim Measures period to allow for adjustments in the Interim Measures. Western Refining seeks approval to sample at different frequencies and report on corresponding different schedules during three (3) discrete periods identified in this plan. Western Refining proposes an increased sampling and reporting protocol as a contingency if our wastewater is found to be out of compliance.
- Western Refining requests approval that compliance be demonstrated by calculating a rolling annual average of weekly grab samples of strippers' effluent tested for benzene. This is a standard applied to other refineries.

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1.0 Introduction and Background

The August 26, 2009 Consent Agreement and Final Order ("CAFO") between and among Western Refining Southwest, Inc. ("Western Refining"), the New Mexico Environment Department ("NMED"), and the U.S. Environmental Protection Agency (EPA) Region 6, Section IV, Paragraph 100.D. requires Western Refining to submit to NMED for approval an Interim Measures Work Plan for "ceasing the discharge of any hazardous wastewater to any surface impoundment, unless such discharge complies with applicable RCRA standards" at Western Refining's Gallup Refinery. In accordance with that requirement, Western Refining seeks NMED's approval to conduct the activities identified in this Interim Measures Work Plan (the "IM Work Plan") which are designed to eliminate the discharge of wastewater exhibiting the toxicity characteristic of benzene from entering Aeration Lagoon 1 (AL-1) at the Gallup Refinery.

In early 2009, many months before the CAFO went into effect, the Gallup Refinery undertook to evaluate, develop and implement a series of improvements to the refinery's existing wastewater treatment system with a goal of achieving consistent compliance with RCRA standards for discharges to surface impoundments.

A working group of the refinery manager, engineers, and operators was created that meets bi-weekly. A list of action items was developed that are being evaluated and implemented. Personnel from our sister refinery in El Paso were invited to visit the Gallup Refinery and share their experience. Consultants and manufacturers' representatives were brought on-site and their recommendations were implemented.

2.0 Current Conditions

Key issues related to the benzene strippers were identified as – improper mixing of air and water; fouling of the internal packing media; and inefficient oil recovery in the new API oil/water separator. A series of steps to improve the performance of the strippers by addressing these key issues were identified. Some have been implemented and others are in progress. Simultaneously, a program of source control to reduce oil reaching the sewers was instituted. A need for rapid screening tests was also identified, and we implemented a testing program at our internal laboratory to provide screening data on a more frequent basis than the analyses done at an external EPA and NMED certified laboratory.

A temporary tank was located next to the new API separator which allowed all overflows to AL-1 to be contained and later sent back through the wastewater treatment system.

Performance of the strippers has been considerably enhanced, and overall benzene levels have dropped substantially in the outlet of the strippers. In the past two months, on average, we have maintained outlet benzene levels below 0.5 ppm.

2.1 Voluntary Measures Implemented

Table 1 lists measures that have been implemented. These are grouped as follows: 1) Source control; 2) Improvements to the performance of the strippers; 3) Improvements to the performance of the new API separator.

Table 1: Recent measures that have been implemented

Measures	Activity	Activity Status
Source Control		
Desalter Optimization	Use NALCO recommendations to optimize the operation of the two desalters.	The Operations staff completed the necessary steps to optimize the desalters and they are currently running efficiently.
Improve Strippers' Performance		
Determine if packing height in the benzene towers requires modification	Determine if there is adequate packing in the tower and if a new packing design would be appropriate	Packing height is adequate. New packing identified and has been stocked for future use. This packing was installed during the last change-out.
Air to Water Ratio in Benzene Strippers	Determine the right mixture of air to water in the current strippers	There is currently adequate air flow; the Process Department will use a pitot tube to verify that the air flow maintains an adequate flow rate.
Specify new distribution nozzles for the Benzene Strippers	Determine what type of spray nozzle would help distribution of benzene contaminated water over the packing	Installed new spray nozzles on strippers one and two; these will provide well-distributed flow of water over the entire packing.
Upgrade air ducting for Benzene Strippers 1 and 2	Find and plug holes in air piping	The new ducting has been fabricated and installed.
Improve New API Separator Performance		
Change API inlet piping	Create larger inlets	The new installed piping will provide an equal flow to both bays
Create second sample point to monitor API inlet	Install new sample point	New sample point is installed
API separator skimmer level	Find a method or mechanical device that will determine the oil level in the API bays.	The Operations Department determined that a visual inspection of the level is adequate.
Put Weir Box back into service	Perform tests to determine if Weir Box functions properly with API separator modifications; reconnect Weir Box level indicator	The Weir Box is in service and no problems with its operation have been encountered

2.2 Voluntary Measures In-Progress

There are additional measures that are in the process of being evaluated. These are also related to - 1) source control; 2) improvements to the performance of the strippers; 3) improvements to the performance of the new API separator. Among such measures, for example, are enhanced process controls in the API separator, such as temperature, level controls, and etc.

These activities are intended to be implemented incrementally until such time as compliance is consistently achieved.

3.0 Proposed Interim Measures Requiring NMED Approval

Although Western Refining believes that the recent sampling results are indicative of progress resulting from evaluation and implementation of the measures listed in Table 1, in order to ensure compliance with the CAFO, Western Refining has identified the following proposed Interim Measures that will be implemented on an expedited schedule upon the effective date of this IM Work Plan. The proposed Interim Measures fall into 3 categories: (i) physical/design changes to the wastewater treatment system; (ii) an aggressive monitoring and reporting schedule; and (iii) submittal of status reports to the NMED.

3.1 Physical/Design Changes

The most significant change is that we have rented an additional stripper which has a removal efficiency rated higher than our current strippers. This is a Carbonair STAT 400 that will assist in controlling benzene along with the two existing strippers which are located after the oil water separator. See Appendix B for a specification sheet, description, and photos of the new rental stripper. (This element was discussed with NMED in the negotiation of the CAFO.)

In order to move this element of the Interim Measures Work Plan along as quickly as possible, Western Refining submitted a technical air permit application to NMED on August 24, prior to the effective date of the CAFO. A conference call was held on September 15, 2009, with the AQB in which Western Refining requested enforcement discretion to install the rental stripper along with pilot wastewater treatment test equipment. The AQB accepted the general outline of the Western Refining proposal and requested some additional information that will be submitted this week.

Once the new rental stripper system is installed we will have an enhanced stripper system made up of three strippers – a single stripper in series with two others in parallel. Flow from the API separator will first flow to one of two filter pots followed by the rental

stripper. Flow will then be split between the two existing strippers, treated further, and then discharged to AL-1. If Gallup can achieve continuous compliance using the rental stripper, then Western Refining proposes that it retains the discretion not to run one or both of the existing strippers.

During the interim period, Western Refining will continue to operate the benzene stripper three (BZ-3) located upstream of the NAPI next to the units whose main influent is desalter effluent.

When compliance is consistently demonstrated during the Interim Measures Period prior to implementation of all above measures, Western Refining proposes that it retain the discretion not to implement measures that would, therefore, be unnecessary to achieve compliance. For example, if improved performance of our existing two strippers meets compliance, the fourth rental stripper may be discontinued.

3.2 Monitoring and Reporting

Western Refining proposes an aggressive monitoring plan designed to provide meaningful information to Western Refining and the NMED. This plan will be implemented well enough in advance of the conclusion of the Interim Measures period to allow for adjustments in the Interim Measures, if needed. Western Refining will commence sampling and analyzing, as described, even in advance of NMED's approval of the IM Work Plan to provide the best database for comparison.

We believe compliance is best demonstrated by calculating a rolling annual average of weekly grab samples which is the standard applied to other refineries (see Appendix A for a detailed discussion).

Western Refining proposes to sample at different frequencies and report on corresponding schedules during three (3) discrete periods identified below. Western Refining proposes an increased sampling and reporting protocol as a contingency under certain circumstances. Table 2 at the end of this section summarizes the different sampling locations and frequencies for BTEX+MTBE monitoring and reporting.

Flows will be monitored at inlets to AL-1 and EP-1 on a daily basis and reported on the fifth business day of each month for the previous month.

Flows through BZ-3 are currently estimated and reported to the NMED/HWB. This will be discontinued at the end of Period 1, as we believe BZ-3 will not need to be monitored any more to determine compliance at AL-1. BZ-3 will continue to be monitored as a part of our air quality permit's emissions monitoring requirements.

3.2.1 Period 1: First 75 days from the Effective Date of the Interim Measures Work Plan

During Period 1, Western Refining proposes to collect (i) weekly effluent samples of wastewater entering AL-1 and exiting BZ-3 for analyses of benzene, toluene, ethylbenzene, and xylenes plus MTBE (BTEX + MTBE) and (ii) monthly inlet samples of wastewater entering BZ-3 and exiting the New API Separator for analyses of benzene, toluene, ethylbenzene, and xylenes plus MTBE (BTEX + MTBE). The analytical results for each sample will be submitted to NMED within five (5) business days of receipt of report from the external laboratory during Period 1. (The refinery currently is required to provide effluent sampling data 30 days after the end of each month.) The laboratory results will be forwarded to NMED by e-mail or sent in hard copy.

Western Refining also will measure effluent flow rates from the waste streams discharging to AL-1 and EP-1 on a daily basis. The flow rate measurements for the previous month will be submitted to NMED on the fifth business day of each month. Reporting the flow rate by email is acceptable.

Finally, Western Refining will estimate the monthly average gallons per minute through the benzene stripper BZ-3 located in the process area. The flow rate estimate will be submitted to NMED by the fifth business day of each month. Reporting the flow rate by email is acceptable.

3.2.2 Period 2: 75 days to 120 days from the Effective Date of the Interim Measures Work Plan

During Period 2, Western Refining will collect effluent samples two (2) times a week of wastewater entering AL-1 for analyses of benzene, toluene, ethylbenzene, and xylenes plus MTBE (BTEX + MTBE). The analytical results for each sample will be submitted to NMED within five (5) days of receipt of report from the external laboratory during Period 2. (The refinery currently is required to provide effluent sampling data 30 days after the end of each month.) The laboratory results will be forwarded to NMED by e-mail or sent in hard copy.

Western Refining will continue to measure effluent flow rates from the waste streams discharging to AL-1 and EP-1 on a daily basis. The flow rate measurements for the previous month will be submitted to NMED on the fifth business day of each month. Reporting the flow rate by email is acceptable.

3.2.3 Period 3: 120 days from the Effective Date of the Interim Measures Work Plan to startup of new upgraded wastewater treatment system

During Period 3, Western Refining will collect weekly effluent samples of wastewater entering AL-1 for analyses of benzene, toluene, ethylbenzene, and xylenes plus MTBE (BTEX + MTBE). The analytical results for each sample will be submitted to NMED

within five (5) business days of receipt of the report from the external laboratory during Period 3. (The refinery currently is required to provide effluent sampling data 30 days after the end of each month.) The laboratory results will be forwarded to NMED by e-mail or sent in hard copy.

Western Refining will continue to measure effluent flow rates from the waste streams discharging to AL-1 and EP-1 on a daily basis. The flow rate measurements for the previous month will be submitted to NMED on the fifth day of each month. Reporting the flow rate by email is acceptable.

3.2.4 Contingency Sampling and Reporting

In the event that discharges to AL-1 have not achieved a rolling average benzene concentration level less than 0.5 ppm during Period 2 or thereafter, Western Refining will immediately implement the following contingency sampling and reporting activities in addition to the ongoing sampling regime.

a) Beginning on day 121, if an exceedance occurs, Western Refining will collect daily effluent samples of wastewater entering AL-1 and EP-1 for analyses of benzene, toluene, ethylbenzene, and xylenes (BTEX). The effluent wastewater samples will be submitted to a certified off-site laboratory and analyzed using EPA Method 8021B or EPA Method 8260. The analytical results for each sample will be submitted to NMED within four days of collection. The laboratory results may be forwarded to NMED by e-mail or sent in hard copy.

b) Daily effluent wastewater samples will be collected until three consecutive days of achieving the discharge limit of 0.5 mg/L. After this period, Western Refining will again revert to the sampling frequency of Period 3.

c) Western Refining will measure discharge flow rates entering AL-1 and entering Evaporation Pond 1 (EP-1) on a daily basis. The daily discharge flow rates must be submitted to NMED every Friday beginning on day 121. E-mail reporting of this data is acceptable.

3.3 Status Reports

Western Refining believes an important part of implementation of Interim Measures is a regular and frequent series of communications between Western Refining and NMED during the Interim Measures period. Western Refining proposes a monthly summary progress reports on measures being implemented. These reports will be submitted five (5) business days after the end of each month or quarter.

Table 2: Schedule of sampling and reporting in various periods for BTEX + MTBE in treated wastewater entering AL-1

Period	Sample locations	Frequency	Reporting to NMED
Period 1: First 75 days after IM Work Plan approved	Inlet to AL-1 and outlet of BZ-3	Weekly	5 business days after receipt of laboratory reports
Period 2: 75 to 120 days after IM Work Plan approved	Inlet to AL-1	2 times/week	5 business days after receipt of laboratory reports
Period 3: 120 days onwards after IM Work Plan approved	Inlet to AL-1	Weekly	5 business days after receipt of laboratory reports
Contingency – after any non-compliance	Inlet to AL-1	Daily, until three consecutive days of achieving the discharge limit of 0.5 mg/L	Four days after sample collection

4.0 Schedule

Western Refining is prepared to implement this Interim Measures Plan upon NMED HWB approval.

5.0 Summary of Major Approval Requests

- The most important element of the Interim Measures Work Plan is to install a fourth stripper.
- Western Refining has proposed an aggressive monitoring plan designed to provide meaningful information to Western Refining and the NMED well enough in advance of the conclusion of the Interim Measures period to allow for adjustments in the Interim Measures, if needed. Western Refining seeks approval to sample at different frequencies and report on corresponding different schedules during three (3) discrete periods identified in this plan. Additionally, Western Refining proposes an increased sampling and reporting protocol as a contingency if our wastewater is found to be out of compliance.
- Western Refining requests approval that compliance be demonstrated by calculating a rolling average on an annual basis of weekly grab samples of strippers' effluent tested for benzene. This is a standard applied to other refineries.

Appendix A: Sampling Methodology

All effluent wastewater samples described in this plan will be submitted to a certified off-site laboratory and analyzed using EPA Method 8021B or EPA Method 8260.

Based on weekly grab samples, we will then calculate a rolling average to determine compliance. Rolling average is calculated over the days of sample collection until 365 days of data are collected after which the annual average for any given day will be calculated using that day's data and the prior 364 days of data. These quotes from the American Petroleum Institute (API)[1] best describe our situation and suggested strategy –

"A representative sample of solid waste is defined at 40 CFR 260.10. This definition is as follows:

- "*Representative sample* means a sample of a universe or a whole (e.g., waste pile, lagoon, ground water) which can be expected to exhibit the average properties of the universe or whole."
- See *U.S.* v. *WCI Steel*, 72 F.Supp.2d 810, 820 –25 (N.D. OH 1999) (samples from surface impoundment must be representative of the "whole" impoundment, as by random sampling).

"The toxicity characteristic (TC) regulation at 40 CFR 261.24 states that a waste is hazardous if an extract of a *representative sample* of the waste exceeds regulatory levels. Chapter 9 of SW-846[2] describes representative sampling of solid waste in detail. The regulatory objectives of representative sampling are stated in Section 9.1.1.1 of SW-846 and are repeated below, because they clearly describe EPA's intent regarding sampling for characterizing solid wastes.

"The EPA, in its hazardous waste management system, has required that certain solid wastes be analyzed for physical and chemical properties. It is mostly chemical properties that are of concern, and, in the case of a number of chemical contaminants, the EPA has promulgated levels (regulatory thresholds) that cannot be equaled or exceeded. The regulations pertaining to the management of hazardous wastes contain three references regarding the sampling of solid wastes for analytical properties. The first reference, which occurs throughout the regulations, requires that representative samples of waste be collected and defines representative samples as exhibiting average properties of the whole waste. (Page Nine-5, SW-846)

"For example, in the case of a typical wastewater that is generated from the same source and operations on a continuous or intermittent basis, the concentration of a contaminant will vary with time. Thus, a representative sample of wastewater must consist of multiple

[1] These API comments are available at - http://www.uswag.org/2003/sw846jc.pdf
[2] EPA, December 1997, *Test Methods for Evaluating Solid Waste Physical/Chemical Methods*, Office of Solid Waste.

individual measurements in order to exhibit the *average properties* of the universe or whole.

"The language in SW-846 reiterates the regulatory definition of what constitutes a representative sample of waste. It is generally a sample that represents the *average* properties of the *whole* waste and is typically not the concentration of a constituent in a single grab sample, or even in multiple grab samples unless those samples are collected pursuant to a sampling plan that is designed to measure the average properties of the whole waste."

A possible acceptable strategy for determining if wastewater is exceeding the TC level of benzene of 0.5 ppm is suggested by the API –

"One example is a sampling plan used by a petroleum refinery located in EPA Region II that is typical for a continuously generated process wastewater. This wastewater is treated in an activated sludge system that uses surface impoundments for aeration. Therefore, it must demonstrate that the wastewater that enters the impoundments is not a hazardous waste by any of the characteristics of hazardous waste at 40 CFR 261. The specific waste constituent of this concern is benzene and the regulatory target is the Toxicity Characteristic (TC) threshold for benzene.

The refinery utilized the SW-846 recommended approach for defining the upper level of uncertainty in the long-term average in its waste analysis plan. The plan also recognizes that to properly characterize the process wastewater, sampling has to be conducted over an extended period of time to obtain a representative sample.

Samples are collected at the aeration basin influent feed as grab samples at least once each week. These samples are analyzed for benzene. The refinery defines a one-year moving average as representative of its operations, based on its evaluation of the underlying basis of the TC threshold concentrations and the variability of benzene concentrations in its wastewater. The upper limit of a confidence interval calculated as prescribed in SW-846[3] is then compared to the TC regulatory threshold of 0.5 mg/L to determine whether the wastewater is hazardous. The one-year averaging interval is updated on a regular basis (i.e., it is a one-year moving average based on the most recent samples collected).

The one-year averaging approach was selected using the representative sampling concepts in the SW-846 guidance to comply with an evaluation of what a representative time period would be for that facility. The refinery has used this sampling methodology since 1994 and reports its results to EPA Region II on a monthly basis, as requested by EPA."

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[3] The confidence interval is calculated using Equation 8 in Table 9-1 and the appropriate Student's t-values in Table 9-2 of SW-846.

Appendix B: Details of Stat-400 Carbonair Air Stripper

Additional Stripper – Carbonair STAT-400

The fourth stripper we have rented, the Carbonair STAT-400 model, has the following features –

- The material of construction is stainless steel
- Gasket material is Neoprene
- Blower is direct drive
- Self prime transfer pump

We have added filters upstream of the API strippers. The effluent from this unit will be routed through the existing two strippers that are in parallel. The photographs below depict the additional stripper placed next to the existing strippers.

Figure A.1: Photograph of new additional stripper located next to existing strippers.

Figure A.2: Looking south at the new additional stripper and the new pre-filters (in blue)

Figure A.3: Looking north-east at the new additional stripper

Carbonair's patented STAT Low Profile Air Strippers are ideally suited for removing volatile organic compounds (VOCs) from water in a variety of applications including industrial process and waste water treatment.

STAT low profile air strippers combine high removal efficiencies of VOCs, flexibility, and ease of maintenance and durability. Since 1992, Carbonair has provided thousands of STAT low profile air strippers in a myriad of applications and configurations. Many of these are still operating today.

STAT Standard Design Features

All STAT models are made of high quality 304 stainless steel and have 125 lb flanged inlet and outlet connections to ensure the integrity of piping connections. The trays and sump sections come equipped with clean out ports that facilitate easy inspection and routine cleaning of the aeration trays. The aerations trays are connected using adjustable over-center latching stainless steel clips, making assembly and disassembly quick and easy, while ensuring a tight fit and good seal to prevent leaks. All STAT aeration trays come equipped with an anti-bypass valve that prevents air from bypassing the aeration trays by flowing up through the down comers. This eliminates the need to "prime" the system at startup and ensures that the first drop of water that goes through the air strippers is treated as well as the last.

STATs configured for pump out discharge have sumps that are sized to minimize pump cycling and to maintain sufficient air distribution across the aeration trays. STATs come with direct coupled industrial grade blowers as standard equipment. All STATs are equipped with a low pressure switch mounted on the blower to shut down the water input upstream in the event of a blower failure, thereby ensuring that no untreated water is passing through to discharge.