TECHNICAL REVIEW DOCUMENT
for
OPERATING PERMIT 96OPEP152

to be issued to:

Colorado Springs Utilities
Hanna Ranch Solids Handling & Disposal Facility
El Paso County
Source ID 0410091

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August 27, 1999

I. PURPOSE:

This document establishes the basis for decisions made regarding the Applicable Requirements, Emission Factors, Monitoring Plan and Compliance Status of Emission Units covered within the Operating Permit proposed for this site. It is designed for reference during review of the proposed permit by the EPA and during Public Comment. This narrative is intended only as an adjunct for the reviewer and has no legal standing. Conclusions in this document are based on information provided in the original application submittal of February 23, 1996, and supplemental Title V technical information submittals of October 28, 1996, October 16, 1998, and April 20, 1999, previous inspection reports, the technical documents submitted for the construction permits, as well as telephone contacts with the applicant.

On April 16, 1998, the Colorado Air Quality Control Commission directed the Division to implement new procedures regarding the use of short term emission and production/throughput limits on Construction Permits. These procedures are being directly implemented in all Operating Permits that had not started their Public Comment period as of April 16, 1998. All short term emission and production/throughput limits that appeared in the Construction Permits associated with this facility that are not required by a specific State or Federal standard or by the above referenced Division procedures have been deleted and all annual emission and production/throughput limits converted to a rolling twelve (12) month total. Note that, if applicable, appropriate modeling to demonstrate compliance with the National Ambient Air Quality Standards was conducted as part of the Construction Permit processing procedures. If required by this permit, portable monitoring results and/or EPA reference test method results will be multiplied by 8760 hours for comparison to annual emission limits unless there is a specific condition in the permit restricting the hours of operation.

This Operating Permit incorporated the existing Construction Permits C-11,588, 82EP165 and 98EP0093. Any revisions made to the underlying construction permits associated with this facility made in conjunction with the processing of this Operating Permit application have been reviewed in accordance with the requirements of Regulation No. 3, Part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This Operating Permit

incorporates and shall be considered to be a combined construction/operating permit for any such revision, and the permittee shall be allowed to operate under the revised conditions upon issuance of this Operating Permit without applying for a revision to this permit or for an additional or revised Construction Permit.

II. SOURCE DESCRIPTION:

Facility Description

This facility provides for the treatment and disposal of sludge from the Colorado Springs Las Vegas Street municipal wastewater treatment plant. Blended sludge from the Las Vegas Street treatment plant is pumped to the Hanna Ranch Solids Handling and Disposal facility through two parallel 18 mile long pipelines where the sludge is stored in a receiving station. From the receiving station, sludge is pumped sequentially to the anaerobic digesters. The typical hydraulic residence time in a digester is a period of weeks. During the time sludge resides in a digester, volatile solids are destroyed, gas is produced, and the sludge volume is reduced. Digested sludge is pumped to 30 acres of facultative sludge storage basins for long term storage (3-5 years) under a five (5) foot water cap. Supernatant from the sludge basins is periodically discharged to supernatant lagoons. Sludge in the facultative basins is continuously removed and dredged into permanent land disposal units. The sludge is injected into the ground using rubber tired subsurface injection vehicles on 274 acres of land dedicated to disposal, and this process is addressed in Construction Permit C-11,588.

Anaerobic digestion is a biological process, and the process microorganisms produce a gas as a by-product of microbial digestion of the sludge. The gas (biogas) can be roughly characterized as two-thirds methane, one third carbon dioxide, and trace amounts of other compounds, including hydrogen sulfide. The raw digester gas also has a high moisture content. The biological process is sensitive to a number of variables, including the digester temperature, which may upset the process for extended time periods and impact the amount and quality of the gas produced. The gas produced is used to fire boilers to produce steam for maintaining the digester temperature and for heating buildings. Excess gas beyond the boiler fuel requirements is combusted in flares. The flares are used to ensure that uncombusted gas is not vented to the atmosphere, thus preventing odorous emissions, venting of a potentially explosive gas mixture and reducing the discharge of emissions of volatile organic compounds.

The existing anaerobic sludge digestion complex includes four digesters, two Burnham boilers, and two digester flares. The critical need for constant heat to maintain digester temperatures necessitates the need for two supplemental boilers. Each boiler alone is capable of supplying the steam heating requirements for the facility under normal situations. However, both boilers may be operated at any time to meet the process and facility heating demands. The boilers are designed to use distillate oil as alternate fuel in the event of the loss of digester gas production. The distillate is also used during boiler flame ignition, boiler operation testing, and emergency situations.

The two flares burn the digester gas produced in excess of the boiler fuel requirements. Each flare is capable of combusting all of the digester gas not directed to the boilers. Distillate oil is not used in the flares. One flare can be operated at a time with the second flare shut off or both flares can operate at the same time. The flares are too close together and the heat when one flare is operating doesn't allow personnel to work on the other flare. Both flares must be shut-off for any maintenance work on the flares.

Background

At the time the Title V application was prepared Colorado Springs Utilities (CSU) was developing plans for expansion and upgrading of the Solids Handling and Disposal Facility (SHDF). CSU reviewed Construction Permits 82EP165-1 to 4 to identify any permit changes that might be needed. They discovered the permit sulfur dioxide emission limits had been based on the presumption that the hydrogen sulfide content of the digester gas was the same as pipeline quality natural gas. The higher sulfur oxides content of the digester gas made it questionable as to whether the existing sources would be able to demonstrate compliance with the existing permit limits. The first step was to modify Construction Permit 82EP165. The four (4) separate permits were consolidated into one permit, and emission limits appropriate for the anaerobic digestion process developed.

The second step was to obtain a new Construction Permit for the SHDF expansion with increased permit limits. The new sulfur dioxide limits requested would result in an emissions increase that would require a PSD review. CSU elected to modify the emission limits requested to avoid the requirement for a PSD review. Construction Permit 98EP0093 was issued June 5, 1998. The new equipment will include three (3) 10.46 MMBtu/hr boilers, one (1) 5.23 MMBtu/hr boiler and two (2) 80,000 cubic feet per hour (48 MMBtu/hr) flares. Additionally, four (4) new anaerobic digesters with fixed roofs will be brought into operation at about the same time. The old anaerobic digesters will be deactivated and will be returned to service as future needs require. After the new boilers and flares have been successfully placed in operation, the old boilers and flares will be removed and the modified version of Construction Permit 82EP165 will be canceled as provided for in Section II, Condition 2.15 of this Operating Permit. Since this Operating Permit may be issued before the new equipment is on-line, the permit incorporates the requirements of both the permits.

Construction Permit 98EP0093 required an extended period of time to develop. Emission limits had to be determined and agreed upon and modeling of the ambient impacts performed. A central issue in the development of the permit was the estimation procedure for the sulfur emissions. The following assumptions were incorporated into the Construction Permit developed:

1) The maximum quantity of gas produced is lower than the capacities of all the proposed combustion devices (four boilers and two flares). The permitted gas consumption is set at an estimated production level and not at the combined capacity of the equipment.

2) The heat content of the gas is assumed to be 600 Btu per standard cubic foot. The standard cubic feet (scf) of gas produced will be determined as 0.82 times the actual measured quantity.

3) The boilers may operate on either digester gas or distillate fuel, but not on both fuels at the same time. The flares are designed to operate only with digester gas. A worst case emission scenario results when the boilers are assumed to operate full time with distillate fuel and the flares are used for the combustion of all the digester gas produced.

4) The technical literature lacked information on emission factors for the combustion of digester gas. Natural gas emission factors were used and adjusted per AP-42 guidance to reflect the lower heat content of the digester gas. The use of the natural gas emission factors results in particulate emissions limits being included in the Construction Permit.

5) For demonstrating compliance, the emissions calculated by the equations in the permit will be assumed to be entirely sulfur dioxide. The short-term sulfur oxides limit (which assumes all the sulfur oxide emissions exist as sulfur dioxide) was based on modeling demonstrating the 3-hour National Ambient Air Quality Standard is not violated. The annual hydrogen sulfide emission limits and the gas consumption limits were based on a gas hydrogen sulfide concentration of 5000 ppmv.

6) Potential emissions of hydrogen sulfide are based on uncontrolled values. The flares and boilers are estimated to achieve a 96% reduction of the hydrogen sulfide emissions.

Odor control is a significant problem related to sludge processing and handling. Very small amounts of hydrogen sulfide emissions are quickly detected as odor. A common practice is to use iron salts to complex the sulfur and reduce the hydrogen sulfide (odor) potential of the sludge. CSU adds irons salts to the wastewater at the Sand Creek lift station for this purpose. CSU conducted a study of the relationship of various iron salt addition levels and the hydrogen sulfide concentration in the digester gas. The amount of iron salts to be added was determined by working backwards from the requested annual level for sulfur dioxide emissions. The value for the requested level was reduced by the estimated contribution from the sulfur in any distillate consumed during the year. The balance of the sulfur dioxide emissions would be from the digester gas. This lower value was converted to a hydrogen sulfide concentration based on the estimated annual digester gas production. This concentration then becomes the target value for the year. A change in the amount of digester gas to be used changes the target value because the amount of the hydrogen sulfide available remains approximately the same. The CSU study then provided the amount of iron salts to be added to achieve the target value. The digester gas would then be monitored to identify any adjustment of the iron salts needed to assist in limiting the hydrogen sulfide concentration. Monitoring the amount of the iron salts added to a gallon of wastewater serves as an indicator for monitoring the hydrogen sulfide concentrations between actual hydrogen sulfide measurements.

For the benefit of the permittee, inspectors, and future reference, Construction Permits 82EP165 (Modified) and 98EP0093 included an explanation of how the emissions are to be estimated. For the same reason, this Construction Permit information has been adapted for this Operating Permit as follows:

> Calculation equations and emission factors for each pollutant are included in an Appendix to this Operating Permit and are a means to show compliance with the emission limits. Records for both digester gas and distillate fuel consumption and the correlating emission calculations shall be kept as part of the compliance plan. Sulfur dioxide and hydrogen sulfide emissions are calculated based on the specified mass balance equations. For other criteria pollutants, the emission factors used to show compliance with this permit for the combustion of digester gas are based on AP-42 and are combustion unit specific (boiler versus flare), with the exception of PM and PM_{10}. There are no PM or PM_{10} emission factors available in AP-42 for flare combustion, so boiler emission factors are used in their absence. The annual emission limitation for sulfur oxides is based on ensuring that the permitted net emissions increase (NEI) of sulfur dioxides is less than 36 tons per year. Since sulfur dioxide emissions are a function of both the fuel combustion rate and the fuel sulfur content, the permittee will establish a target annual average hydrogen sulfide concentration in the digester gas that maintains annual emissions of sulfur dioxide at less than the permit limit. The target hydrogen sulfide will incorporate an estimate of distillate fuel combustion for that year. The hourly sulfur dioxide emission limit is based on ensuring that the 3-hour National Ambient Air Quality Standard is not violated. Annual hydrogen sulfide emissions are based on a hydrogen sulfide concentration in the digester gas of 5000 ppmv, the annual permitted level of digester gas, and a hydrogen sulfide to sulfur oxides conversion efficiency of 96.0% for the boilers and flares. The annual emission limitations on PM, PM_{10}, NOx, VOC and CO are based on full capacity operation of the boilers on distillate fuel and the flare operation at the maximum permitted digester gas consumption.

Air Pollution Emissions Information

This facility is located in El Paso County, south of the corporate limits of Colorado Springs, Colorado. The Colorado Springs non-attainment area, referred to as the Colorado Springs 3-C Urbanized Area, is non-attainment for carbon monoxide. However, the plant site is located outside the Colorado Springs 3-C Urbanized Area, and is, therefore, in an attainment area. There are no affected states within 50 miles of the facility. There are no Federal Class I areas within 100 kilometers of the facility. Florissant Fossil Beds is a Federal land area within 100 kilometers of the facility. Florissant Fossil Beds has been designated by the State to have the same sulfur dioxide increment as Federal Class I areas.

The Title V application reports the facility is subject to the provisions of the Accidental Release Plan provisions of 112(r)(7) of the Clean Air Act. However, this information was corrected in review comments received. CSU now reports the facility is not subject to the 112(r) provisions.

During the review of the Title V application for the Nixon Power Plant, the Division determined that the Hanna Ranch Solids Handling and Disposal Facility (SHDF) is a source co-located with the Nixon power plant, and subject to the Title V provisions. A separate Title V operating permit is being issued for the SHDF. The Ray D. Nixon Power Plant satisfies the criteria of the Prevention of Significant Deterioration/ New Source Review (PSD/NSR) industrial category for fossil-fuel fired steam plants of more than 250 million Btu/hour heat input. Under the PSD/NSR provisions, a source in one of the industrial categories achieves major source status when the Potential-To-Emit (PTE) emissions of any regulated pollutant exceeds 100 tons per year. Therefore, the Nixon Power Plant and the SHDF are considered a single source and classified as a major stationary air pollution source. Any source modification, or contemporaneous modification of sources at the SHDF or the Nixon Power Plant, or the contemporaneous modification of sources at the SHDF and the Nixon Power Plant, that increases the source(s) potential-to-emit above the applicable PSD significance threshold shall require a full PSD review of the source(s) modification.

The Potential-to-Emit in the following tabulation of emissions is set by the limits established by the existing Construction Permits. A worst case emission scenario is based on both boilers operating full time on distillate and all the digester gas is combusted by the flares. The actual emissions are from the Division AIRS database for data year 1996. At the time the Title V application was submitted the SHDF data base information included the operation of several gravel pits in addition to the sludge processing facility. The sludge processing facility emissions have been separated from the gravel pit emissions and assigned a new source number in the data base. However, this historical data reflects the gravel pit emissions.

	PM	PM_{10}	SOx	NOx	VOC	CO	H_2S	HAPs
POTENTIAL TO EMIT, TONS PER YEAR								
Existing Equipment								
Both Boiler Firing Distillate	0.26	0.13	3.3	2.6	0.04	0.65		
All Digester Gas to Flare	2.5	2.5	35.7	25.2	1.64	38.0		
Totals	**2.8**	**2.7**	**39.0**	**27.8**	**1.7**	**38.7**	**5.0**	
Proposed Equipment								
	6.1	**5.0**	**52.5**	**41.4**	**1.1**	**105.7**	**8.1**	
1996 Data Year Actual Emissions, Tons per Year								
	40.97	17.6	20.20	30.40	6.0	0.84		0.16

The compliance status of each source at the facility is based on the information provided in the application and a review of the office files available. No current non-compliance issues exist. The Division accepts the facility was in compliance at the time the Title V operating permit was prepared.

III. EMISSION SOURCES

The following sources are specifically regulated under terms and conditions of the Operating Permit for this site:

Existing Anaerobic Digestion Complex

1. Applicable Requirements - The applicable requirements for the existing equipment were established by the modification of Construction Permit 82EP165 issued December 4, 1997. The Construction Permit modification required the permittee to follow a Division approved compliance plan. The salient features of the compliance plan have been incorporated into the Title V permit. The Construction Permit included a monthly limit on the sulfur oxide emissions with a notation that the requirement may be removed after a year of data has been collected on hydrogen sulfide concentrations in the digester gas. Review comments submitted for a preliminary draft of the Title V documents stated the data had been collected as required. On that basis the monthly limit was removed.

As noted at the beginning of this document, the hourly limits for all criteria pollutants established by the modification of Construction Permit 82EP165 are not to be included in the Operating Permit unless required by some applicable requirement. The hourly particulate permit limits were removed and replaced with the Regulation No. 6 State-only particulate limit for the boilers only. However, the following calculations demonstrate the design limitations of the boilers precludes violation of of the 0.18 pounds per million Btu particulate limit. In like manner the following calculations show the combination of the design and permit limitations for the boiler preclude violation of the 0.8 pounds per million Btu sulfur dioxide limit when burning distillate only. For Regulation 6, only the boilers are considered fuel burning equipment.

Digester Gas
The design limitation for particulate emissions is:

$$\frac{14\,\text{lb}}{10^6\,\text{SCF}} \text{ x } \frac{\text{SCF}}{600\,\text{Btu}} = 0.02\,\frac{\text{lb}}{\text{MMBtu}}$$

Fuel Oil
The design limitation for particulate emissions is:

$$\frac{2\,\text{lb}}{1000\,\text{gallon}} \text{ x } \frac{\text{gallon}}{139{,}500\,\text{Btu}} \text{ x } 1{,}000{,}000 = 0.01\,\frac{\text{lb}}{\text{MMBtu}}$$

Fuel Oil
The design and permit limitations for sulfur oxides emissions are:

$$0.18 \text{ x } \frac{144\,\text{lb}}{1000\,\text{gallons}} \text{ x } \frac{\text{gallon}}{139{,}500\,\text{Btu}} \text{ x } 1{,}000{,}000 = 0.19\,\frac{\text{lb}}{\text{MMBtu}}$$

The hourly limit for the sulfur dioxide was retained to assure compliance with the National Ambient Air Quality Standards and increments as addressed earlier in this document. The regulations establish that compliance with the hourly sulfur dioxide limit is to be determined on the basis of a three (3) hour average. However, the determination of a three hour average is meaningless in this case. The sulfur oxide emissions are calculated on the basis of the amount of biogas and fuel oil combusted for a calendar day and the appropriate hydrogen sulfide concentration. The hourly emissions are calculated by dividing by the number of operating hours for the day.

The Construction Permit for the existing equipment notes a target hydrogen sulfide concentration of 1280 ppmv in the digester gas, and a hydrogen sulfide to sulfur dioxide conversion efficiency of

75.7% were used in establishing the permit limits. The Construction Permit for the new equipment notes a target concentration of 5000 ppmv and a conversion efficiency of 96.0%.

Regulation No. 1, Section II.A.5 permits a 30% opacity limit for a flare. However, the Construction Permit set a more stringent standard of 20% opacity.

Construction Permit 82EP165 Condition 11 identifies the existing equipment is subject to Agood operating practices@. The Agood operating practices@ of the general provisions of Part A of 40 CFR Part 60 were adopted by reference in the State-only requirements of Regulation No. 6 , Part B. This Construction Permit condition is properly identified as a State-only requirement in the Operating Permit.

2. Emission Factors - An noted in previous discussion there were no reliable sources of information for emission factors for the combustion of digester gas. For all the criteria pollutants, except sulfur dioxide and hydrogen sulfide, natural gas emission factors, adjusted for the lower heat content of the digester gas were used. For the sulfur related emissions, mass balance equations were used to estimate the emissions. These equations are set forth in Appendix G of the Operating Permit.

3. Monitoring Plan - The modification of Construction Permit 82EP165 required CSU to follow a Division approved compliance plan. The salient features of this compliance plan have been incorporated into the Operating Permit.

The opacity monitoring plan was developed on the following basis. The Division does not believe the quality of the biogas is the same as that of pipeline natural gas, and would expect different combustion results. However, available information and the operating experience for the source indicates the visual quality of the biogas combustion emissions during normal operation is similar to that of natural gas. On that basis the Division would not expect opacity exceedances for the boilers or the flares during normal operation with biogas.

For other sources operating with distillate as a backup fuel, the Division has required periodic Method 9 observations during the time the distillate is being combusted. For this facility the boilers use distillate as a backup fuel, but the flares do not. The Division reasons that extended operation of a boiler with distillate may indicate a potential problem with the biogas production and the potential for opacity exceedances. There is nothing that would dictate whether a flare would or would not be operating during this potential problem period. To address the issue, the opacity monitoring requires daily Method 9 observations for the operating boilers and flares during the time there is an extended use of distillate by the boilers.

4. Compliance Status - The compliance of the source at the time the Title V application was submitted is questionable due to the error in determining the construction permit limits. The Division accepts the sources were in compliance with the modified construction permit limits.

New Anaerobic Digester Complex

1. Applicable Requirements - The applicable requirements for the equipment proposed for the upgraded facility were established by Construction Permit 98EP0093, issued June 5, 1998. The Construction Permit modification requires the permittee to follow a Division approved compliance plan. The compliance plan for the existing equipment is to be followed until a Division approved compliance plan for the new equipment has been developed. The salient features of the existing compliance plan have been incorporated into the Title V permit.

The Construction Permit included monthly limits on the emissions with a notation that the monthly limits are only in effect for the first twelve (12) months of operation of the new equipment. A month is interpreted to mean a calendar month. After the first twelve (12) months of operation, the monthly limits no longer apply, an hourly limit for sulfur oxides remains, and the annual emission limits are determined on the basis of a 12 month rolling total.

The Construction Permit notes a hydrogen sulfide to sulfur dioxide conversion efficiency of 96.0%. and a hydrogen sulfide target concentration of 5000 ppmv in the digester gas were used in setting the permit limits. A specific target value for hydrogen sulfide control by the iron salts was not noted. As noted at the beginning of this document, the Division no longer includes hourly limits as part of the Construction Permits unless there is a special need. Due to the variability in the hydrogen sulfide concentration in the digester gas and its subsequent affect on sulfur dioxide emissions, a short term limit is required on sulfur oxide emissions to assure compliance with the National Ambient Air Quality Standards for sulfur dioxide. There is no way to practically model the worst case sulfur dioxide emissions because of the potential variability in the hydrogen sulfide emissions. In addition to the short-term sulfur oxide emissions limit, there is a 5000 ppmv limit on the hydrogen sulfide concentration.

Regulation No. 6, Part A, Subpart Dc, AStandards of Performance for Small Industrial/Commercial/Institutional Steam Generating Units@, '60.42c (d) limits the sulfur dioxide emissions to 0.50 pounds per million Btu or the fuel oil sulfur content to less than 0.5 weight per cent. Construction Permit 98EP0093 Condition 10 limits the distillate sulfur content to 0.18 weight per cent which is more restrictive than the '60.42c (d) limit. The Subpart Dc particulate matter limits do not apply to these boilers; therefore, the limits are set by Regulation No. 6, Part B for fuel burning equipment. The Subpart Dc opacity limits do not apply to these boilers.

The following calculations demonstrate the design limitations of the boilers precludes violation of of the 0.21 pounds per million Btu particulate limit. In like manner the following calculations show the combination of the design and permit limitations for the boiler preclude violation of the 0.8 pounds per million Btu sulfur dioxide limit when burning distillate only.

Digester Gas
The design limitation for particulate emissions is:

$$\frac{8.4\,\text{lb}}{10^6\,\text{SCF}} \text{ x } \frac{\text{SCF}}{600\,\text{Btu}} = 0.014\frac{\text{lb}}{\text{MMBtu}}$$

Fuel Oil
The design limitation for particulate emissions is:

$$\frac{2\,\text{lb}}{1000\,\text{gallon}} \text{ x } \frac{\text{gallon}}{139{,}500\,\text{Btu}} \text{ x } 1{,}000{,}000 = 0.01\frac{\text{lb}}{\text{MMBtu}}$$

Fuel Oil
The design and permit limitations for sulfur oxides emissions are:

$$0.18 \text{ x } \frac{144\,\text{lb}}{1000\,\text{gallons}} \text{ x } \frac{\text{gallon}}{139{,}500\,\text{Btu}} \text{ x } 1{,}000{,}000 = 0.19\frac{\text{lb}}{\text{MMBtu}}$$

The emissions estimates are based on a conservative application of the calculation equations. Performance tests are normally required to be conducted at maximum load conditions. The difficulty in regulating the gas production and the hydrogen sulfide concentrations to specified levels for a performance test makes the results questionable and the would not justify the expense. The use of distillate oil supplier certification to the sulfur content of the distillate avoids any performance testing under the Subpart Dc provisions.

The hourly limit for the sulfur dioxide was retained to assure compliance with the National Ambient Air Quality Standards and increments as addressed earlier in this document. The regulations establish that compliance with the hourly sulfur dioxide limit is to be determined on the basis of a three (3) hour average. However, the determination of a three hour average is meaningless in this case. The sulfur oxide emissions are calculated on the basis of the amount of biogas combusted for a calendar day and the last measured hydrogen sulfide concentration. The hourly emissions are calculated by dividing by the number of operating hours for the day.

Regulation No. 1, Section II.A.5 permits a 30% opacity limit for a flare. However, the Construction Permit set a more stringent standard of 20% opacity.

2. Emission Factors - As noted in previous discussion there were no reliable sources of information for emission factors for the combustion of digester gas. For all the criteria pollutants, except sulfur dioxide and hydrogen sulfide, natural gas emission factors, adjusted for the lower heat content of the digester gas were used. For the sulfur related emissions, mass balance equations were used to estimate the emissions. These equations are set forth in Appendix H of the Operating Permit.

3. Monitoring Plan - The modification of Construction Permit 82EP165 required CSU to follow a Division approved compliance plan. A new compliance plan is to be developed and approved by the Division once the new equipment is in service. Construction Permit 98EP0093 requires the existing compliance plan to be followed until the new compliance plan is in place. The salient features of the existing compliance plan have been incorporated into the Operating Permit.

4. Compliance Status - The Division accepts that proper procedures have been followed to establish the permit limits for the proposed equipment.

Permit Exempt / APEN Required Sources

An APEN (95EP1098) was submitted for the fugitive VOC emissions from the sludge processing. A Division letter, dated March 10, 1997, states the source is Permit Exempt / APEN required because the VOC emissions are below the APEN reporting threshold but some of the Non-criteria emissions are at reportable levels.

1. Applicable Requirements - The applicable requirements are to pay the annual fees, report emission increases as appropriate and the opacity of the emissions are not to exceed 20%.

2. Emission Factors - The emissions were estimated from EPA models and published references.

3. Monitoring Plan - The emissions are to be evaluated annually to determine if a Revised APEN is needed. Current information does not associate any particulate matter with these type of VOC emissions, thus precluding the need for opacity observations.

4. Compliance Status - The Division accepts the source is in compliance.

Alternate Operating Scenarios

No alternate operating scenarios were identified

Permit Shield

The intent of the permit shield is to provide limited protection in the event of an error in the evaluation of whether a regulation, or portion of a regulation applies. The permittee identifies the issue and presents its position. The Division reviews the position. If the Division and the permittee mutually agree on the position, the issue is recorded in the operating permit. If there is a disagreement on the position, the Division has reserved the right to make the final decision. If, at a later date, it is discovered that an error was made in the mutual decision, the source is protected from the non-compliance due to the error. However, the permittee must move rapidly to obtain compliance.

In the Title V application the applicable sections of the Federal and State regulations are identified for the sources. The shield request was granted and noted in the Operating Permit where a specific request for the shield was identified, justified and accepted by the Division. The shield was not granted where a blanket request lacked specific detail, the request was not justified, or the Division did not agree that shield protection could be applied.

Hazardous Air Pollutants

The hazardous air pollutants originate as a component of the fuels used and the sludge processed. The types of these material and related emission factors were obtained from information provided by the California Air Resources Board and other references.

Miscellaneous

From time to time published emission factors are changed based on new or improved data. A logical concern is what happens if the use of the new emission factor in a calculation results in a source being out of compliance with a permit limit. For this operating permit, the emission factors or

emission factor equations included in the permit are considered to be fixed until changed by the permit. Obviously, factors dependent on the fuel sulfur content or heat content can not be fixed and will vary with the test results. The formula for determining the emission factors is, however, fixed. It is the responsibility of the permittee to be aware of changes in the factors which may affect the compliance status. Upon notification, the Division will work with the permittee to address the situation.

Short Term Limits

As noted at the start of this review document, new procedures resulted in the removal of short term emission and production/throughput limits from Construction Permits. The table below documents existing short term Construction Permit limits that were not incorporated in the Operating Permit.

Construction Permit	Emission Point	NOx, lb/hr	CO, lb/hr	VOC, lb/hr	PM, lb/hr	PM_{10}, lb/hr	Oxides of Sulfur	H_2S lb/hr	Fuel Use
Modified 82EP165	Existing Anerobic Digestion Complex	11.9	17.9	0.8	1.2	1.2	3.3 ton/month	3.4	Digester Gas - 84,705 scf/hr Distillate - 150 gal/hr