

1999-2000 GRAND JURY REPORT

Sewage Biosolid Waste Management of The County

Background

In 1998, Assembly Bill (AB) 939, a state mandate, was adopted in an effort to reduce the volume and toxicity of solid waste that is landfilled and incinerated. The bill requires, by the year 2000, that each of the cities and unincorporated portions of the State and counties, divert a minimum of 50% of the 1990 tonnage of solid waste that was landfilled. AB 939 established a planning hierarchy utilizing new solid waste practices. In order of priority, these practices are:

1. source reduction
2. recycling and composting
3. environmentally safe landfill disposal and transformation

This report inquires into the 2nd practice under the term "Composting."

Human waste is an uncomfortable topic for the average person, but the waste must go somewhere, and so it is a topic that must be addressed. When we flush our toilets, waste is taken through the sewer lines to the various wastewater treatment plants. Once the waste arrives at the wastewater treatment plants, it goes through three processes resulting in wet sludge. Several waste water plants have implemented higher levels of treatment of the wet sludge, which will enable it to be directly applied to land. Those treatment plants that have not employed more advanced levels of treatment, must transport the material to be composted, incinerated, or dried through a pelletizing process.

As of 1988, biosolids (sewage) can no longer be dumped into the ocean. Additionally, Riverside County prohibits biosolids from being placed in county landfills which leaves only 3 options, composting, incineration, and drying through the pelletizing process. In 1989, a private facility was approved by the county and a Conditional Use Permit (CUP) was issued by the County of Riverside to start a biosolids composting operation. This operation is for the purpose of processing sludge generated by waste water treatment plants in Riverside and other counties and is the only one within Riverside County. It serves 33 Riverside cities, parts of Orange County and Los Angeles County. The CUP, which expires in 2010, has been amended several times, the latest being in 1998, due to a change in ownership of the facility.

The Board of Supervisors amended the Comprehensive General Plan 96-276 in October 1996 stating that the benefits of the Regional Composting Facility are balanced against

unavoidable adverse environmental effects. They also noted that additional employment opportunities would be provided throughout the region, aiding in the reduction of the jobs/housing imbalance. They recognize that this project would have a positive fiscal impact on Riverside County. According to the Board of Supervisors, this composting facility would be consistent with the surrounding designations in the community plan.

The location was selected by the county, because of its remote location with neighbors consisting of industrial businesses, orange groves and a sparsity of residential housing. The facility is located within sight of and west of the El Sobrante Landfill.

In the late 1980's, the site where the Regional Composting Facility is located was declared an economic zone for recycling. The soil has a high clay content that acts as a liner to prevent the infiltration of any leachate which could contaminate the ground water caused by the composting process. There is a total of eighty acres which includes 15 acres for active composting and 5 for curing, screening and storing. Windrows (rows of composting material) are monitored for temperature and turned 5 times in 15 days for aeration to meet Environmental Protection Agency (EPA) requirements.

There are two classes of processed sludge. Class A sludge is used as fertilizer for vegetable gardens or other green growing operations. Class B sludge is used as fertilizer and a soil amendment for non-edible crops. The finished product at the Regional Composting Facility is Class A only.

In 1996, a Citizens Oversight Committee was established by the Board of Supervisors as described below.

Purposes:

"To review and report on the effectiveness of the mitigation measures that have been mandated by various responsible public agencies.

To assure that state and local regulatory agencies and the media regarding the status of the project are fully apprised of community concerns.

To provide an easily accessible public forum for community concerns.

To provide reports to the regulatory agencies and the media regarding the status of the project and mitigation measures."

This committee is comprised of six members; five members are appointed by the Board of Supervisors, 2 of which must reside within the boundaries of Temescal/El Cerrito Community Plan; one non-voting member appointed by the composting facility. The Local Enforcement Agency (LEA) provides staff for the committee. The LEA prepared the Mission Statement, scope of work and goals for the committee.

Findings

1. The population growth of Riverside County which is expected to almost double by the year 2020, will result in the steady and rapid reduction of available land suitable for land application of sewage biosolids, indicating the importance of having at least one composting facility in the county. Without a sewage/biosolid composting facility, the sludge would have to be shipped great distances for disposal and/or processing and would greatly increase the sewer costs to Riverside County residents.

2. There are no incinerator operations in Riverside County, and the cost to incinerate waste is approximately \$50 per ton, as compared to the approximate \$25 per ton charged for composting by the biosolids company in Riverside County.

3. Due to the nature of the biosolids composting activity, it is known that the process generates a strong and often objectionable odor. The intensity of the odor may vary to a great degree and is quite dependent on temperature, wind and humidity. The odor is more intense when the windrows are turned, but dissipates within approximately one hour. The closer one is to the facility, the stronger the odor. To allow the windrows to cure, composting material must be turned every three days and temperatures deep within the windrows checked frequently. Fans are used to circulate the air, and water is sprayed while the windrows are being turned which helps to lower the intensity of the odor. A number of biosolid facilities in the United States is using enclosed facilities to eliminate unpleasant odors to the surrounding area.

4. The composting facility has been incurring odor complaints from encroaching housing tracts within the 2 1/2 mile radius. Odor zones are identified in the CUP. Intense odors are in a 3/4 mile radius; occasional odors are expected in a 2 1/2 mile radius of the composting site. There are 7,000 people living within a 3 mile radius of the facility. During an 18 month period of citizen complaints monitored, 43% of the complaints were made from the same 11 phone numbers which is not representative of the entire area. The most important criteria for determining facility odor compliance is by citizen complaints which are easily manipulated. The majority of complaints are regarding the odor, or the visual appearance of the site.

5. The five-member Citizens Oversight Committee only represents Supervisorial Districts One and Two. The meetings of the Citizens Oversight Committee are attended by a very small group, which does not represent the county at large, consequently, the original unbiased intent of the purposes and mission statement of the Citizens Oversight Committee are not being followed.

6. The county Environmental Health Department monitors the odors as required by the CUP and responds to citizen complaints. Twenty-Five monitoring stations have been established by the Environmental Health Department. A LEA inspector is available for inspection 24 hours a day. The daily monitoring of the odors are done by smell alone. The same degree of odor intensity as measured by different people solely using their olfactory sense, the nose, leads to a great variance of reported intensity. To achieve an accurate picture of odor intensity, use of an appropriate scientific instrument, or instruments, would be warranted.

7. Over 40 years of rigorous scientific study and research has never found any health related impacts from biosolids. "Many public health specialists, scientists, and engineers in North America and Europe believe that properly operated composting and co-composting operations present little health risk to normal compost facility employees and present negligible risk, or no risk, to nearby residences. Millner et al. (1977), Clark et al. (1983), Epstein & Epstein (1985), Boutin et al. (1987), Maritato et al. (1992), Diaz et al. (1992)" in the California State Water Resources Control Board report on General Waste Discharge Requirements of Biosolids Land Application, Draft Statewide Program EIR, June 28, 1999. No one working at the Riverside County composting facility has found it necessary to use a respirator.

8. After touring the 25 inspection stations and talking to some of the residents in the Temescal/El Cerrito area, the Grand Jury determined that visibility of the site was very minimal and not objectionable. Scarring done by grading on the adjacent hills is often mistaken for the actual composting facility. The residents reported they were aware of occasional odors but did not feel it affected their quality of life.

Recommendations

Board of Supervisors and Environmental Health Department

1. Conduct a study to establish the feasibility of permitting a second biosolids facility in eastern Riverside County.
2. Assure the continued operation of the present composting facility.
3. Allocate funds to the Environmental Health Department to study new technology for scientific devices that can be used for monitoring of odors of a biosolids plant.
4. Board of Supervisors and Environmental Health Department immediately work together with the biosolids company to take steps to enclose the most malodorous portions of the composting facility.
5. Continue to obtain signatures on all complaints as required by the CUP.
6. Expand the Citizens Oversight Committee to include seven voting members with representation from each Supervisorial District.
7. Instruct the Citizens Oversight Committee to present unbiased information to the public at large and in their reports to the Board of Supervisors.
8. Initiate research in conjunction with the California Integrated Waste Management Board to establish standardized technological expertise and guidelines in odor measurement and mitigation measures.