

**California Environmental Protection Agency
Environmental Management and Sustainability Program
Innovation Initiative
Environmental Management System Project**

Report to the Legislature: Fifth Quarterly Update
October through December 2000

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California Environmental Protection Agency

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Executive Summary

The purpose of this report is to update members of the Legislature on the Cal/EPA Environmental Management System (EMS) Project authorized by Assembly Bill 1102 (Stats. 1999, Ch. 65). This fifth quarterly report includes information on

- the progress and accomplishments at the Benziger Family Winery in Glen Ellen,
- recent action to remove Gene's Plating from the project, and
- upcoming activities.

Cal/EPA reports quarterly on progress to the Legislature and will provide a final analysis of results by January 1, 2002.

Previous updates to the Legislature and additional information on the project may be obtained from the website (<http://www.calepa.ca.gov/EMS>).

Major accomplishments this quarter include

- facilitating a regional EMS working group meeting to learn about and comment on individual pilot project EMS development and implementation,
- completing individual pilot project work plans,
- collecting and providing quality assurance for update data on EMS design and performance, and
- circulating the California Supplemental Data Protocol, designed to answer questions posed by Public Resources Code, Section 71045 et seq., to our Working Groups for review.

A new phase of the California EMS Project is underway. Regional Working Group meetings are being organized to facilitate a dialogue between pilot project participants and stakeholders regarding facility EMS design and implementation. Pilot facilities are sharing information on EMS implementation, providing a facility tour, answering questions, and receiving feedback. Thirty representatives from government agencies, other pilot companies and interested businesses, academia and public interest groups were in attendance at the November meeting of the Northern California Regional Working Group. A brief summary of the information presented by the pilot organization is included in the report.

On November 14, 2000, the Northern California Working Group met at Benziger Family Winery in Glen Ellen, Sonoma County. The meeting highlighted Benziger's Natural Farming Methods and their certification in the Sonoma Green and Bay Area Green Business Programs. Benziger's goal is to produce world-class wines that reflect the unique character of the place in which the grapes are grown. In order to reach that goal, Benziger has applied a combination of methods to establish natural processes in the vineyard to maintain soil vitality and health and manage pests. They have eliminated the use of synthetic pesticides and herbicides from their vineyard, saved two million gallons of water

per year through recycling, and recycled forty-one percent of their waste stream. In order to enhance their environmental business practices, Benziger and Davis Bynum wineries are now developing an Environmental Management System with the assistance of Cal/EPA.

In other developments, one of the pilots has recently been removed from the project. After expressing initial interest in developing an environmental management system (EMS), Gene's Plating failed to follow through and implement an EMS. A recent investigation by the Department of Toxic Substances Control (DTSC) and Los Angeles County Fire Department, and a subsequent, ongoing enforcement action by the Los Angeles City Attorney's office, has led to Gene's Plating being removed from the Cal/EPA EMS Project. An analysis of the current situation and some initial conclusions are summarized in the report.

Upcoming activities of the Cal/EPA EMS Project include

- continuing to facilitate regional EMS working group meetings at pilot project locations to learn about and comment on individual pilot project EMS development and implementation,
- circulating individual pilot project work plans to the working groups for review,
- finalizing the California Supplemental Data Protocol, designed to answer questions posed in PRC § 71045 et seq., after addressing any working group comments.

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- the progress and accomplishments at the Benziger Family Winery in Glen Ellen,
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- upcoming activities.

Cal/EPA reports quarterly on progress to the Legislature and will provide a final analysis of results by January 1, 2002.

Previous updates to the Legislature and additional information on the project may be obtained from the website (<http://www.calepa.ca.gov/EMS>). An introduction to the EMS project was included in the first, second, and third quarterly update reports.

Introduction

During the previous phase of the EMS Project, public hearings were held in Northern and Southern California in fulfillment of the legislative requirement for a public hearing prior to selection of the pilot projects. Receiving one procedural comment, Cal/EPA announced selection of the pilot projects as proposed and adopted the pilot selection criteria, model pilot project work plan, and monitoring and evaluation parameters.

The following seven pilot projects were selected by Cal/EPA:

- (1) Anheuser-Busch in Fairfield,
- (2) Wastewater treatment facilities (Central Marin Sanitation Agency in San Rafael and City of San Diego Metropolitan Wastewater Department, Operation and Maintenance Division),
- (3) IBM Corporation in San Jose,
- (4) Lockheed Martin Aeronautics Company (formerly the Skunk Works) in Palmdale,
- (5) Metal finishing companies (Artistic Plating in Anaheim and Gene's Plating, in Los Angeles), (*Gene's Plating has since been removed from the project.*)
- (6) Pentel of America, Ltd. in Torrance, and
- (7) Vineyards and wineries (Davis Bynum Winery and Benziger Family Winery in Sonoma County).

Results from several of the Cal/EPA pilot projects were included in the Third Quarterly Update. Preliminary results were noted in the areas of regulatory compliance, employee involvement, interested party involvement, environmental performance and cost reduction, pollution prevention, public information, and supply chain relationships.

A new phase of the California EMS Project is underway. Regional Working Group meetings are being organized to facilitate a dialogue between pilot project participants and stakeholders regarding facility EMS design and implementation. Pilot facilities are sharing information on EMS implementation, providing a facility tour, answering questions, and receiving feedback. Over twenty representatives from government agencies, other pilot companies and interested businesses, academia and public interest groups were in attendance at each of the September meetings of the Regional Working Groups. IBM gave a presentation on the design and implementation of its EMS and provided a tour of its chemical distribution center for the Northern California Working Group. The Southern California Working Group met at Artistic Plating Company in Anaheim. The meeting highlighted the pollution prevention and compliance successes that have resulted from the implementation of their EMS. Brief summaries of the information presented by these two pilot organizations are included in the Fourth Quarterly Update.

Major accomplishments this quarter are described below.

Major Accomplishments

Major accomplishments this quarter include

- facilitating a regional EMS working group meeting to learn about and comment on individual pilot project EMS development and implementation,
- completing individual pilot project work plans,
- collecting and providing quality assurance for update data on EMS design and performance, and
- circulating the California Supplemental Data Protocol (designed to answer questions posed by PRC § 71045 et seq.) to our working groups for review.

Regional Workgroup Meetings

Thirty representatives from government agencies, other pilot companies and interested businesses, academia and public interest groups were in attendance at the

November 14, 2000 meeting of the Northern California Regional Working at Benziger Family Winery in Glen Ellen, Sonoma County. The meeting highlighted Benziger's Natural Farming Methods and their certification in the Sonoma Green and Bay Area Green Business Programs. They have eliminated the use of synthetic pesticides and herbicides from their vineyard, saved two million gallons of water per year through recycling, and recycled forty-one percent of their waste stream. In order to enhance their environmental business practices, Benziger and Davis Bynum wineries are now developing an Environmental Management System with the assistance of Cal/EPA.

Pilot Project Work Plans

The Pilot Project Work Plans have been completed and will be provided to the Regional Working Groups for review and comment before being finalized. The purpose of the individual Pilot Project Work Plans is to describe how the work of each of the pilot projects will be carried out and how the goals of the California EMS project will be accomplished. This includes describing the pilot project management; data collection and management; data quality assessment, validation, and usability; and data analysis process. The Model Pilot Project Work Plan, finalized after Regional Working Group input and public hearings earlier this year, serves as the template for the individual pilot project work plans.

Data Collection Protocols

Update data on EMS design and performance has been collected using the national EMS data protocols. Evaluation and Monitoring Parameters have been adopted by Cal/EPA and are comprised of the national EMS data protocols and a California supplement. In coordination with other states, detailed national data protocols have been developed to collect standardized information on EMS

design and performance. The national data protocols are available for review through a web site link at <http://www.mswg.org>. In order to answer the questions provided in PRC § 71045 et seq., Cal/EPA is supplementing the national data protocols with a few additional questions. Using these combined protocols, also referred to as the Evaluation and Monitoring Parameters, pilot projects are submitting information in the following categories:

- environmental performance,
- regulatory compliance,
- use of pollution prevention techniques,
- continual improvement,
- employee involvement,
- involvement of interested parties,
- quality and quantity of information available to the public,
- EMS design, and
- EMS costs and benefits.

Information presented by one of the California pilot facilities, Benziger Family Winery in Glen Ellen, is summarized in the following section. This information was presented by the pilot project as background for establishing dialogue with stakeholders during the November Northern California Regional EMS Working Group meeting.

In other developments, one of the pilots has recently been removed from the project. After expressing initial interest, Gene's Plating failed to follow through and implement an EMS. A recent investigation by the Department of Toxic Substances Control (DTSC) and Los Angeles County Fire Department, and a subsequent, ongoing enforcement action by the Los Angeles City Attorney's office, has led to the removal of Gene's Plating from the Cal/EPA EMS Project. An analysis of the current situation and some initial conclusions are summarized in the report.

Northern California Working Group Meeting and Tour at Benziger Family Winery

Benziger Family Winery is one of two wineries participating in the EMS Pilot Project. On November 14, 2000, Benziger hosted the Northern California Working Group for a meeting and tour of their vineyards and winery. This meeting and tour was the second in a series of visits by the Northern California Working Group to each of the pilot projects. The purpose of the visits is to provide the participants of the working group with an in-depth presentation of each EMS and a first hand experience of the operations. The Working Group will visit the other winery project, Davis Bynum Winery, in Spring 2001.

Role of Working Group

The facility visits also assist the Working Groups in fulfilling their role as participants in the Cal/EPA EMS Project. This role includes advising the pilot

projects in the development, design, and implementation of their EMS and assisting Cal/EPA in answering the questions posed in PRC § 71045 et seq. During the meeting at Benziger Winery, over 30 people from local, State and federal government, non-government organizations, local residents and other businesses were asked to comment on portions of the Benziger and Davis Bynum EMS projects. After hearing each winery present their draft Environmental Policy, the Working Group participants broke into groups and discussed the policies and made suggestions. The small group then reported their comments to the larger group. The Working Group was also presented and asked to critique the draft aspect and impact analysis for winery operations and vineyards. Participants were invited to provide additional comments.

Reasons for Involving the Wine Industry in the EMS Project

Cal/EPA chose to include the wine industry in the EMS project for several reasons. Prior to selecting the pilot projects, the working groups advised Cal/EPA to include agriculture in the EMS project. Agriculture is an important part of California's economy, and California wine is the number one finished agricultural product in retail value, with \$12.3 billion in retail sales for 1998 (Wine Institute, "Economic Impact of California Wine" January 20, 2000). Significant environmental impacts are associated with wine grape growing, including chemical application, water use, energy use, waste generation, the conversion of other agricultural crops to grapes, and the loss of natural habitat through vineyard development. There are also many efforts in the wine industry to develop more sustainable agricultural practices. Integrated Pest Management (IPM) and organic farming have successfully been implemented in vineyards. Inclusion of the wine industry in the pilot project also provided the opportunity to link agricultural processes with the industrial process of making wine. This provides an opportunity to evaluate the movement of materials, such as water and organic waste, within a system that includes both the farm and the wine maker.

Winery Background

The Benziger Family Winery is located on the east side of Sonoma Mountain, above the village of Glen Ellen, where it is bordered by Jack London State Park to the west. The Benziger family has operated their winery and vineyards at this location since purchasing the 85-acre Sonoma Mountain Ranch in 1980. Sixty-five acres of vines are planted at the ranch. Another three acres of vines are planted at their Imagery Winery in nearby Sonoma Valley. Grapes are also purchased from more than 60 growers. Benziger operates two wineries, one on Sonoma Mountain and the other in Sonoma Valley. The Benziger Family Winery is a medium-sized winery producing 180,000 cases of wine per year.

The Benziger Winery has been employing environmentally responsible business practices in their winery and vineyard for several years. The winery is currently developing an ISO 14001-based Environmental Management System.

Natural Farming Methods

Benziger's goal is to produce world class wines that reflect the unique character of the place the grapes are grown. Chemical pesticides and fertilizers reduce the unique and natural characteristics of a vineyard and its grapes. Building the natural processes that operate in the soil and vineyard, also referred to as biologic capital, enhances the unique qualities of the wine. In order to accomplish their goal, Benziger has employed what they call Natural Farming Methods, for several years.

The objectives of Natural Farming Methods are

- elimination or reduction of all vineyard chemicals,
- elimination of chemical fertilizers, and
- restoration of balance and diversification to vineyard properties.

These objectives have been met through a combination of methods that work to enhance the biologic capital of the vineyard. By increasing habitat for beneficial insects and vertebrates (insectaries and habitat corridors), synthetic pesticides are no longer used. Compost, created by combining waste from the winery with manure from a local dairy, is spread over the vineyard, thereby increasing both soil fertility and vitality. The resulting increase in the diversity of soil organisms eliminates the need for soil fumigants. Soil water holding capacity is also increased, reducing irrigation needs. Cover crops between vineyard rows serve to reduce soil erosion, fertilize soil through nitrogen fixation, and attract beneficial insects. All these methods combine to allow deep root penetration and a connection of the vine to its local environment. This results in quality grapes that reflect the characteristics of the location where they are grown.

Benziger buys the majority of their grapes from other growers. In order to improve quality, Benziger actively educates their growers in Natural Farming Methods. Through a yearly series of "hot topic" seminars, growers learn the techniques as well as costs and benefits associated with Natural Farming Methods.

Bay Area Green Business Program and Sonoma Green Business Program

Environmental practices at Benziger include winery operations as well as farming practices. In 1999, Benziger was one of the first wineries certified by the Sonoma and Bay Area Green Business Programs. Both of these Green Business Programs require participants to demonstrate compliance with all environmental laws and regulations. Demonstrating the application of best practices in the areas of energy and water conservation, solid waste reduction and pollution prevention are additional requirements of the Bay Area Green Business Program. The Green Business certification is only given to wineries and does not extend to the vineyard.

As part of the Green Business certification process, Benziger demonstrated two million gallons in annual water savings through recycling all wastewater

generated by the winery. The wastewater is biologically treated in a series of ponds and wetlands and supplies seventy-five percent of their vineyard irrigation needs. Significant reductions in solid waste were also shown. Currently, forty-one percent of the winery's waste stream is recycled.

Environmental Management System Pilot Project

The Vineyard/Winery EMS Pilot Project involves two wineries in Sonoma County, Benziger Family Winery and Davis Bynum Winery. While both wineries are recognized as leaders in environmentally responsible practices, they have chosen to implement an EMS for several reasons. First, both wineries see it as a logical next step in developing their environmental program. They also hope to organize their environmental programs into a system to allow better understanding of their environmental responsibilities and more strategic planning to meet those responsibilities. The potential cost savings and improvements in wine quality further motivate them. In addition, they hope to use the EMS as an education tool for their employees and suppliers.

Benziger and Davis Bynum wineries are cooperatively developing an EMS with the assistance of Cal/EPA. Work on the EMS began in April 2000. The pilots have completed their initial environmental review, legislative review, and gap analysis. Draft environmental policies were shared and discussed with the working group during the November 14 meeting. The policies are being revised to reflect some of the working group's comments. The pilots are now in the process of determining their environmental aspects and impacts. Objectives and targets of the EMS should be completed by January 2001. Both wineries plan to implement their EMS by spring of 2001. Davis Bynum will host a Northern California Working Group meeting in the spring of 2001.

One of the objectives of the project is to develop a model EMS for vineyards and wineries that can be used by the wine industry in California. The EMS model is being developed concurrently using the experience gained at Davis Bynum and Benziger Family Winery.

Local Working Group

Both Benziger and Davis Bynum participate in the Northern California Working Group. However, in order to involve more local stakeholders, a local working group has been formed. The first meeting of the local working group was held on December 4, 2000 in Sonoma County. Cal/EPA introduced the winery pilots and provided an overview of the EMS Pilot Project. Representatives from Benziger and Davis Bynum provided background information about their wineries and discussed the reasons for participating in the EMS Pilot Project. In break out sessions, stakeholders discussed the role and purpose of the local working group. Stakeholders, including local business, government, and community members, attended the meeting. The next meeting is planned for January 2001.

Gene's Plating Removed From Cal/EPA Pilot EMS Pilot Project

Gene's Plating is a medium-sized, 400 employee, metal finishing facility in Los Angeles, California. The facility performs copper, nickel, and chrome electroplating and various polishing operations. Gene's Plating specializes in electroplating aluminum and steel wheels for commercial customers. Cal/EPA selected Gene's Plating as a member of its metal finishing project after holding public hearings in May 2000.

EMS Template

Cal/EPA has been working together with U.S. EPA and the Metal Finishing Association of Southern California (MFASC) to test a template that small- to medium-sized metal finishing companies can use in developing and implementing an EMS that is based on ISO 14001. The template is intended to provide a simplified and industry-specific template that can form the basis for a company's EMS, and that could, when implemented, serve as an initial step towards ISO 14001 certification.

Gene's Plating had volunteered to test an EMS template developed by U.S. EPA as part of the Merit Partnership Metal Finishing EMS Template (MFEMS) project. The Merit Partnership for Pollution Prevention (Merit) is a cooperative venture of the public and private sectors whose mission is to develop and promote pollution prevention practices and technologies that both protect the environment and contribute to economic growth. Merit is conducting a series of pilot projects to evaluate the environmental and economic impacts of ISO 14001-based EMSs in various industries.

EMS Workshop Series

Twelve metal finishing companies in Southern California, including Gene's Plating, registered for a series of participatory workshops learning to develop and implement an MFEMS at their facilities. The workshop series focused on EMS implementation, with monthly sessions devoted to a specific topic, such as pollution prevention, compliance, or environmental performance. Participants applied information learned to their company each month and shared progress with the group through the use of charts and graphs. Three of these companies, including Gene's Plating, failed to complete the six workshops, which were conducted from December 1999 to August 2000.

U.S. EPA sponsored these workshops for interested members of the Southern California Metal Finishing Strategic Goals Program (Strategic Goals Program). The Strategic Goals Program is a voluntary, multi-stakeholder program aimed at improving environmental performance, exceeding compliance, and reducing business and environmental costs at metal finishing facilities. At its core is a set of environmental performance goals for metal finishers and a set of "enabling actions" other stakeholders will undertake to help metal finishers achieve the goals. Members of the Strategic Goals Program include U.S. EPA, Cal/EPA,

local water and air quality regulatory agencies, metal finishing companies, the Metal Finishing Association of Southern California, academics, and non-governmental organizations.

Failure to Implement EMS

Gene's Plating began participating in this series of workshops to implement an environmental management system at their facility in December 1999. Unfortunately, after some initial efforts, the company failed to follow through with EMS implementation, did not complete the workshop series, and did not receive a certificate of completion when the workshop series ended in August 2000.

Lack of EMS Progress

The Cal/EPA EMS Project Director and the Strategic Goals Program Coordinator for US EPA, Region IX, met with the President of Gene's Plating on November 8, 2000 to discuss Gene's failure to make progress in EMS implementation. Cal/EPA advised the management of Gene's Plating that the company would be not be able to continue as a participant with the Cal/EPA EMS Pilot Project unless Gene's Plating was able to commit staff time and resources to EMS implementation. Gene's Plating management assured Cal/EPA later that week that they would make the necessary commitment to implement an EMS.

At the end of November 2000, the Cal/EPA EMS Project Director learned about an enforcement referral to the Los Angeles City Attorney's office from the DTSC. According to the referral letter, Gene's Plating was the subject of a joint investigation by DTSC and the Los Angeles County Fire Department in May 2000. Violations cited included possible illegal disposal of hazardous waste to the street, not minimizing the potential for a release of hazardous waste which could threaten human health or the environment, and hazardous waste container/labeling mismanagement.

Based on the serious nature of the enforcement action and the lack of EMS implementation, Gene's Plating was removed from the Cal/EPA EMS Project. Gene's Plating was notified of their removal from the project by letter dated November 30, 2000.

Current Direction of Metal Finishing Project

Cal/EPA will continue to test an EMS template for small and medium sized metal finishing companies through its work with Artistic Plating. Artistic has committed to provide information consistent with the national research protocols as adopted by the Multi-State Working Group. Data categories include environmental performance, regulatory compliance, use of pollution prevention techniques, continual improvement, employee awareness, involvement of interested parties, EMS design and implementation, and costs and benefits. (See the fourth quarterly report at www.calepa.ca.gov/EMS for a discussion of Artistic Plating's progress in EMS implementation.)

In addition, Cal/EPA will be collecting information about the quality and quantity of public information provided by organizations before and after implementing an EMS. Collection and analysis of this data is an integral part of the Cal/EPA EMS Project.

Unique aspects of the metal finishing project include the development of an industry-specific EMS template, the focus on small and medium sized enterprises, the involvement of the industry association (Metal Finishing Association of Southern California), and the collaboration of U.S. EPA and Cal/EPA on a joint pilot project.

Cal/EPA plans to continue its participation as a member of the Strategic Goals Program. The Strategic Goals Program is a voluntary, multi-stakeholder program aimed at improving environmental performance, exceeding compliance, and reducing business and environmental costs at metal finishing facilities.

Notification of Stakeholders

The Northern and Southern California Working Groups, the managers of the national EMS database at the University of North Carolina, and other interested parties in the Cal/EPA EMS Pilot Project are being notified of the removal of Gene's Plating from the project.

Analysis

Although Gene's Plating expressed interest in developing an EMS, the company did not allocate sufficient staff time, resources and responsibilities to the project. After using the EMS template provided in the U.S. EPA-sponsored EMS workshops to develop some initial objectives and targets, the company did not follow through with the EMS implementation process. The three main objectives and targets Gene's Plating initiated were (1) Reduce nitric purchases by 15%; (2) Reduce non-Resource Conservation and Recovery Act waste to the landfill by 10%; and (3) Reduce chrome usage by 40%. These goals were not met.

Conclusion

Tools such as an EMS template can only work if they are implemented, given sufficient resources for staff time, allocation of responsibility and reinforcement by management. Setting initial objectives and targets without following through with thorough EMS implementation does not yield positive results.

Upcoming activities of the Cal/EPA EMS Project are described below.

Upcoming Activities

The meeting of the Southern California EMS Working Group at Lockheed Martin Aeronautics Company in Palmdale, originally scheduled in November 2000, was postponed until January 2001. Central Marin Sanitation Agency in San Rafael is hosting the February 2001 Northern California EMS Working Group meeting.