



**BOARD OF DIRECTORS
EAST BAY MUNICIPAL UTILITY DISTRICT**

375 – 11th Street, Oakland, CA 94607

Office of the Secretary: (510) 287-0440

**AGENDA
Sustainability/Energy Committee
Tuesday, July 25, 2017
9:00 a.m.
Training Resource Center**

(Committee Members: Directors Young {Chair}, Katz and Linney)

ROLL CALL:

PUBLIC COMMENT: The Board of Directors is limited by State law to providing a brief response, asking questions for clarification, or referring a matter to staff when responding to items that are not listed on the agenda.

DETERMINATION AND DISCUSSION:

1. 2016 Greenhouse Gas Inventory and Mitigation Efforts (Wallis)
2. Integrated Pest Management Program (Wallis)

ADJOURNMENT:

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EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: July 20, 2017

MEMO TO: Board of Directors

THROUGH: Alexander R. Coate, General Manager *ARC*

FROM: Michael J. Wallis, Director of Operations and Maintenance *MJW*

SUBJECT: 2016 Greenhouse Gas Inventory and Mitigation Efforts

INTRODUCTION

District Policy 7.07 – Energy includes the goals to be carbon free for indirect emissions and to achieve a 50 percent reduction in direct emissions compared to 2000 levels by 2040. This memo provides a summary of the District’s 2016 greenhouse gas (GHG) emissions inventory and progress towards the District’s GHG emission goals. These items will be discussed at the July 25, 2017 Sustainability/Energy Committee meeting.

SUMMARY

The District has been tracking and reporting its GHG emissions since 2005. GHG emissions are calculated according to generally accepted protocols. In 2016, the District’s GHG emissions totaled 27,014 Metric Tons of Carbon Dioxide equivalent (MT CO₂^e) which represents a 40.6 percent emitting reduction from year 2000 levels. The District surpassed its 2016 goal for indirect emissions by emitting 10,861 MT CO₂^e less than the goal and did not meet its goal for direct emissions by emitting 358 MT CO₂^e more than the goal. Staff continues to investigate alternatives and implement measures to reduce GHG emissions.

DISCUSSION

There are many factors that affect the District’s GHG emissions and some of those factors are outside the District’s control. GHG emissions are comprised of indirect and direct emissions. The District’s indirect emissions result from the use of electricity and direct emissions result from the combustion of fuel in stationary and mobile equipment. Direct emissions are calculated using the total annual fuel consumption multiplied by an emissions factor (pounds of CO₂/gallon of fuels used) for the specific fuel used (i.e., propane, natural gas, gasoline, or diesel). Indirect emissions are calculated using the annual electrical use multiplied by an emissions factor (pounds of CO₂/kWh) for the specific power sources. The emissions factor is dependent on the fuels used by the electrical utility for generation which may vary from year to year.

GHG Emissions on a Sector-Specific Basis

The District’s GHG emissions inventory can be categorized into five sectors representing major areas of operations. The table below summarizes the 2016 GHG emissions for each of these sectors. In 2016, the Treatment and Distribution sector was the most significant source of GHG emissions for the District. Treatment and Distribution is typically the largest source of GHG emissions primarily due to operation of pumps to move water throughout the system. The exception was in 2015 when the Raw Water sector surpassed Treatment and Distribution due to reduced demands in the water system coupled with pumping operations in the raw water system during the drought period.

| Sector | Direct GHG Emissions (MT) | Indirect GHG Emissions (MT) | Percent of Total |
|--------------------------|---------------------------|-----------------------------|------------------|
| Buildings | 2,408 | 1,229 | 13.5% |
| Fleet | 6,322 | 0 | 23.4% |
| Raw Water | 0 | 2,105 | 8.0% |
| Treatment & Distribution | 295 | 11,635 | 44.0% |
| Wastewater | 619 | 2,402 | 11.1% |
| Total | 9,644 | 17,371 | 100% |

Indirect Emissions Goal

The District’s 2016 indirect emissions were 17,371 MT CO₂^e, which is 10,861 MT CO₂^e less than the District’s 2016 goal of less than 28,232 MT CO₂^e, based on Policy 7.07. As a result of surpassing the indirect emissions goal, the District will not need to purchase tradable renewable energy credits this year.

Direct Emissions Goal

The District’s 2016 direct emissions were 9,644 MT CO₂^e, which exceeds the District’s 2016 direct emissions goal of 9,286 MT CO₂^e by 358 MT CO₂^e or four percent. Staff does not intend to purchase carbon offsets to mitigate the minor direct emissions exceeded in 2016 because in aggregate the combined indirect and direct are far below the 2016 goal.

Staff continues to evaluate new options to reduce direct emissions, including the expansion of a pilot project to use renewable diesel for District vehicles. Renewable diesel is created from fats or vegetable oils refined using the same processes as petroleum-based diesel and has no adverse effect on diesel engines. Chemically identical to traditional diesel, renewable diesel is not biodiesel, but has the advantages of reducing both particulate matter and oxides of nitrogen, while being biogenic (produced by living organisms). In 2016, the District used a total of 54,944 gallons of renewable diesel. It is anticipated that use of renewable diesel will expand after a new local refinery, in Los Angeles, becomes operational and the fuel is available in smaller quantities at a reasonable price.

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EAST BAY MUNICIPAL UTILITY DISTRICT

DATE: July 20, 2017

MEMO TO: Board of Directors

THROUGH: Alexander R. Coate, General Manager *ARC*

FROM: Michael J. Wallis, Director of Operations and Maintenance *MJW*

SUBJECT: Integrated Pest Management Program

INTRODUCTION

The District developed an Integrated Pest Management (IPM) program in the mid-1990s to help solve pest problems while minimizing risks to people and the environment. The program is documented in an IPM Plan that was recently updated and provides guidance for determining the most appropriate pest control methods for a particular application, which may include the use of chemical controls such as pesticides and herbicides. This memo provides a summary of the District's approach to review and enhance its IPM Plan consistent with the Water Quality and Environmental Protection Goal in the District's Strategic Plan. These items will be discussed at the July 25, 2017 Sustainability/Energy Committee meeting.

DISCUSSION

Pests are plants, animals, insects, or other organisms that damage or interfere with ecosystems, people, homes, or infrastructure. IPM is a comprehensive, systems-based approach to pest management with the goal of providing a safe, effective, economical, and sustainable remedy to pest infestations.

The District's IPM program is implemented on watershed lands and rights of way, at operating and administrative facilities, and inside structures. These practices are used by multiple District departments for employee and public safety, infrastructure management, fire suppression, regulatory compliance, flood control, habitat management, and aesthetics.

In August 2016, staff initiated the process of updating the IPM Plan. A November 2016 memo to the Board summarized this effort and a series of public records requests soliciting information about the District's pest management practices and adherence to its IPM program. These requests triggered a more in-depth review of the existing IPM program, an evaluation of compliance with program commitments and renewal of an internal IPM stakeholder workgroup. The workgroup found that the individual work units implementing IPM on a daily basis understand IPM principles, pesticide use regulations, and information required by regulatory agencies. However,

workgroups were working independently which resulted in inconsistent practices. Further, the IPM Committee had not been meeting regularly to evaluate the program for necessary updates.

Following internal review of the Plan and workgroup implementation, the District revised the IPM Plan to:

- Clarify the program structure to identify specific roles and responsibilities for overall program management vs. individual workgroup management
- Require a decision process to select the best remedy for pest management at each site
- Identify a centralized data manager responsible for making sure all required information is collected, complete, reported and stored in a single accessible location
- Initiate standardized public notification signage
- Initiate standardized data collection forms for application events to promote consistency
- Establish a schedule for an IPM Committee to review the IPM Plan and make updates; at minimum setting an annual meeting and with more meetings added as needed
- Require written monitoring reports (also referred to as decision documents) by each work unit performing IPM activities so that management strategies can be reliably evaluated and amended if needed over time
- Expand current IPM training for applicators to include broader IPM principles and methods

NEXT STEPS

Several steps are still required to finalize the IPM Plan update and to ensure the program remains effective, including:

- Engage a third-party expert to conduct a thorough review of the District's IPM Plan and make recommendations for improvement
- Document pests identified, monitoring practices, drivers to take action, and selected management strategies for sites or types of sites
- Develop an electronic data management approach/system to help evaluate the volume and toxicity of pesticides applied
- Engage experts to provide training on implementation of the IPM Plan, processes, and strategies
- Consider an update to District policy regarding pest management and/or use of pesticides

These steps will ensure the District uses an adaptive management approach for preventing and suppressing pests before they reach unacceptable levels.

ARC:MJW:ss