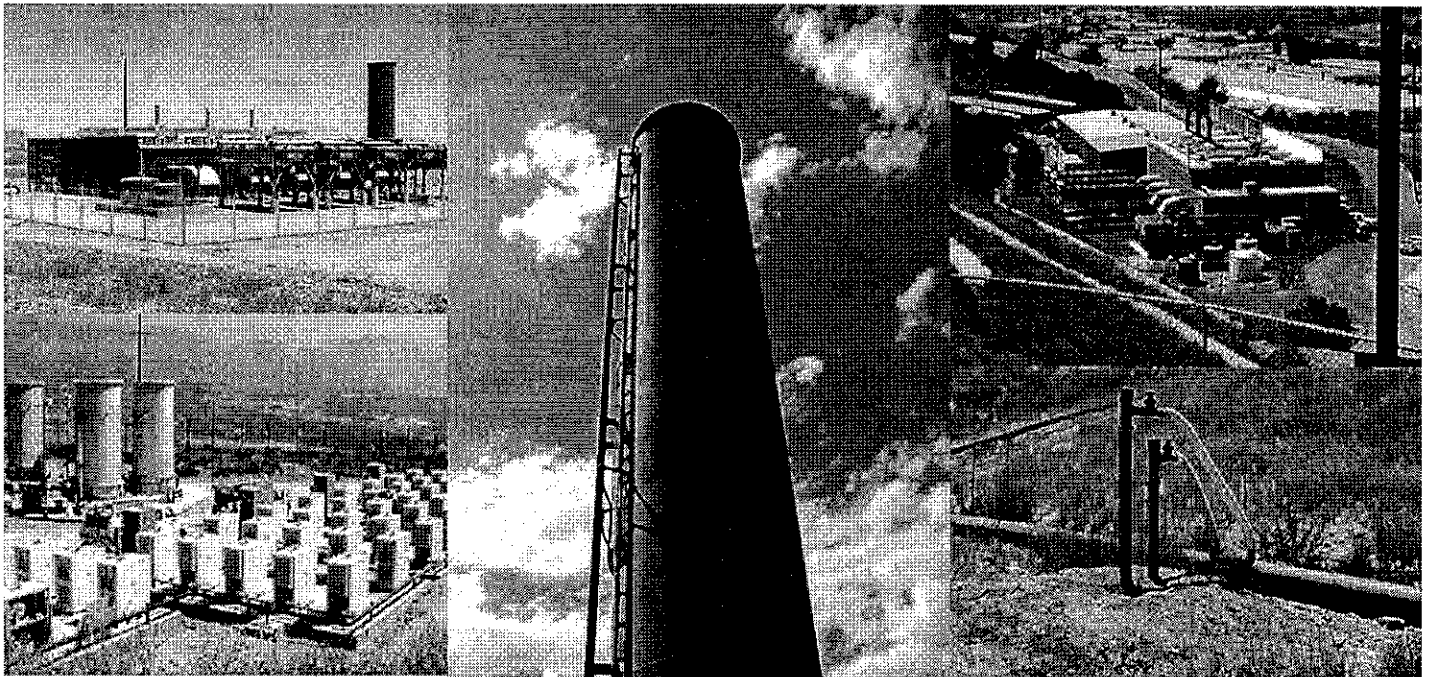




California Environmental Protection Agency

AIR RESOURCES BOARD

**DRAFT
IMPLEMENTATION GUIDANCE DOCUMENT
FOR THE REGULATION TO REDUCE METHANE EMISSIONS
FROM MUNICIPAL SOLID WASTE LANDFILLS**



**Stationary Source Division
Emissions Assessment Branch**

DRAFT – May 2011

[This page is intentionally blank.]

**State of California
AIR RESOURCES BOARD**

**DRAFT IMPLEMENTATION GUIDANCE DOCUMENT
Regulation to Reduce Methane Emissions from
Municipal Solid Waste Landfills**

Principal Authors

Renaldo Crooks
Ziv Lang

Acknowledgements

In appreciation of their assistance in developing this document, we extend our thanks to the Landfill Implementation Workgroup.

DRAFT – May 2011

DRAFT IMPLEMENTATION GUIDANCE DOCUMENT
Regulation to Reduce Methane Emissions from
Municipal Solid Waste Landfills

TABLE OF CONTENTS

<u>Contents</u>	<u>Page</u>
I. Introduction	I-1
A. Purpose of this Document	I-1
B. Background	I-1
C. Organization of this Document	I-6
II. Regulatory Requirements	II-1
A. Applicability and Exemptions	II-1
B. Determination for Installing a Gas Collection and Control System	II-2
C. Gas Collection and Control System Performance, Design, and Operational Requirements	II-6
D. Alternative Compliance Options	II-10
E. Monitoring Requirements and Test Procedures	II-11
F. Recordkeeping and Reporting Requirements	II-15
III. Implementation and Compliance	III-1
A. Agreements with Local Air Districts	III-1
B. Implementation, Enforcement and Related Fees	III-2
C. Penalties	III-3

Appendices

Appendix A: Regulatory Topics of Concern

Appendix B: Regulation to Reduce Methane Emissions from Municipal Solid Waste Landfills

Appendix C: Landfill Methane Control Measure Flow Chart

Appendix D: Example Procedure for Conducting Integrated and Instantaneous Surface Monitoring Simultaneously

Appendix E: Example Report Forms

Appendix F: Landfill Gas Tool

LIST OF TABLES

<u>Title</u>	<u>Page</u>	
Table I-1	Organization of the Regulation to Reduce Methane Emissions From Municipal Solid Waste Landfills	1-2
Table I-2	Comparison of the Major Provisions of the Federal Requirements and Landfill Methane Control Measure	1-3
Table II-1	Determination for Installing a Gas Collection and Control System at Uncontrolled Landfills	II-5
Table II-2	Conditions for Uncontrolled Landfills to be No Longer Subject to the Regulation	II-5
Table II-3	Sample Schedule for Installing a Gas Collection and Control System	II-9
Table II-4	Summary of Monitoring Requirements for Municipal Solid Waste Landfills	II-13
Table II-5	Summary of Recordkeeping Requirements for Municipal Solid Waste Landfills	II-17
Table II-6	Summary of Compliance Reporting Requirements for Municipal Solid Waste Landfills	II-21
Table III-1	Summary of Delayed Compliance Dates	III-2

ACRONYMS

AB 32	Assembly Bill 32, California Global Warming Solutions Act 2006
ARB or Board	Air Resources Board
CFR	Code of Federal Regulations
EG	Emission Guidelines
GHG	Greenhouse Gas
IPCC	Intergovernmental Panel on Climate Change
MMBtu/hr	Million British Thermal Units per hour
MOU	Memorandum of Understanding
MSW	Municipal Solid Waste
NESHAP	National Emission Standards for Hazardous Air Pollutants

ACRONYMS (Cont.)

NMOC	Non-Methane Organic Compounds
NSPS	New Source Performance Standards
ppmv	Parts Per Million by Volume
SWIS	Solid Waste Information System
U.S. EPA	United States Environmental Protection Agency
WIP	Waste-in-Place