

NPDES Compliance Inspection Manual

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**U.S. Environmental Protection Agency
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FOREWORD

The National Pollutant Discharge Elimination System (NPDES) Compliance Inspection Manual has been developed to support personnel that conduct NPDES inspections of wastewater treatment plants, storm water industrial and construction sites, pretreatment facilities, biosolids handling and treatment facilities, Concentrated Animal Feeding Operations (CAFOs), municipal wastewater collection systems (combined and separate from storm water) as well as pollution prevention and multimedia concerns. These procedures are fundamental to the NPDES compliance program and provide inspectors with a method for conducting inspections.

The manual presents standard procedures for inspections. In addition to the manual EPA expects its inspectors to have completed training to develop a good working knowledge of the subject related problems, regulations, control technologies, and Best Management Practices. EPA Order 3500.1, Training and Development for Compliance Inspectors/Field Investigators, establishes the Basic Health and Safety and Program-Specific Curricula for EPA compliance inspectors before they lead or conduct inspections independently. The manual will serve as a reference for the experienced inspector.

Regional and State personnel are encouraged to provide U.S. Environmental Protection Agency (EPA) Headquarters with changes or information that would improve the manual. Comments, information, and suggestions should be addressed to:

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The information contained in this manual is comprehensive and designed to address a wide range of activities. Since each inspection may not involve all activities, the inspector should refer to those parts applicable to the particular inspection.

Manual Organization

The manual is organized into two parts. The first part, covering basic inspection components, consists of seven chapters. The second part includes specific information on different types of inspections.

Basic Inspection Components

- Chapter One, "Introduction," describes the NPDES program and provides general information relating to legal authority and inspector responsibilities.
- Chapter Two, "Inspection Procedures," discusses general procedures common to all NPDES inspections, including pre-inspection preparation, entry, opening conference, documentation, closing conference, and the inspection report.
- Chapters Three through Seven provide the specific technical information necessary to conduct the full range of NPDES compliance inspection activities. Each chapter describes procedures for the major technical activities involved in compliance inspections:
 - Chapter Three, Documentation/Recordkeeping and Reporting
 - Chapter Four, Facility Site Review
 - Chapter Five, Sampling
 - Chapter Six, Flow Measurement
 - Chapter Seven, Laboratory Procedures and Quality Assurance

Specific Information

- Chapter Eight, Toxicity
- Chapter Nine, Pretreatment
- Chapter Ten, Sewage Sludge
- Chapter Eleven, Storm Water
- Chapter Twelve, Combined Sewer Overflows
- Chapter Thirteen, Sanitary Sewer Overflows
- Chapter Fourteen, Pollution Prevention
- Chapter Fifteen, Multi Media Concerns
- Chapter Sixteen, Concentrated Animal Feeding Operations

Within each chapter, tables illustrate the topics discussed in the text. These are located at the end of the chapter subsection in which they are referenced. Additional information and figures are also included in the appendices to the manual. As appropriate, references and checklists are provided at the end of the chapter. The checklists presented in this manual are intended as guidance. They can be used as presented or modified to address the needs of the inspection authority. (More detailed checklists/guidance for any individual inspection type may have also been developed by EPA or State agencies and are presented in the guidance materials specific to that type of inspection.)

It should be noted that the text is written from the perspective of the Federal Clean Water Act requirements. State NPDES inspectors using this manual may find that State rules and procedures on such topics as notice to the permittees vary to some degree from the material found in this manual.



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DISCLAIMER

The purpose of this guidance is to provide inspectors with an in-depth knowledge of the National Pollutant Discharge Elimination System (NPDES) inspection process. Specifically this manual provides information and references on the components necessary to complete the various types of NPDES inspections. Many of the chapters also include checklists. It is important that an inspector not rely solely on the checklist, but use it as one of the tools when conducting an inspection and evaluating compliance. Finally, the mention of trade names, commercial products, or organizations does not imply endorsement by the U.S. Government.



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TABLE OF CONTENTS

Contents	Page
FOREWORD	i
Manual Organization	ii
ACKNOWLEDGMENTS	iv
DISCLAIMER	vii
1. INTRODUCTION	
A. Purpose and Objectives	1-1
B. Legal Authority for NPDES Inspections	1-5
C. Responsibilities of the EPA NPDES Inspector	1-7
D. References	1-15
2. INSPECTION PROCEDURES	
A. Pre-Inspection Preparation	2-1
B. Offsite Surveillance	2-9
C. Entry	2-11
D. Opening Conference	2-15
E. Documentation	2-19
F. Closing Conference	2-29
G. Inspection Report	2-31
3. DOCUMENTATION/RECORDKEEPING AND REPORTING	
A. Inspection Authority and Objectives	3-1
B. Evaluation Procedures	3-3
C. Verification, Recordkeeping, and Reporting Evaluation Checklist	3-11
D. Digitized Video Clip - Records & Reports	(CD-Rom Insert in binder)
4. FACILITY SITE REVIEW	
A. Objectives	4-1
B. Physical Inspection of the Facility	4-3
C. Operation and Maintenance Evaluation	4-17
D. References and Facility Site Review Checklist	4-27
5. SAMPLING	
A. Evaluation of Permittee Sampling Program and Compliance Sampling	5-1
B. Sampling Procedures and Techniques	5-3
C. References and Permittee Sampling Inspection Checklist	5-25
D. Digitized Video Clip - Sampling	(CD-Rom Insert in binder)

6.	FLOW MEASUREMENT	
A.	Evaluation of Permittee's Flow Measurement	6-1
B.	Flow Measurement Compliance	6-5
C.	References and Flow Measurement Inspection Checklist	6-13
D.	Digitized Video Clip – Parshall Flume	(CD-Rom Insert in binder)
7.	LABORATORY PROCEDURES AND QUALITY ASSURANCE	
A.	Objectives and Requirements	7-1
B.	Sample Handling Procedures	7-3
C.	Laboratory Analyses Techniques Evaluation	7-5
D.	Quality Assurance and Quality Control	7-9
E.	References and Laboratory Quality Assurance Checklist	7-16
8.	TOXICITY	
A.	Objectives	8-1
B.	Requirements of WET Testing	8-3
C.	Analysis of Results	8-14
D.	References	8-18
9.	PRETREATMENT	
A.	Review of the General Pretreatment Regulations	9-1
B.	Pretreatment Compliance Inspections (PCIs) and Audits	9-17
C.	References	9-23
10.	SEWAGE SLUDGE (Biosolids)	
A.	Review of the Sewage Sludge (Biosolids) Regulations	10-1
B.	Sludge Inspection Procedures	10-11
C.	References and Checklist	10-35
11.	STORM WATER	
A.	Background and History	11-1
B.	Storm Water Discharges Associated with Industrial Activity (Not Including Construction)	11-7
C.	Storm Water Discharges Associated with Construction Activity	11-19
D.	Storm Water Discharges From Municipal Separate Storm Sewer Systems	11-29
E.	References	11-38
12.	COMBINED SEWER OVERFLOWS	
A.	Background and History of the CSO Policy	12-1
B.	CSO Inspection Procedures	12-5
C.	References and Checklist	12-15
13.	SANITARY SEWER OVERFLOWS	

A.	Overview of SSOs	13-1
B.	SSO Inspection Procedures	13-5
C.	References	13-11
14.	POLLUTION PREVENTION	
A.	Overview of Pollution Prevention	14-1
B.	Pollution Prevention Opportunity Assessment Procedures for Industrial Facilities	14-7
C.	Pollution Prevention Assessment Procedures For Municipal Wastewater Treatment Plants	14-15
D.	References and Checklist	14-19
15.	MULTI MEDIA CONCERNS	
A.	Introduction	15-1
B.	Overview of the Multi Media Approach to Inspections	15-3
C.	Multi Media Concerns at NPDES Facilities and the Multi Media Screening Program	15-5
D.	NPDES Inspectors and Multi Media Inspections	15-9
E.	References and Worksheet	15-13
16.	CONCENTRATED ANIMAL FEEDING OPERATIONS	
A.	Objectives	16-1
B.	CAFO Regulation Overview	16-3
C.	CAFO Inspection Overview	16-30
D.	Multimedia Concerns	16-44
E.	References	16-47
17.	APPEARING AS A WITNESS	
A.	Introduction	17-1
B.	Pre-Testimony Matters	17-1
C.	Giving Testimony	17-3
D.	Special Considerations	17-5
18.	GLOSSARY OF TERMS	
		18-1

APPENDICES

- A. EPA Order 3500.1, Training and Development for Compliance Inspectors/Field Investigators - see website:
“<http://intranet.epa.gov/oeca/oc/campd/inspector/index.html>”
- B. EPA Order 1440.2, Health and Safety Requirements for Employees Engaged in Field Activities - see website:
“<http://intranet.epa.gov/oeca/oc/campd/inspector/index.html>”
- C. Revised Fact Sheet: Safety and Health Requirements for EPA Inspectors
“<http://intranet.epa.gov/oeca/oc/campd/inspector/index.html>”
- D. EPA’s Memorandum on Practices to Follow and Avoid When Requesting Information – “<http://intranet.epa.gov/oeca/oc/campd/inspector/index.html>”
- E. Sample Section 308 Letter
- F. Final Fact Sheet: The Do’s and Don’ts of Using U.S. EPA Credentials
“<http://intranet.epa.gov/oeca/oc/campd/inspector/index.html>”
- G. EPA’s Memorandum on Entry Procedures
“<http://intranet.epa.gov/oeca/oc/campd/inspector/index.html>”
- H. EPA’s Policy on the Use of Digital Cameras for Inspections see website:
“<http://intranet.epa.gov/oeca/oc/campd/inspector/index.html>”
- I. EPA’s Memorandum on Deficiency Notice Guidance
- J. NPDES Compliance Inspection Report Form 3560-3
- K. Sample Discharge Monitoring Report Form
- L. Approved Methods for the Analysis of Sewage Sludge (40 *CFR* Part 503)
- M. Example Chain-of-Custody Form
- N. Updated Fact Sheet: Department of Transportation Hazardous Materials Training see website: “<http://intranet.epa.gov/oeca/oc/campd/inspector/index.html>”
- O. Supplemental Flow Measurement Information

Stormwater Appendices P - X

- P. NPDES Industrial Storm Water Investigation and Case Development Worksheet (Industrial)
- Q. Industrial Source Control BMP Questions
- R. NPDES Industrial Storm Water Investigation and Case Development Worksheet (Construction)
- S. Construction Source Control BMP Questions
- T. Notice of Intent (NOI) Form
- U. Rain Zones of the United States
- V. Typical "C" Coefficients
- W. Notice of Termination (NOT) Form
- X. No Exposure Certification Form
- Y. Media-Specific Inspection Components Excerpted (and updated) from EPA’s *Multi Media Investigation Manual*
- Z. National Multi Media Screening Inspection Worksheet
- AA. Bio-Security Guidance
- BB. NPDES CAFO Permit NMP Nine Minimum Standards Review Checklist
- CC. Integrated Compliance Information System (ICIS) Screen Shots

C-ROM in Binder Cover: NPDES Compliance Inspection Manual with three digitized videos: Records & Reports, Sampling, and Parshall Flume

LIST OF TABLES

Chapter/Table	Page
1. INTRODUCTION	
1-1. NPDES-Related Statutes and Regulations	1-6
1-2. Inspector's Responsibilities	1-9
2. INSPECTION PROCEDURES	
2-1. List of Field Sampling Equipment	2-8
4. FACILITY SITE REVIEW	
4-1. Operation and Maintenance Function Evaluation Questions	4-18
5. SAMPLING	
5-1. Volume of Sample Required for Determination of the Various Constituents of Industrial Wastewater	5-5
5-2. Compositing Methods	5-8
5-3. Required Containers, Preservation Techniques, and Holding Times	5-11
5-4. Quality Control Procedures for Field Analysis and Equipment	5-20
8. TOXICITY	
8-1. Recommended Sampling Strategies for Continuous and Intermittent Discharges for Flow-Through, Static Renewal, and Static Toxicity Tests	8-6
9. PRETREATMENT	
9-1. Summary of the General Pretreatment Regulations	9-10
9-2. Categorical Pretreatment Standards	9-15
10. SEWAGE SLUDGE	
10-1. Records Relevant for Sludge Operations	10-19
10-2. Operating Records for Specific Unit Processes	10-20
10-3. Sludge Sampling Points	10-22
10-4. Recordkeeping Requirements for Class A Pathogen Reduction Alternatives	10-26
10-5. Recordkeeping Requirements for Class B Pathogen Reduction Alternatives	10-28
10-6. Recordkeeping Requirements for Vector Attraction Reduction Sludge Processing Options	10-29
10-7. Sludge Handling Process Evaluation	10-30
10-8. Pollutants Monitored for Land Application, Surface Disposal, and Incineration	10-34

11.	STORM WATER	
11-1.	Summary of Storm Water Permitting Regulations	11-3
11-2.	NPDES Storm Water Permit Application and Issuance Deadlines	11-4
11-3.	Summary of Federal Permit Requirements Under the NPDES Storm Water Program	11-5
11-4.	Important SIC Codes for Storm Water Discharges	11-15
12.	COMBINED SEWER OVERFLOWS	
12-1.	Nine Minimum CSO Controls	12-3
12-2.	Elements of the Long-Term CSO Control Plan	12-3
12-3.	CSO Records	12-10
12-4.	CSO Interview Questions	12-12
13.	SANITARY SEWER OVERFLOWS	
13-1.	Documents to Review	13-10
14.	POLLUTION PREVENTION	
14-1.	Useful Facility Information to Conduct a Pollution Prevention Opportunity Assessment	14-13
16.	CONCENTRATED ANIMAL FEEDING OPERATIONS	
16-1.	Example Factors for Case-by-Case Designation	16-6
16-2.	Thresholds for Cattle (Other than mature dairy cows)	16-7
16-3.	Thresholds for Mature Dairy Cows	16-8
16-4.	Thresholds for Swine (55 pounds or more)	16-8
16-5.	Thresholds for Swine (Less than 55 pounds)	16-8
16-6.	Thresholds for Horses	16-9
16-7.	Thresholds for Sheep or Lambs	16-10
16-8.	Thresholds for Turkey	16-10
16-9.	Thresholds for Chickens (Operations with a liquid manure handling system)	16-11
16-10.	Thresholds for Laying Hens (Operations with other than a liquid manure handling system)	16-12
16-11.	Thresholds for Chickens Other Than Laying Hens (Operations with other than a liquid manure handling system)	16-12
16-12.	Thresholds for Ducks (Operations with a liquid manure handling system)	16-13
16-13.	Thresholds for Ducks (Operations with other than a liquid manure handling system)	16-14
16-14.	Elements of an NPDES Permit	16-15
16-15.	Effluent Limitations Summary	16-17
16-16.	NPDES CAFO Permit Minimum Practices	16-24
16-17.	NPDES Large CAFO Permit Record-Keeping Requirements	16-25

LIST OF FIGURES

Chapter/Figure	Page
4. FACILITY SITE REVIEW	
4-1. General Waste Water Treatment Plant Flow Diagram	4-32
9. PRETREATMENT	
9-1. Approval Authority vs. Control Authority	9-4
10. SEWAGE SLUDGE	
10-1. Sludge Quality Requirements for Land Application Uses	10-7
10-2. Land Applied Sludge Requirements Based on Level of Treatment Achieved	10-8
10-2. Sludge Quality Requirements for Surface Disposal	10-9
11. STORM WATER	
11-1. Industrial Categories Associated With Industrial Activity	11-16
11-2. Site-Specific Industrial Storm Water BMPs	11-18
11-3. Site-Specific Construction Storm Water BMPs	11-27
14. POLLUTION PREVENTION	
14-1. Waste Management Hierarchy	14-5
14-2. Benefits of Pollution Prevention	14-6
14-3. Pollution Prevention Opportunity Assessment	14-12



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LIST OF ABBREVIATIONS

Abbreviation	Full Phrase
AFO	Animal Feeding Operation
APHA	American Public Health Association
API	American Petroleum Institute
APWA	American Public Works Association
ASTM	American Society for Testing and Materials
AWWA	American Water Works Association
AU	Animal Unit
BAT	Best Available Technology Economically Achievable
BCT	Best Conventional Pollutant Control Technology
BMP	Best Management Practice
BMR	Baseline Monitoring Report
BOD	Biochemical Oxygen Demand
BPJ	Best Professional Judgement
BPT	Best Practicable Control Technology Currently Available
CAA	Clean Air Act
CAFO	Concentrated Animal Feeding Operation
CBI	Compliance Biomonitoring Inspection
CBI	Confidential Business Information
CEI	Compliance Evaluation Inspection
CEM	Continuous Emission Monitoring
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CERI	Center for Environmental Research Information
<i>CFR</i>	<i>Code of Federal Regulations</i>
CFSA	Conservation Farm Service Agency
CGP	Construction General Permit
ChV	Chronic Value
CIP	Capital Improvement Project
CIU	Categorical Industrial Users
CMOM	Capacity, Management, Operation, and Maintenance
CNMP	Comprehensive Nutrient Management Plan
COD	Chemical Oxygen Demand
COM	Continuous Opacity Monitoring
CPLR	Cumulative Pollutant Loading Rate
CRC	Cyclic Redundancy Check
CSI	Compliance Sampling Inspection
CSO	Combined Sewer Overflow
CSS	Combined Sewer System
CWA	Clean Water Act
CWAP	Clean Water Action Plan
CWF	Combined Wastestream Formula
CZARA	Coastal Zone Act Reauthorization Amendment
DI	Diagnostic Inspection
DMR	Discharge Monitoring Report
DO	Dissolved Oxygen
DOI	Department of Interior
DOT	Department of Transportation
DSS	Domestic Sewage Study
DWO	Dry Weather Overflow
EC ₅₀	Concentration that causes an effect in 50% of the test organisms

EMS	Emergency Management System
EMSL	Environmental Monitoring Systems Laboratory
EPA	Environmental Protection Agency
EPCRA	Emergency Planning and Community Right to Know Act
EQIP	Environmental Quality Incentive Program
ERP	Enforcement Response Plan
FIFRA	Federal Insecticide, Fungicide, and Rodenticide Act
FINDS	Facility Index System
FOIA	Freedom of Information Act
<i>FR</i>	<i>Federal Register</i>
FY	Fiscal Year
GC	Gas Chromatography
GC/MS	Gas Chromatography/Mass Spectroscopy
GIS	Geographic Information System
GPS	Global Positioning System
HPLC	High Performance Liquid Chromatography
I&I	Inflow/Infiltration
IC ₂₅	Inhibition Concentration
ICDS	Inspection Conclusion Data Sheets
ICIS	Integrated Compliance Information System
ICP	Inductively Coupled Plasma
IATA	International Air Transportation Association
IU	Industrial User
LC	Lethal Concentration
LC	Liquid Chromatography
LC ₅₀	Concentration at which 50% of the test organisms die in a specified time period
LD ₅₀	Dose at which 50% of the test organisms die in a specific time period
LDR	Land Disposal Restrictions
LOEC	Lowest-Observed-Effect-Concentration
LSI	Legal Support Inspection
LTCP	Long-Term Control Plan
LVE	Low Volume Exemption
MCL	Maximum Contaminant Level
MEP	Maximum Extent Practicable
MGD	Million Gallons per Day
MIT	Mechanical Integrity Testing
MLSS	Mixed Liquor Suspended Solids
MPN	Most Probable Number
MS4	Municipal Separate Storm Sewer System
MSGP	Multi-Sector General Permit
MSSCC	Maryland State Soil Conservation Committee
MSWLF	Municipal Solid Waste Landfill
MWCOG	Metropolitan Washington Council of Governments
MWPP	Municipal Water Pollution Prevention
N/A	Not Applicable
NAAQS	National Ambient Air Quality Standards
NEIC	National Enforcement Investigation Center
NESHAPS	National Emission Standards for Hazardous Air Pollutants
NHPA	National Historic Preservation Act
NIOSH	National Institute for Occupational Safety and Health
NIST	National Institute of Standards and Technology
NITS	National Institute of Technology and Standardization

NOAA	National Oceanic and Atmospheric Administration
NOC	Notice of Commencement
NOEC	No Observable Effect Concentration
NOI	Notice of Intent
NOT	Notice of Termination
NPDES	National Pollutant Discharge Elimination System
NPS	Nonpoint Source
NRCS	Natural Resources Conservation Service
NRDC	Natural Resources Defense Council
NSPS	New Source Performance Standards
NURP	National Urban Runoff Program
O&M	Operations and Maintenance
OECA	Office of Enforcement and Compliance Assurance
OSHA	Occupational Safety and Health Administration
PAI	Performance Audit Inspection
PC	Pollutant Concentration
PCB	Polychlorinated Biphenyl
PCI	Pretreatment Compliance Inspection
PCS	Permit Compliance System
PFRP	Processes to Further Reduce Pathogens
PIES	Pollution Information Exchange System
PIRT	Pretreatment Implementation Review Task Force
PL	Public Law
PMN	Premanufacture Notification
POTW	Publicly Owned Treatment Works
PPE	Personal Protective Equipment
PPETS	Pretreatment Permits and Enforcement Tracking System
PPIC	Pollution Prevention Information Clearinghouse
PQL	Practical Quantification Limit
PRRS	Porcine Reproductive and Respiratory Syndrome
PSD	Prevention of Significant Deterioration
PSRP	Processes to Significantly Reduce Pathogens
QA	Quality Assurance
QC	Quality Control
QNCR	Quarterly Noncompliance Report
R&D	Research and Development
RBC	Rotating Biological Contactor
RCRA	Resource Conservation and Recovery Act
RI	Reconnaissance Inspection
RMP	Risk Management Plan

RNC	Reportable Noncompliance
SARA	Superfund Amendments and Reauthorization Act
SCADA	Supervisory Control and Data Acquisition
SCP	Slug Control Plan
SDWA	Safe Drinking Water Act
SFL	Sheet Flow
SHPO	State Historic Preservation Officer
SIC	Standard Industrial Classification
SIP	State Implementation Plan
SIU	Significant Industrial User
SMCRA	Surface Mining Control and Reclamation Act
SNC	Significant Noncompliance
SNUR	Significant New Use Rule
SOUR	Specific Oxygen Uptake Rate
SPCC	Spill Prevention Control and Countermeasure Plan
SS	Suspended Solids
SSO	Sanitary Sewer Overflow
SU	Standard Unit
SW-846	Standard Methods for Evaluating Solid Waste Physical/Chemical Methods
SWPPP	Storm Water Pollution Prevention Plan
TCLP	Toxicity Characteristic Leaching Procedure
TDDP	Treatment, Destruction, and Disposal Facility
THPO	Tribal Historic Preservation Officer
TIE	Toxicity Identification Evaluation
TKN	Total Kjeldahl Nitrogen
TMDL	Total Maximum Daily Load
TME	Test Marketing Exemption
TOC	Total Organic Carbon
TRC	Total Residual Chlorine
TRE	Toxicity Reduction Evaluation
TS	Total Solids
TSCA	Toxic Substances Control Act
TSDF	Treatment, Storage, and Disposal Facility
TSS	Total Suspended Solids
TU	Toxicity Unit
Tu _a	Acute Toxic Unit
Tu _c	Chronic Toxic Unit
TVS	Total Volatile Solids
UA	Urbanized Area
UAA	Use Attainability Analysis
UIC	Underground Inspection Control
USC	United States Code
USDA	United States Department of Agriculture
USDI	United States Department of Interior
USDW	Underground Source of Drinking Water
USEPA	United States Environmental Protection Agency
USGS	United States Geological Survey

UST	Underground Storage Tank
VEO	Visible Emission Observation
VOC	Volatile Organic Compound
WEF	Water Environment Federation
WENDB	Water Enforcement Data Base
WET	Whole Effluent Toxicity
WLA	Wastesload Allocation
WPCF	Water Pollution Control Federation
WQA	Water Quality Act
WQBEL	Water Quality-Based Effluent Limit
WQS	Water Quality Standards
WRATT	Waste Reduction Assessment and Technology Transfer
WWTP	Wastewater Treatment Plant
XSI	Toxics Sampling Inspection
ZID	Zone of Dilution



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