A04-0012

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MONSANTO COMPANY
AGRICULTURAL CENTER
P.O. BOX 174
LULING, LOUISIANA 70070
PHONE: (504) 785-8211

September 28, 2000

VIA FEDERAL EXPRESS

The Performance Track Information Center
c/o Industrial Economics Incorporated
2067 Massachusetts Avenue
Cambridge, MA 02140

RE: National Environmental Achievement Track Application Submittal
Monsanto Company
Luling, LA

Monsanto Company operates an integrated chemical manufacturing facility in Luling, LA. The facility's products include Roundup® herbicide, Acetaminophen analgesic, and ACL® water treatment chemical. Properly protecting the environmental is a top tier value in our manufacturing operations at Luling. Accordingly, we are pleased to submit the enclosed application for your consideration for charter membership in EPA's National Environmental Achievement Track.

In completing this application, we have selected four (rather than the required two) previous environmental aspect improvements. These improvements are significant not only due to their size, but also because they are all the result of an innovative, new process technology for a key manufacturing process initiated at Luling in late December 1998. In the nearly two years that we have operated this facility, we have found that it has surpassed our expectations in improving these (and other) environmental aspects. Furthermore, we believe opportunities exist to further enhance these improvements and are diligently pursuing them.

While we could include these further enhancements as our commitments to future improvements, we have decided at this time to select four other items which are unrelated to this process. We believe that this approach illustrates that top environmental performance is widely valued at our facility, rather than being limited to one operating unit. The four environmental aspect improvements that we have selected for the application are:

- Revising caustic dilution system – This project will reduce water used for this purpose by about 50%; at current rates this translates to a reduction of about 38,000,000 gallons per year.

- Revising wastewater pH control system – This project will reduce caustic used for this purpose by about 14%; at current rates this translates to a reduction of nearly 1,000,000 lbs per year.

- Optimizing reactor operations in one of our processes – This project will reduce usage of raw materials by 0.7%; at current rates this translates to a reduction of about 2,000,000 lbs per year.

  Beneficially applying waste solids generated in our biological wastewater treatment system to land onsite – At current rates, this project will eliminate the off-site disposal of solid waste by about 2,000 dry tons per year.

In addition to the application, we are enclosing a completed "Environmental Requirements Checklist", and a supplemental information document. The purpose of this latter document is to illustrate the breadth and depth of our commitment to environmental performance at the Luling Plant.

In closing, let me reiterate what a pleasure it is to have an opportunity to participate in a program of this nature. I applaud EPA for developing a program designed to reward the top performing organizations. Furthermore, I think this program is significant in that it shows that EPA and industry can effectively work together to meet our common goal of preserving and protecting our environmental resources. Thank you for your consideration of our application, and we look forward to learning of the National Environmental Stewardship Track as it is developed.

Sincerely,

Ron C. Cooley

Ron Cooley
Plant Manager

cc: Mr. Hugh Finklea, LDEQ
Ms. Mary desBordes, St. Charles Parish Library
Mr. Tab Troxler, St. Charles Parish LEPC

A06-0012

National Environmental Achievement Track

Application Form

Monsanto Company - Luling, LA Facility
Name of facility

Monsanto Company
Name of parent company (if any)

12501 River Road

Street address (continued)

Luling, LA 70070
City/State/Zip code

Give us information about your contact person for the National Environmental Achievement Track Program.

Name William C. Rhodes, P.E.

Manufacturing Technologist

(504) 785-3866

Fax (504) 785-3346

E-mail william.c.rhodes@monsanto.com

Section A

Tell us about your facility.

Why do we need this information?

EPA needs background information on your facility to evaluate your application.

What do you need to do?

- Provide background information on your facility.
- Identify your environmental requirements.

1 What do you do or make at your facility?

We manufacture Roundup® herbicide, Acetaminophen analgesic, and ACL® water treatment chemical

2 List the Standard Industrial Classification (SIC) code(s) or North American Industrial Classification System (NAICS) codes that you use to classify business at your facility.

SIC
2869 2879 2819

NAICS

3 Does your company meet the Small Business Administration definition of a small business for your sector?

☐ Yes ☒ No

4 How many employees (full-time equivalents) currently work at your facility?

☐ Fewer than 50

☐ 50-99

☐ 100-499

☒ 500-1,000

☐ More than 1,000

5 Does your facility have an EPA ID number(s)? If yes, list in the right-hand column.	☒ Yes ☐ No LAD001700756; LAD985170851
6 Identify the environmental requirements that apply to your facility. Use the Environmental Requirements Checklist, at the back of the instructions, as a reference. List your requirements to the right ***or*** enclose a completed Checklist with your application.	Please refer to the attached Environmental Requirements Checklist for this information.
7 Check the appropriate box in the right-hand column.	☐ I've listed the requirements above. ☒ I've enclosed the Checklist with my application.
8 Optional: Is there anything else you would like to tell us about your facility?	Yes. Please refer to the attached document entitled "Supplemental Information to National Achievement Track Application Monsanto Company - Luling, LA"

Section B

Tell us about your EMS.

Why do we need this information?

Facilities must have an operating Environmental Management System (EMS) that meets certain requirements.

What do you need to do?

- Confirm that your EMS meets the Achievement Track requirements.
- Tell us if you have completed a self-assessment or have had a third-party assessment of your EMS.

1 Check *yes* if your EMS meets the requirements for each element below as defined in the instructions.

a. Environmental policy ☒ Yes

b. Planning ☒ Yes

c. Implementation and operation ☒ Yes

d. Checking and corrective action ☒ Yes

e. Management review ☒ Yes

2 Have you completed at least one EMS cycle (plan-do-check-act)? ☒ Yes

3 Did this cycle include both an EMS and a compliance audit? ☒ Yes

4 Have you completed an objective self-assessment or third-party assessment of your EMS? ☒ Yes

If yes, what method of EMS assessment did you use?

☒ Self-assessment

☐ GEMI ☒ Other

☐ CEMP Worked with a consultant to develop, implement and track the EMS process.

☒ Third-party assessment

☐ ISO 14001 Certification

☒ Other Custom EMS plans based on the individual company needs.

Section C

Tell us about your past achievements and future commitments.

Why do we need this information?

Facilities must show that they are committed to improving their environmental performance. This means that you can describe past achievements and will make future commitments.

What do you need to do?

Refer to the Environmental Performance Table in the instructions to answer questions 1 and 2.

1 Describe your past achievements for at least two environmental aspects. If you need more space than is provided, attach copies of this page.

Note to small facilities: If you qualify as a small facility as defined in the instructions, you are required to report past achievement for at least one environmental aspect.

First aspect you've selected

What aspect have you selected?	What was the previous level (2 years ago)?		What is the current level?	
	Quantity	Units	Quantity	Units
Energy Use - Glyphosate Production	11,218	BTU/lb Production	7,340	BTU/lb Production

i. How is the current level an improvement over the previous level?

This represents a reduction of 3,878 BTU/lb Production, or an improvement of 35% in this operating unit. At current rates this yields a reduction of about 300,000 Million BTU/yr.

ii. How did you achieve this improvement?

We achieved this improvement through a revised manufacturing process technology.

Second aspect you've selected

What aspect have you selected?	What was the previous level (2 years ago)?		What is the current level?	
	Quantity	Units	Quantity	Units
Water Use	4.11	gallons/lb Production	1.41	gallons/lb Production

i. How is the current level an improvement over the previous level?

This represents a reduction of 2.7 gallons/lb Production, or an improvement of 66% in this operating unit. At current rates this yields a reduction of about 200,000,000 gallons/yr.

ii. How did you achieve this improvement?

We achieved this improvement through a revised manufacturing process technology.

Third aspect you've selected

What aspect have you selected?	What was the previous level (2 years ago)?		What is the current level?	
	Quantity	Units	Quantity	Units
Emissions of NOx - Glyphosate Production	0.55	tons/Mlb Production	0.36	tons/Mlb Production

i. How is the current level an improvement over the previous level?

This represents a reduction of 0.19 tons/Mlb Production, or an improvement of 35% in this operating unit. (Please note that Mlb = Million lbs). At current rates this yields a reduction of about 14 tons/yr.

ii. How did you achieve this improvement?

We achieved this improvement through a revised manufacturing process technology.

Fourth aspect you've selected

What aspect have you selected?	What was the previous level (2 years ago)?		What is the current level?	
	Quantity	Units	Quantity	Units
Emissions of Greenhouse Gases	712	tons/Mlbs Production	466	tons/Mlbs Production

i. How is the current level an improvement over the previous level?

This represents a reduction of 246 tons/Mlbs Production, or an improvement of 35% in this operating unit. At current rates this yields a reduction of about 19,000 tons/yr.

ii. How did you achieve this improvement?

We achieved this improvement through a revised manufacturing process technology.

2 Select at least four environmental aspects (no more than two from any one category) from the Environmental Performance Table in the instructions and then tell us about your future commitments. If you need more space than is provided, attach copies of this section.

Note to small facilities: If you are a small facility, you are required to make commitments for at least two environmental aspects in two different categories.

First aspect you've selected

a. What is the aspect? Water Use

b. Is this aspect identified as significant in your EMS? ☒ Yes ☐ No

c. What is the current level? You may choose to state this as an absolute value or in terms of units of production or output.

☐ Option A: Absolute value (Quantity/Units)

☒ Option B: In terms of units of production or output 0.338 gallons/lb NaOH (Quantity/Units)

d. What is the improvement you are committing to over the next three years? You may choose to state this as an absolute value or in terms of units of production or output.

☐ Option A:
Absolute value
(Quantity/Units)

☒ Option B:
In terms of units of production or output
0.175 gallons/lb NaOH
(Quantity/Units)

e. How will you achieve this improvement?

We receive NaOH at a concentration of 50% and dilute it to 21% for use in one of our manufacturing processes. We will make modifications which will allow us to increase this concentration to 30%, thus decreasing the amount of dilution water required.

Second aspect you've selected

a. What is the aspect?

Hazardous Materials Use

b. Is this aspect identified as significant in your EMS?

☒ Yes ☐ No

c. What is the current level? You may choose to state this as an absolute value or in terms of units of production or output.

☐ Option A:
Absolute value
(Quantity/Units)

☒ Option B:
In terms of units of production or output
10,195 lbs NaOH/Mgal Biosystem Feed
(Quantity/Units)

d. What is the improvement you are committing to over the next three years? You may choose to state this as an absolute value or in terms of units of production or output.

☐ Option A:
Absolute value
(Quantity/Units)

☒ Option B:
In terms of units of production or output
1,402 lbs NaOH/Mgal Biosystem Feed
(Quantity/Units)

e. How will you achieve this improvement?

We will achieve this improvement through a modification to our pH control system in our biological wastewater treatment facility.

Third aspect you've selected

a. What is the aspect?

Total Materials Use

b. Is this aspect identified as significant in your EMS?

☒ Yes ☐ No

c. What is the current level? You may choose to state this as an absolute value or in terms of units of production or output.

☐ Option A: Absolute value

(Quantity/Units)

☒ Option B: In terms of units of production or output

0.632 lbs raw material/lb DSIDA Produced
(Quantity/Units)

d. What is the improvement you are committing to over the next three years? You may choose to state this as an absolute value or in terms of units of production or output.

☐ Option A: Absolute value

(Quantity/Units)

☒ Option B: In terms of units of production or output

0.0045 lbs raw material/lb DSIDA Produced
(Quantity/Units)

e. How will you achieve this improvement?

We will achieve this improvement through process optimizations.

Fourth aspect you've selected

a. What is the aspect?

Total Solid Waste

b. Is this aspect identified as significant in your EMS?

☒ Yes ☐ No

c. What is the current level? You may choose to state this as an absolute value or in terms of units of production or output.

☒ Option A: Absolute value

2,000 dry tons biosolids/yr
(Quantity/Units)

☐ Option B: In terms of units of production or output

(Quantity/Units)

d. What is the improvement you are committing to over the next three years? You may choose to state this as an absolute value or in terms of units of production or output.

☒ Option A: Absolute value

2,000 dry tons biosolids/yr
(Quantity/Units)

☐ Option B: In terms of units of production or output

(Quantity/Units)

e. How will you achieve this improvement?

We will achieve this improvement by beneficially applying our biological wastewater treatment facility's waste solids to land onsite, rather than shipping it off-site for landfarm disposal.

Section D

Tell us about your public outreach and reporting.

Why do we need this information?

Facilities must demonstrate their commitment to public outreach and performance reporting. You should have appropriate mechanisms in place to identify community concerns, to communicate with the public, and to provide information on your environmental performance.

What do you need to do?

- Describe your approach to public outreach.
- List three references who are familiar with your facility.

1 How do you identify and respond to community concerns?

Please refer to the attached document entitled "Supplemental Information to National Achievement Track Application Monsanto Company - Luling, LA" for this information.

2 How do you inform community members of important matters that affect them?

Please refer to the attached document entitled "Supplemental Information to National Achievement Track Application Monsanto Company - Luling, LA" for this information.

3 How will you make the Achievement Track Annual Performance Report available to the public?

☐ Website www.

☐ Newspaper

☐ Open Houses

☒ Other

We will share this information with our Community Advisory Panel, and will evaluate further publicity means in the future.

4 Are there any ongoing citizen suits against your facility? ☒ Yes ☐ No

If yes, describe briefly in the right-hand column.

A class action lawsuit has been filed pertaining to a release of acetic acid / acetic anhydride on May 4, 2000.

5 List references below

	Organization	*Name*	*Phone number*
Representative of a Community/ Citizen Group	St. Charles Parish Library, Director	Ms. Mary desBordes	(504) 785-8464
State/Local Regulator	LDEQ, Louisiana Environmental Leadership Program Director	Mr. Hugh Finklea	225-927-0816
Other community/local reference	St. Charles Parish Department of Emergency Preparedness (LEPC), Director	Mr. Tab Troxler	(504) 783-5050

Section E

Application and Participation Statement.

On behalf of Monsanto Company Luling, LA
[my facility],

I certify that

I have read and agree to the terms and conditions, as specified in the *National Environmental Achievement Track Program Description* and in the *Application Instructions*;

I have personally examined and am familiar with the information contained in this Application (including, if attached, the Environmental Requirements Checklist). The information contained in this Application is, to the best of my knowledge and based on reasonable inquiry, true, accurate, and complete, and I have no reason to believe the facility would not meet all program requirements;

My facility has an environmental management system (EMS), as defined in the Achievement Track EMS requirements, including systems to maintain compliance with all applicable federal, state, tribal, and local environmental requirements, in place at the facility, and the EMS will be maintained for the duration of the facility's participation in the program;

My facility has conducted an objective assessment of its compliance with all applicable federal, state, tribal, and local environmental requirements, and the facility has corrected all identified instances of potential or actual noncompliance;

Based on the foregoing compliance assessment and subsequent corrective actions (if any were necessary), my facility is, to the best of my knowledge and based on reasonable inquiry, currently in compliance with applicable federal, state, tribal, and local environmental requirements.

I agree that EPA's decision whether to accept participants into or remove them from the National Environmental Achievement Track is wholly discretionary, and I waive any right that may exist under any law to challenge EPA's acceptance or removal decision.

I am the senior facility manager and fully authorized to execute this statement on behalf of the corporation or other legal entity whose facility is applying to this program.

Signature/Date Ron C. Cooley 9/28/00

Printed Name/Title Mr. Ron C. Cooley, Plant Manager

Facility Name Monsanto Company, Luling, LA

Facility Street Address 12501 River Road; Luling, LA 70070

Facility ID Numbers LAD001700756; LAD985170851

The National Environmental Performance Track is a U.S. Environmental Protection Agency program. Please direct inquiries to 1-888-339-PTRK or e-mail ptrack@indecon.com. Mail completed applications to:

The Performance Track Information Center
c/o Industrial Economics Incorporated
2067 Massachusetts Avenue
Cambridge, MA 02140

National Environmental Achievement Track

Environmental Requirements Checklist

The following Checklist is provided to assist facilities in answering Section A, "Tell us about your facility," Question 6. The Checklist is given to help facilities identify the major federal, state, tribal, and local environmental requirements applicable at their facilities. The Checklist is not intended to be an exhaustive list of all environmental requirements that may be applicable at an individual facility.

If you use this Checklist and choose to submit it with your application, fill in your facility information below and enclose the completed Checklist with your application (see instructions).

Facility Name Monsanto Company
Facility Location: Luling, LA
Facility ID Number(s): LAD001700756, LAD985170851
(attach additional sheets if necessary)

	Check All That Apply
Air Pollution Regulations	
1. National Emission Standards for Hazardous Air Pollutants (40 CFR 61)	☒
2. Permits and Registration of Air Pollution Sources	☒
3. General Emission Standards, Prohibitions and Restrictions	☒
4. Control of Incinerators	☒
5. Process Industry Emission Standards	☒
6. Control of Fuel Burning Equipment	☒
7. Control of VOCs	☒
8. Sampling, Testing and Reporting	☒
9. Visible Emissions Standards	☒
10. Control of Fugitive Dust	☐
11. Toxic Air Pollutants Control	☒
12. Vehicle Emissions Inspections and Testing	☐
Other Federal, State, Tribal or Local Air Pollution Regulations Not Listed Above (identify)	
13. Chemical Accident Prevention Provisions (40 CFR 68)	☒
14. Stratospheric Ozone Protection (40 CFR 82)	☒
Hazardous Waste Management Regulations	
1. Identification and Listing of Hazardous Waste (40 CFR 261)	
- Characteristic Waste	☒
- Listed Waste	☒
2. Standards Applicable to Generators of Hazardous Waste (40 CFR 262)	
- Manifesting	☒

- Pre-transport requirements ☒
- Record keeping/reporting ☒

3. Standards Applicable to Transporters of Hazardous Waste (40 CFR 263)
   - Transfer facility requirements ☐
   - Manifest system and record-keeping ☐
   - Hazardous waste discharges ☐
4. Standards for Owners and Operators of TSD Facilities (40 CFR 264)
   - General facility standards ☐
   - Preparedness and prevention ☐
   - Contingency plan and emergency procedures ☐
   - Manifest system, Record keeping and reporting ☐
   - Groundwater protection ☐
   - Financial requirements ☐
   - Use and management of containers ☐
   - Tanks ☐
   - Waste piles ☐
   - Land treatment ☐
   - Incinerators ☐
5. Interim Status Standards for TSD Owners and Operators (40 CFR 265) ☐
6. Interim Standards for Owners and Operators of New Hazardous Waste Land Disposal Facilities (40 CFR 267) ☐
7. Administered Permit Program (Part B) (40 CFR 270) ☐

Other Federal, State, Tribal or Local Hazardous Waste Management Regulations Not Listed Above (identify)

8.
9.

Hazardous Materials Management

1. Control of Pollution by Oil and Hazardous Substances (33 CFR 153)
2. Designation of Reportable Quantities and Notification of Hazardous Materials Spill (40 CFR 302)
3. Hazardous Materials Transportation Regulations (49 CFR 172-173) ☒
4. Worker Right-to-Know Regulations (29 CFR 1910.1200) ☒
5. Community Right-to-Know Regulations (40 CFR 350-372) ☒

Other Federal, State, Tribal or Local Hazardous Materials Management Regulations Not Listed Above (identify)

6. LA State Police Emergency Response Commission ☒
7. LA Dept. of Health and Hospitals R.S. 30:2273 ☒

Solid Waste Management

1. Criteria for Classification of Solid Waste Disposal Facilities and Practices (40 CFR 257) ☒
2. Permit Requirements for Solid Waste Disposal Facilities ☒
3. Installation of Systems of Refuse Disposal ☐

4. Solid Waste Storage and Removal Requirements ☒
5. Disposal Requirements for Special Wastes ☒

Other Federal, State, Tribal or Local Solid Waste Management Regulations Not Listed Above (identify)

6. ☐
7. ☐

Water Pollution Control Requirements

1. Oil Spill Prevention Control and Countermeasures (SPCC) (40 CFR 112) ☒
2. Designation of Hazardous Substances (40 CFR 116) ☒
3. Determination of Reportable Quantities for Hazardous Substances (40 CFR 117) ☒
4. NPDES Permit Requirements (40 CFR 122) ☒
5. Toxic Pollutant Effluent Standards (40 CFR 129) ☒
6. General Pretreatment Regulations for Existing and New Sources (40 CFR 403) ☐
7. Organic Chemicals Manufacturing Point Source Effluent Guidelines and Standards (40 CFR 414)
8. Inorganic Chemicals Manufacturing Point Source Effluent Guidelines and Standards (40 CFR 415)
9. Plastics and Synthetics Point Source Effluent Guidelines and Standards (40 CFR 416)
10. Water Quality Standards ☒
11. Effluent Limitations for Direct Dischargers ☒
12. Permit Monitoring/Reporting Requirements ☒
13. Classifications and Certifications of Operators and Superintendents of Industrial Wastewater Plants ☐
14. Collection, Handling, Processing of Sewage Sludge ☐
15. Oil Discharge Containment, Control and Cleanup ☐
16. Standards Applicable to Indirect Discharges (Pretreatment) ☐

Other Federal, State, Tribal or Local Water Pollution Control Regulations Not Listed Above (identify)

17. Pesticide Chemicals Effluent Guidelines and Standards (40 CFR 455) ☒
18. Pharmaceutical Manufacturing Point Source Effluent Guidelines and Standards (40 CFR 439) ☒

Drinking Water Regulations

1. Underground Injection and Control Regulations, Crieria and Standards (40 CFR 144, 146) ☒
2. National Primary Drinking Water Standards (40 CFR 141) ☐
3. Community Water Systems, Monitoring and Reporting Requirements (40 CFR 141) ☐
4. Permit Requirements for Appropriation/Use of Water from Surface or Subsurface Sources ☐

5. Underground Injection Control Requirements
6. Monitoring, Reporting and Record keeping Requirements for Community Water Systems

Other Federal, State, Tribal or Local Drinking Water Regulations Not Listed Above(identify)

7. LA Department of Natural Resources (LAC 43:XVII) ☒
8. ☐

Toxic Substances

1. Manufacture and Import of Chemicals, Record keeping and Reporting Requirements (40 CFR 704)
2. Import and Export of Chemicals (40 CFR 707) ☒
3. Chemical Substances Inventory Reporting Requirements (40 CFR 710) ☒
4. Chemical Information Rules (40 CFR 712) ☒
5. Health and Safety Data Reporting (40 CFR 716) ☒
6. Pre-Manufacture Notifications (40 CFR 720) ☒
7. PCB Distribution Use, Storage and Disposal (40 CFR 761) ☐
8. Regulations on Use of Fully Halogenated Chlorofluoroalkanes (40 CFR 762) ☐
9. Storage and Disposal of Waste Material Containing TCDD (40 CFR 775) ☐

Other Federal, State, Tribal or Local Toxic Substances Regulations Not Listed Above (identify)

10. ☐
11. ☐

Pesticide Regulations

1. FIFRA Pesticide Use Classification (40 CFR 162) ☐
2. Procedures for Disposal and Storage of Pesticides and Containers (40 CFR 165) ☒
3. Certification of Pesticide Applications (40 CFR 171) ☐
4. Pesticide Licensing Requirements ☐
5. Labeling of Pesticides ☒
6. Pesticide Sales, Permits, Records, Application and Disposal Requirements ☐
7. Disposal of Pesticide Containers ☒
8. Restricted Use and Prohibited Pesticides ☐

Other Federal, State, Tribal or Local Pesticides Regulations Not Listed Above (identify)

9. Pesticide Registration and Classification Procedures (40 CFR 157)
10. Registration of Pesticide and Active Ingredient Producing Establishments (40 CFR 167)

Environmental Clean-Up, Restoration, Corrective Action

1. Comprehensive Environmental Response, Compensation and Liability Act (Superfund) (identify)

2. RCRA Corrective Action (identify)
   RCRA Permit LAD000170756PCO1 ☒
   RCRA Permit LAD000170756PC02 ☒

   Other Federal, State, Tribal or Local Environmental Clean-Up, Restoration, Corrective Action Regulations Not Listed Above (identify)
3.
4.

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Supplemental Information to
National Environmental Achievement Track Application
Monsanto Company – Luling, LA

Introduction

In response to Question 8, Section A of the National Environmental Achievement Track application, the Monsanto Luling Plant offers the following supplemental information. This information is intended to illustrate Monsanto's extensive commitment to environmental performance – both in terms of meeting and/or exceeding regulatory requirements and in terms of sustainable manufacturing processes.

To effectively provide this information, the document is divided into the following main sections:

- A description of our Environmental Management System (EMS);
- A summary of our Pollution Prevention Program and examples of significant projects;
- A partial listing of external awards; and
- A description of our public outreach efforts.

Additionally, we have attached the following items to this document to further illustrate this information:

- The Monsanto Luling Plant Environmental, Safety & Health (ESH) Compliance Policy;
- The Monsanto (Corporate) ESH Manual Table of Contents;
- The Monsanto (Corporate) ESH Vision and Guiding Principles document; and
- The Monsanto Luling Plant EMS Matrix.

Environmental Management System

The Monsanto Luling plant has had most elements of a comprehensive EMS in place for several years. However, a concerted effort to fill any potential gaps in this system was initiated in 1992. At that time, Monsanto at a corporate level undertook an exhaustive EMS benchmarking effort, and from that created a "world-class" environmental compliance process. From this process, individual Monsanto facilities were provided the opportunity to develop site-specific procedures and practices to help ensure compliance with both existing and new external and internal environmental requirements. This compliance "redesign" process contains the following major elements:

- Issue screening;
- Issue translation;
- Issue implementation;

- Document management;
- Information tracking;
- Sharing lessons learned;
- Training; and
- Auditing.

The Monsanto Luling plant utilized this process to enhance its EMS beginning in 1994. The foundation of the EMS is a written policy approved by the plant manager, a copy of which is provided as Attachment 1 to this document. The fundamental premise of both this policy and the entire "redesign" effort is that the responsibility for compliance rests with the individuals actually conducting the compliance activities. Specifically, it is the plant's operators who actually achieve compliance with the facility's permits and applicable regulations, while the Environmental Department can only design a system which makes this compliance effort easier for them.

Upon this basis, an EMS was formally defined and documented for the Monsanto Luling Plant. This EMS has been revised since its initial issuance as we have further refined our approach in meeting the challenges associated with attaining sustained compliance. To illustrate the robust nature of the enhanced EMS implemented at the Monsanto Luling Plant, we offer the following examples of the system:

- Detailed Compliance Documents – These documents fully explain our compliance requirements, and how we meet them, for a particular issue area. Examples include the Air Permit Compliance Standards, in which a unique document is provided for each of the facility's 18 operating units.

- Waste Management Tools – These consist of three distinct components: a guidance document outlining all aspects of waste management, waste job-specific guidance documents, and a relational database to effectively manage this information.

- Environmental Compliance Guides – These unit-specific documents provide a general summary of each unit's compliance requirements, and is intended to provide a broad understanding of all of the environmental compliance requirements applicable to that unit.

- Environmental Fact Sheets – These unit-specific documents provide a quick list (in bullet form) of each unit's routine environmental compliance requirements. By consistently completing all of the items listed in this document, unit personnel can be assured that they are fulfilling all of their routine environmental compliance requirements.

- Environmental Web Page – All of the above compliance tools, as well as other related information, are provided on a web page on the plant's intranet site to facilitate their use.

- Air Permit Compliance Data Management System – Daily reports summarizing the facility's compliance with over 100 air permit operating limits are generated automatically and are available on the plant's computer network and intranet site.

- Process Alarms and Interlocks – Alarms have been programmed into the operating units' instrumentation to advise operating personnel if conditions approach a permit deviation; furthermore, in many cases an interlock will terminate a particular operation if necessary to avoid the deviation.

- Self-Auditing – The facility conducts numerous self-audits to assess our compliance status, and if necessary, to make minor adjustments to our systems. Examples include daily reviews of operating data, monthly plant-wide safety and housekeeping inspections, and detailed audits of satellite accumulation areas and each unit's open valve policies. Typically, a unit's completion of these self-audits is a necessary condition of achieving the environmental component of their annual incentive. Additionally, a "third party style" Corporate audit is conducted periodically in which both the facility's compliance status and its EMS are assessed. Over the last several years, three Corporate audits have been conducted. Each of these audits has resulted in the creation of an action plan, the elements of which have all been completed.

- Release Reduction – The facility employs numerous efforts to reduce our accidental releases. In addition to extensive engineering controls such as containment structures around process areas and continuous ditch water quality samplers and analyzers, great emphasis is placed on release reporting awareness and prevention. All instances of chemicals leaving their intended system (e.g., piping, etc.) are reported internally, regardless of the amount. These releases are then recorded in a central database to facilitate root cause analysis. Each unit is responsible for internally reviewing their releases, and any incident in which 50% of an RQ is released is subjected to a thorough plant-wide incident investigation. To help ensure our proper reporting of releases, each unit is required to conduct a series of "mock" spills, the completion of which is again typically a requirement for the environmental component of their annual incentive.

- Environmental Compliance Officer (ECO) Program – Each unit has designated an individual who coordinates the compliance activities at the unit level. Specifically, many of the components of the EMS noted above are only successfully implemented in the units due to the efforts of these individuals. Periodic (typically, quarterly) meetings and/or training sessions are provided with the ECO's to assist them with their efforts.

- Training – All unit operations personnel receive annual environmental training. This training is typically provided by the unit ECO, and the materials are provided on the aforementioned web page. More recently, computer-based training modules have been developed to further assist in this effort.

- Environmental Department Systems – The environmental department employs a number of strategic systems to help ensure that compliance is maintained. In addition to overseeing the components detailed above, the department clearly identifies issue responsibility amongst its members. Furthermore, the department has developed a calendar listing of compliance tasks (e.g., report submittals, permit renewals, etc.) to ensure that regulatory deadlines are satisfied. Finally, all capital projects (and process changes which have a potential environmental impact) are reviewed by the department

with an "environmental checklist" to ensure that all environmental aspects are properly addressed prior to implementation.

The components of the Monsanto Luling Plant EMS mentioned above are enabled by, and are consistent with, Monsanto's Corporate Environmental Safety and Health (ESH)Vision and Guiding Principles. The ESH Vision sets the overall direction for Monsanto's ESH performance, while the ESH Guiding Principles provide the framework for decision making for ESH programs, policies and goals, and day-to-day operations. ESH programs and procedures in support of the Vision and Guiding Principles are incorporated in what is known as the Monsanto Environmental, Safety and Health Manual. To provide insight into the breadth of this manual's scope, we have provided its Table of Contents as Attachment 2 to this document. Furthermore, we have provided the ESH Vision and Guiding Principles document as Attachment 3 to help explain the foundation upon which our EMS is based.

The examples provided above are intended to illustrate how the Monsanto Luling Plant EMS has been implemented. In Section E of the National Environmental Achievement Track application, Monsanto is certifying (in part) that the facility has implemented an EMS in accordance with the Achievement Track EMS requirements. To clearly demonstrate that the Monsanto Luling Plant EMS fulfills this requirement, Attachment 4 to this document provides a table which provides a partial listing of the components present in the Luling Plant EMS which correspond to the EMS components suggested by the National Achievement Track Program Description Document.

Pollution Prevention Program

In 1996 the Monsanto Luling Plant was accepted into the Louisiana Environmental Leadership Pollution Prevention Program. The purpose of this program is to facilitate the adoption of voluntary pollution prevention strategies within companies and public agencies in Louisiana. Acceptance in this program requires a participant to submit an "Environmental Leadership Plan"; included in this plan is the following commitment signed by the Luling Plant Manager:

> We commit to the guiding principles of the Louisiana Leadership Pollution Prevention Program, and commit to minimizing our waste streams and discharges as outlined in this plan. We will annually provide the data necessary to monitor our progress toward achieving the goals outlined in this plan.

The plan also includes a reduction plan based upon an established hierarchy where source reduction/elimination is the first choice, as well as a listing of specific projects implemented along with quantities of waste reduction achieved. A significant feature of the Louisiana Environmental Leadership program is the bestowing of "Governor's Awards" upon facilities whose pollution prevention and/or community outreach projects are particularly noteworthy. The Monsanto Luling Plant has received several of these awards, as summarized in the following section of this document.

Although the Louisiana Environmental Leadership Program has provided a mechanism for us to formally document and report our pollution prevention efforts, these efforts have been underway

at the Monsanto Luling Plant for a number of years prior to this program's inception. The following is a listing of significant achievements in pollution prevention which we have attained independent of the Louisiana Environmental Leadership Program.

- SARA 313 Air Emissions Reductions – In 1990 Monsanto's CEO pledged that Monsanto as a whole would reduce toxic air emissions from 1987 levels by 90% by 1992. Both the Corporation and the Luling site met this commitment. Furthermore, the Luling Plant's 1999 SARA 313 air emissions reflect a 98% reduction from 1987 levels.

- Ammonia Plant Scrubber (1996) – The installation of this scrubber yielded a reduction of 600 tons per year in NO_x emissions.

- Catalyst Re-use – Spent catalyst from one manufacturing unit was re-used in a different manufacturing unit, which reduced usage (and disposal) of catalyst by 600,000 pounds per year.

- Condensate Recycle (1997) – A process modification allowed for the recycle of about 25 gpm of steam condensate, which yielded an annual reduction in feed to the plant's biological treatment system of over 12 million gallons.

- Centrifuge Mother Liquor Recycle (1997) – This process modification resulted in the savings of about 170,000 pounds per year of an intermediate in the manufacture of Roundup® herbicide.

- Centrifuge Mother Liquor Recycle – This process modification resulted in the savings of about 500,000 pounds per year of acetaminophen which would have otherwise been incinerated.

- Reactor Optimization (1998) – This process modification reduced the amount of RCRA hazardous waste generated annually by about 1,500,000 pounds.

- Bulk Delivery of Raw Materials (1999) – Two projects were implemented as a part of this effort. The first was the installation of the longest liquid chlorine pipeline in the world, and the second was a combination of barge unloading facilities and storage tanks for caustic and diethanolamine. These two projects taken together reduce the number of rail car deliveries of these raw materials to the plant by about 8,000 – 10,000 per year, which translates to significant fuel savings and reduced disruptions to our surrounding community.

- Personal Computer (PC) Lease / Donation Program (1998) – This program avoids the disposal of about 33,000 pounds of used computers annually, and provides them for use to local schools and community organizations. Furthermore, non-functioning computers are donated to local high schools which use them as a part of their PC technician training curriculum.

External Awards

The Monsanto Luling Plant has a long and sustained history of top tier environmental performance. Significantly, several of the plant's achievements in this area have been recognized with special awards from external organizations. Many of these awards are in recognition of pollution prevention projects implemented in accord with the principles of the Environmental Leadership Plan, while others have been awarded as a result of our general commitment to environmental stewardship and community outreach efforts. A partial listing of these awards follows.

- U.S. President's Green Chemistry Award (1996) – Implementation of a new manufacturing process for a Roundup® herbicide intermediate which virtually eliminates all waste streams compared to the prior technology.

- La. Environmental Leadership Governor's Award (1997) – Annual reduction of over 12 million pounds of waste through process changes in the manufacture of an additional Roundup® herbicide intermediate.

- La. Environmental Leadership Governor's Award (1998) – Annual recovery of over 1.5 million pounds of a raw material that otherwise would be sent to an off-site landfill through process changes in the ACL® manufacturing process.

- La. Environmental Leadership Governor's Award (1998) – Creation of the first HOSTS (Helping One Student to Succeed) student mentoring program in a Louisiana middle school.

- La. Environmental Leadership Governor's Award (1999) – Implementation of a new manufacturing process for the active ingredient in Roundup® herbicide which significantly reduced waste treatment requirements, energy usage, and water usage.

- La. Environmental Leadership Governor's Award (1999) – Implementation of a community household hazardous waste collection day (shared award with other industry participants).

- U.S. EPA Region 6 Environmental Excellence Award (1998) – Sustained excellence in non-hazardous deepwell operations.

- La. Chemical Association SAFE (Serious About Fostering Excellence) Award (1998) – Fewest reportable releases in class.

- La. Chemical Association SAFE Award (1998) – Community involvement.

- Wildlife Habitat Council Certification (1996) – In recognition of the dedication to the enhancement of wildlife habitat.

- OSHA VPP Star – Original certification in 1994; re-certification in 1997.

Public Outreach Efforts

The key mechanism by which Monsanto shares information with the surrounding community is through its Community Advisory Panel (CAP). This panel, formed in 1989, holds the distinction of being the first CAP created in St. Charles Parish. The panel consists of about 16 community members and meets to discuss topics of concern to the community on a bimonthly basis. Examples of topics discussed in recent meetings include:

- Information on our products and manufacturing operations;
- Our emergency preparedness program;
- Our hiring and training processes;
- Deepwell operations and environmental control systems;
- OSHA VPP Star;
- Risk Management Planning; and
- The economic benefit Monsanto provides to the Parish and State.

Additionally, Monsanto participates in an additional St. Charles Parish CAP (one that has been established for the refineries and the other major chemical manufacturing facilities in the parish) when appropriate.

In addition to the CAPs, Monsanto conducts numerous other public outreach efforts, both locally and at a Corporate level. While many of these items are mentioned in previous sections of this document, to ensure that these efforts are properly recognized, a partial listing of these efforts follows. Further information regarding the Corporate efforts noted below may be obtained by accessing www.Monsanto.com.

- Monsanto Annual Sustainability Report;
- Monsanto Annual Life Sciences Awards;
- Louisiana Environmental Leadership Program Annual Report;
- Plant site Wildlife Enhancement Program;
- HOSTS (Helping One Student to Succeed) Program Participant;
- Adopt-a-School – Landry Middle School;
- National Science Teacher Association – Teacher Sponsorship;
- Teachers Job Shadowing Program;
- LEAP (Louisiana Engineering Advancement Program) Program Participant;
- INROADS Program Participant;
- St. Charles Parish Martin Luther King Day Observation Participant;
- Household Hazardous Waste Collection Day;
- Financial Support to the United Way;
- Co-Sponsor of the United Way Bridge Run Fund Raiser;
- Executive Committee Membership of the St. Charles Parish United Way;
- Financial Support to the Lake Pontchartrain Basin Foundation;

- Christmas in October Participant;
- Membership in the St. Charles Parish Industrial Mutual Aid Program;
- HAZMAT Training for local EMT's and Police and Fire Departments;
- Participation in Career Day – Emergency Response; and
- Personal Computer Donations.

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Attachment 1

Monsanto Luling Plant Environmental, Safety & Health (ESH) Compliance Policy

Hard Copy of Policy

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Attachment 2

The Monsanto (Corporate) ESH Manual Table of Contents

The Monsanto (Corporate) ESH Manual
Table of Contents

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Attachment 3

The Monsanto (Corporate) ESH Vision and Guiding Principles document

Monsanto Corporate
Environmental, Safety and Health Vision and Guiding Principles

OVERVIEW

Introduction

Monsanto operates in more than 200 communities around the world. We have some 20,000 employees making quality products used by customers around the world. Building and maintaining trust in each of these populations is an obligation we all share. We will meet this obligation by demonstrating safe operations and selling safe products every hour of every day.

And while this is primarily a moral obligation - simply the *right way* to operate - it also provides a business advantage. Meeting the ESH vision builds public trust in the science we practice and gives us a competitive edge.

Purpose

The ESH Vision and Guiding Principle provide a common purpose for work related to environmental, safety and health throughout Monsanto and a context for behavior to achieve the purpose.

ESH Vision

To inspire confidence globally with trustworthy decisions, valuable products and safe activities.

ESH Guiding Principles

The following Guiding Principles will be the basis for establishing ESH requirements:

Area	Principle
Communication	We will be guided by openness and honesty as we operate our facilities and business. We will communicate our ESH Guiding Principles, goals and results to stakeholders.
Performance	We will: • Work diligently to prevent all incidents; • Protect the well-being of all people - employees, contractors, guests or neighbors - at our sites; • Enhance business results and promote sustainable development through leadership in ESH performance; • Encourage and reward both continuous improvement and breakthroughs; • Help employees to connect daily activities to long-term ESH goals; and • Employ consistent worldwide standards to achieve those objectives.

Environmental, Safety and Health Vision and Guiding Principles,
Continued

ESH Guiding Principles
(continued)

The following Guiding Principles will be the basis for establishing ESH requirements:

Area	Principle
Compliance	We will comply with all external requirements and we will develop and adopt additional internal requirements to ensure protection of people, property, and the environment on a worldwide basis.
Business Decision Making	We will incorporate ESH Guiding Principles during project reviews, business strategy development and acquisitions. ESH Guiding Principles will be key factors when dealing with suppliers, toll manufacturers, partnerships and customers.
Dialogue	We will proactively engage in dialogue with stakeholders. We will seek counsel from people with diverse points of view to improve our ESH performance
Understanding Impact	We will endeavor to understand the full impact of our operations, products and services on our business, health and the environment.
Product Stewardship	We will inform our customers of the impacts of our products on health and environment and insist on their proper use.
Sustainable Development	We will develop and introduce products and services, and the requisite internal competencies, which move us toward continuously higher sustainability potential. We will improve existing products and processes to further reduce material use, wastes created and negative environmental impacts throughout the whole product life cycle (including raw material use, manufacturing, product use, and final disposal or reuse).
Regulations and Laws	We will proactively promote laws and regulations that reflect our standards of performance with respect to pressing environmental, safety, health and social issues.
Learning	We will pay attention to the world around us, respect diverse cultures and opinions, and learn from our experiences.

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Attachment 4

The Monsanto Luling Plant EMS Matrix

The Monsanto Luling Plant EMS Matrix

Beginning on page 3 of the National Environmental Achievement Track Program Description document, EPA identifies certain elements that a facility's EMS must contain in order to qualify for the program. The Monsanto Luling Plant EMS contains all of these elements, as illustrated by the examples provided in the main portion of this document. Additionally, there are numerous other programs and systems which meet these criteria but were not described in the document. Therefore to provide a more complete picture of the Monsanto Luling Plant EMS, the following table provides a partial listing of the components present in our EMS which correspond to the required EMS components.

Required EMS Component…	**Is Included in the Monsanto Luling EMS by…**

• Policy	• Monsanto Luling Plant ESH Compliance Policy
	• Monsanto (Corporate) ESH Manual
	  o Both include regulatory and voluntary commitments
	• Written Pollution Prevention Plan
	  o Numerous completed voluntary P2 projects
	• Annual Monsanto Sustainability Report
	• Annual Monsanto Luling "Fact Sheet"
	• Active CAP Program

• Planning	• Documented EMS • Waste Reduction Commitments in P2 Plan • Corporate Review of Federal Issues • Luling Env. Dept. Review of State and Local Issues • Calendar Task List of Regulatory Deadlines • Environmental Checklists for Projects • Detailed ESH Reviews for Major Projects
• Implementation and Operation	• Clear Definition of Roles and Responsibilities • Appropriate Designation of Resources • Detailed Compliance Documents • Waste Management Guidelines • Environmental Compliance Guides • Environmental Fact Sheets • Web Page • Environmental Incentive for all Employees • Indexed File System for Environmental Documents • Environmental Compliance Officer Program • Process Alarms and Interlocks • Annual Unit-Specific Training • Computer Based Training • Preventive Maintenance Programs • Emergency Action Plan
• Checking and Corrective Action	• Air Permit Compliance Data Management System • Review of NPDES Data • Review of UIC Data • RCRA Storage/Unloading Inspection Log Sheets

Required EMS Component…	Is Included in the Monsanto Luling EMS by…
• Checking and Corrective Action (Continued)	• Satellite Accumulation Area Audits • Open Valve Audits • "Mock" Spills • Corporate "Third Party" Audit • Monthly Safety and Housekeeping Inspections
• Management Review	• Employee Performance Reviews • Annual Report of Environmental Performance • Annual Title V Compliance Certification • Semi-Annual Title V Monitoring Report • Monthly Discharge Monitoring Report • Quarterly UIC Report • Annual TRI Report • Annual Sustainability Report

Monsanto Luling Plant
Environmental Safety & Health Compliance Policy

- **We, the Luling Plant employees are committed to provide a safe and healthful workplace for ourselves and contractors, while demonstrating environmental stewardship in our community.**

- **The Luling Plant employees will strive to be in 100% compliance with all applicable internal and external Environmental Safety & Health requirements through a process that includes written procedures, effective training, self-auditing, documentation and assigned owners.**

- **All Luling employees will become owners of the compliance process and are responsible to help achieve 100% compliance as we perform our daily tasks.**

- **The Luling Plant will be committed to cost effective compliance through continuous improvement, for each of us, as well as our fellow employees.**

Date

_____
Plant Manager