

Reference letter

Concerning:

Reference Letter – Spill Management at Ducor Petrochemicals

Rotterdam (NL), November 12, 2021.

In the name of Ducor Petrochemicals, I state that PDM has successfully completed the Spill Management project at our Rotterdam site.

During this assignment, PDM supported us in our efforts to implement the Operation Clean Sweep program for preventing plastic pellet loss to the environment.

The project description is attached to this certificate.

We wish PDM success with their future projects.

Sincerely,



Ann Geens
Managing Director
Ducor Petrochemicals B.V.



Case: Ducor Petrochemicals

Spill Management

Ducor Petrochemicals in Rotterdam, a subsidiary of the Bazan Group, is a leading producer of polypropylene and marketer of solutions.

BACKGROUND

The loss of plastic pellet to the environment is an issue that Ducor takes seriously. The company is a partner of Operation Clean Sweep (OCS), an initiative of the European trade association PlasticsEurope. Partners are required to adhere to the OCS program, which includes a set of best practices, manuals, tools, and checklists.

The value of the OCS program lies in the following:

- Contribution to preserving water quality and wildlife
- Compliance with governmental regulations and avoidance of fines
- Safety/housekeeping program
- Employees' safety
- Operational efficiency
- Financial bottom line
- Reputation in the neighborhood.

More information about Operation Clean Sweep:

www.opcleansweep.eu.

Auditing plastic pellet loss to the environment has become part of the ISO 14001, the international standard that specifies requirements for an effective environmental management system (EMS).

DCMR Rijnmond Environmental Service is responsible for drawing up environmental regulations for companies in the region and monitor compliance with these and other laws and regulations.

In addition, there is the Plastic Soup Foundation that combats the plastic pollution of the environment at its source. The foundation fulfills an activist role in monitoring the work of the DCMR.

ASSIGNMENT

Ducor is committed to making “zero pellet loss” a priority – the first step in implementing the OCS program. For the next steps, Ducor started the Spill Management project. PDM was asked to play the role of Project Leader, because Ducor was unable to free up staff.

PROJECT APPROACH

The Spill Management project focuses on three aspects:

1. Technical solutions
2. Procedures
3. Mindset and behavior.

1. Technical solutions

Before the project started, Ducor had already started implementing technical solutions to reduce plastic pellet loss by installing filters in some places. To further reduce such losses from the plant and trucks, PDM has designed and implemented other technical solutions.

Case: Ducor Petrochemicals

First, the most critical points where pellets could be spilled were identified, using the checklists in the OCS Manual. Next, PDM designed filter systems, including casings, to the extent that these were not available on the market. These systems are designed to retain both plastic pellets and microparticles.



Before technical adjustment

Other technical adjustments were made to optimize the operation of the filters.

The photos below give an impression of the situation before and after a technical adjustment.



After technical adjustment

2. Procedures

Technical solutions are not a panacea to prevent plastic pellet loss. Procedures have been put in place to take additional actions on a regular basis. For example, to prevent clogging of filters, periodic cleaning is necessary. Where filters could not be placed, spilled pellets are removed by a dedicated cleaning team. This team cleans the premises according to daily and weekly checklists. For example, leaf blowers are used for cleaning gravel areas where compressed air from the plant is not available.

3. Mindset and behavior

The personal commitment of every employee is the key to success of Operation Clean Sweep. This means that every employee must be encouraged to be fully engaged and committed to following the OCP principles every day.

For Ducor's staff, this meant a change of mindset and behavior. People were made aware that spills that were not removed quickly enough can eventually lead to fines and reputational damage. They were therefore instructed to properly remove spilled pellets within 24 hours.

At the same time, management paid more attention than before to technical solutions put forward by employees.

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PROJECT RESULTS

Customization and creativity

Most of the project deliverables were not predefined, but were conceived and worked out during the project by PDM consultants and Ducor staff – no prior knowledge was available about solutions. On the basis of cost estimates, proposals were approved by Ducor management and subsequently implemented. This has led to thirty technical improvements, a procedure on how to deal with spills, and an actual change in employee behavior.

Clean premises and environment

After the Operation Clean Sweep program was implemented, the Ducor premises and the surroundings area were free of plastic pellets. The combined effect of technical solutions, procedures, and staff behavior was that this situation could be maintained. The status is constantly monitored.

During announced and unannounced inspections, DCMR has established that the situation at Ducor with regard to pollution is satisfactory.

The impact of our work

PDM has done a good job implementing the Operation Clean Sweep program, developing technical solutions as well as changing employee behavior.

Rens van Leuken – Operations Manager – Ducor Petrochemicals

