



Requirements for a pellet handling standard

Introduction

Pellet pollution is the second largest source of direct microplastic pollution to the ocean and is known to cause serious harm to marine biodiversity. Pellet loss can occur at every stage of the supply chain: pellet production (including recycled pellets), transport, storage, and conversion into plastic products.

It is widely accepted that a well-designed supply chain certification scheme for good pellet management is the most effective way to address pellet loss (as suggested, for example, in the European Commission's *European strategy for plastics in a circular economy*). Auditable technical standards for pellet handling and management will form the core of a supply chain certification scheme, allowing independent verification of good practice by all sectors in the supply chain.

Pellet loss is a global issue, and multiple standards for pellet handling are already being developed. This document sets out our position on the minimum requirements that all pellet handling standards (including additional modules on pellet handling incorporated within other standards) should meet. This is to ensure that 1) standards and elected modules are effective in the prevention of pellet pollution, and 2) they all specify an equivalent level of performance, transparency, and accountability. This equivalence is essential if different standards are to be used within a single certification scheme, and/or to ensure that different certification schemes provide the same levels of assurance on addressing pellet loss.

Requirements for independent verification of compliance with standards and a supply chain certification are set out separately in *Requirements for pellet handling certification schemes*.

Minimum requirements for a standard

Standards for pellet handling to be used for certification must incorporate the following principles:

- 1 Standards must be developed transparently, facilitating compatibility across schemes and ensuring they are accessible to the whole plastics industry.**
 - 1.1 Multi-stakeholder consultation and transparency:** standards must be developed with multi-stakeholder input or consultation, and be publicly available.
 - 1.2 Applicability:** standards must be applicable to all actors involved in handling pellets, including those who transport or store pellets.
 - 1.3 Shared understanding of pellet spill and loss incidents:** standards must include clear definitions of pellet spills and loss incidents to ensure shared industry understanding and avoid confusion. Definitions should align with the following:
 - Pellet spill is any escape of pellets, whether into company property, secondary containment or environment. Effective containment or recovery could still stop a spill becoming a loss.
 - *Pellet loss* includes any pellets released into the environment or any pellets that escape all layers of protection designed to stop them reaching the environment, including chronic leakage of low volumes. There must be no lower threshold of loss before defining a 'pellet loss incident'.
 - 1.4 Regular review:** standards must be subject to regular review within a reasonable time-frame, to allow the incorporation of any learning from their implementation and to ensure they continue to be appropriate in the context of new technology or processes within the plastics industry.
 - 2 Standards must enshrine a goal of zero pellet loss, encouraging an industry-wide culture shift to zero tolerance, and require assessment of performance against this goal.**
 - 2.1 Expectations of zero loss:** standards must have a goal of zero pellet loss at their core (there is no acceptable level of pellet pollution) and require continual improvement towards that goal.
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2.2 Performance-based assessment: standards must require an assessment of the actual level of pellet loss at a site, as well as the equipment, policies and procedures that are in place to prevent it, so that the effectiveness of the measures in place can be judged.

3 Standards must require companies to show corporate commitment and to follow the best possible practice and procedures to prevent pellet loss, implementing multiple layers of protection to stop pellets reaching the environment.

3.1 High level company commitment: commitment to preventing pellet loss must be evidenced at all levels throughout the company, and incorporated into written policies.

3.2 Risk assessment: risk assessments must be carried out to identify where and when there is greatest risk of pellet spills or loss to the environment.

3.3 Defining best practice: standards must provide outline guidance on best practice (types of equipment and procedures) appropriate for each type of operator in the supply chain, for each of the stages below. Reference must be made to sources that provide up-to-date detail of best practices; the list of sources must be regularly reviewed, to ensure that the most up to date guidance on good practice is referenced, including new equipment, innovative practices or learning from the sector.

3.4 Implementation of effective best practice: companies must be required to implement multiple layers of protection against pellet loss, following a clear prevention-remediation hierarchy, with prevention of pellet loss as the primary goal.

– **Best practice prevention:** the first priority must be the use of the most effective equipment and procedures, appropriate to the site and / or context, to prevent pellet spills and leakage, including, as a first step, avoiding unnecessary handling.

– **Best practice containment:** the use of the most effective equipment and procedures, appropriate to the site and /or context, to retain, clean up, and dispose of any spills must be required, to prevent the loss of pellets to the environment.

– **Best practice recovery:** standards must require emergency procedures for dealing with reasonably foreseeable failures of prevention and containment measures, including potential acts of vandalism, extreme weather and transport accidents. Remediation equipment and procedures must be available to ensure pellets that are lost are recovered as far as is technically feasible.

3.5 Training: regular training must be required for all staff that handle pellets (and any external contractors handling pellets on the company site) in the agreed pellet loss prevention, containment and recovery measures, with regular assessments of staff competency to ensure training has been effective.¹

3.6 Monitoring and record keeping: companies must be required to monitor and record the quantity (or estimated quantity) of pellet loss to the environment, and record details of any pellet loss incidents or significant spills, to allow assessment of the effectiveness of pellet loss prevention measures and to provide evidence of continual improvement.

4. Standards must require companies to encourage pellet loss prevention best practice in supply chain partners.

4.1 Supply chain due diligence: standards must require companies to communicate with their supply chain partners to 1) encourage and facilitate contractors, suppliers and customers to handle pellets responsibly and 2) reduce the risk of pellet loss during transfer of custody between different companies in the supply chain.

4.2 Responsibility over spills or losses: the standard must require that companies take final responsibility for any spills or losses that occur on their sites, even where external parties (e.g. subcontractors or supply chain actors) were involved.

5. Standards must require companies to evidence continual improvement towards zero loss of pellets.

5.1 Continual improvement: standards must require that the actual level of pellet loss and spills reduces over time (or, once zero loss is achieved, that this is maintained).

5.2 Site-level learning: any pellet loss incidents or significant spills (including 'near-misses') must be analysed, and action taken to prevent them happening again; the analysis and action must be recorded for lesson learning.

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1. According to a recent analysis of best practice, pellet loss prevention training should be given the same priority as other Environment, Health and Safety (EHS) matters to ensure effective shift in company culture towards zero tolerance of pellet loss. (Oswald et al. (2019) Preventing Supply Chain Plastic Pellet Pollution Report for the Scottish Government by Eunomia Research & Consulting)

2. Standards cannot themselves require any behaviour from supply chain partners, so the expectation here is on companies using the standard to transfer knowledge and expectation of conduct to other actors in their supply chains.

