

OSPAR Guidelines in support of Recommendation 2021/06 on the reduction of plastic pellet loss into the marine environment

(OSPAR Agreement: 2021-06)

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Definition of terms

Clarification of definition of terms as applied to this document.

Accredited Certification Body	An accredited certification body (CB): Impartial third-party organization accredited by a recognized accrediting body for its competence to audit, carry out conformity assessments and issue certification confirming that an organization/product/process/service meets the requirements of a standard or specification.
Audit	An official inspection on processes and measures in place by site to prevent pellet loss
Catch tray	Tray or open top box for capturing spills or leakages which can be conveniently emptied
Certification scheme	The process of certifying that a certain product / process has passed performance tests and quality assurance tests and meets qualification criteria stipulated in the requirements of that scheme.
Chain of custody	The chronological documentation or paper trail that records the sequence of custody, control, transfer, analysis, and disposition of physical or electronic evidence.
Clean-up	Recovering pellets that have been spilled on site and/or remedial recovery of pellets that have been lost to the environment
Compliance obligations	Legal requirements that an organization has to comply with and other requirements that an organization has to or chooses to comply with (Source: BS EN ISO 14001:2015)
Conformity	Fulfilment of a requirement (Source: EN ISO 14001:2015)
Containment	Retainment of spilled pellets to make sure they do not become a loss to the environment
Continual improvement	Recurring activity to enhance performance (Source: EN ISO 14001:2015)
Emission	Refer to 'Loss'
Governance Board	A decision making group representing a balance of interests across industry, regulatory bodies, NGOs and policy. Their role is to work with the Scheme Manager to develop a certification scheme taking it from establishment to maturity, ensuring the ambition levels of the scheme are met using a transparent protocol
Hierarchy of measures	System to reduce the risk of pellet loss to the environment, implementing procedures at each level with a goal to prevent pellet loss

	to the environment, in the order of priority of spill prevention, containment, then clean-up
Interested party (preferred term); stakeholder (admitted term)	Person or organization that can affect, be affected by, or perceive itself to be affected by a decision or activity (Source: ISO 45001:2018)
Leak	Spill of pellets from a process or system occurring over a prolonged period of time which needs mitigating action to prevent
Loss	One-off or prolonged escape of pellets to the environment <i>NOTE An example of a prolonged escape is hidden damaged packaging spilling pellets, resulting in a continuous trickle off-site or down a drain</i>
Management system	Set of interrelated or interacting elements of an organization to establish policies and objectives and processes to achieve those objectives (Source: EN ISO 20257-1:2020)
Near miss	Incident where an unplanned event does not lead to a loss of pellets to the environment, but has the potential to do so <i>NOTE An example of a near miss is where a spill occurred (or almost occurs) that almost leads to a loss to the environment due to failures of one or more processes or containment measures.</i>
Non-conformity	Non-fulfillment of a requirement (Source: EN ISO 14001:2015)
Performance	Measurable result (Source: EN ISO 14001:2015)
Performance objective	Indicative level for the desired performance (Source: ISO 14224:2016)
Prevention	Avoidance of spills or leaks
Plastic pellet	Mass of pre-formed moulding material, having relatively uniform dimensions used as feedstock in plastic product manufacturing operations (Source: EN ISO 472:2013+A1:2018 (modified)) <i>NOTE 1 Throughout these guidelines plastic pellets, powders, flakes and dust, including recycled material, are referred to as “pellets”:</i> <i>a) Plastic powder: fine particulate matter that serves as a feedstock in plastic product manufacturing operations.</i> <i>b) Plastic flake: small flat shaped matter with regular or irregular form that serves as feedstock in plastic product manufacturing operations or plastic that has been shredded. Plastic flake can be manufactured or generated though the agglomeration of plastic dust or powder when plastics are processed.</i> <i>c) Plastic dust: fine particulate matter with irregular form and size, produced when plastics are manufactured, handled, conveyed, machined or processed.</i> <i>NOTE 2 Pellets are produced in many colours. Plastic pellets are also</i>

	<p><i>known as “granules” or “nurdles” and are normally spherical or lenticular in shape.</i></p> <p><i>NOTE 3 In some countries plastic can also be termed “resin”.</i></p>
Release	Refer to ‘Loss’
Public registry	An online database platform available to the public and listing sites compliant to the certification scheme
Scheme manager	The organisation responsible for the running, maintenance and the communications of the public registry which confirms uptake of the scheme
Spill	One-off escape of pellets from primary containment (not necessarily resulting in loss to the environment)
Standards Body	An organization that specializes in producing technical standards using an agreed and internationally recognized collaborative and transparent protocol. Any protocol should meet the criteria of multi-stakeholder governance and an agreed, transparent protocol (c.f. “Governance Board”)
Supply chain	Means the system and resources required to move on land or at sea, convert, produce, recycle and distribute a plastic product starting from pellet production and extending to the supplier or retailer of the final plastic product or service. With reference to the plastic supply chain, this would include any business that manages or handles pellets
Verification	<p>Evaluation of whether or not a product, service or system conforms to a regulation, requirement, specification, or imposed condition (Source: PAS 1881:2020 (modified))</p> <p><i>NOTE Verification can be an internal or external process.</i></p>

Acronyms/ Abbreviations used in the guidelines

EU	European Union
NGO	Non Governmental Organisation
OCS	Operation Clean Sweep®
PAS	Publicly Available Specification
RAP ML	Regional Action Plan for Marine Litter
REACH/ECHA	Registration, Evaluation, Authorization and Restriction of Chemicals ((EC) No 1272/2008)/ European Chemicals Agency

1. Scope and purpose of the guidelines

These OSPAR Guidelines relate to the provisions and requirements set out in OSPAR Recommendation 2021/x on the reduction of plastic pellet loss into the marine environment. This Recommendation has been adopted “...to reduce marine litter (in particular, to prevent where possible or to significantly reduce the loss of pellets into the marine environment) by promoting the timely development and implementation of effective and consistent pellet loss prevention standards, developed by standards bodies or equivalent, and certification schemes for the entire supply chain. The recommendation will also support European Union (EU) Member States in implementing the EU Plastics Strategy in a harmonised implementation of the schemes.” (OSPAR Recommendation 2021/06 §2.1).

This document provides general information for Contracting Parties and guidance relevant to actors, when implementing programmes and measures set out in §3 of the Recommendation, as appropriate. Guidance relates in particular to the development and implementation of pellet handling standards and certification schemes, drawing on emerging tools and experience across industry actors, including the BRC Global Standard for Packaging Materials Module 10,^{1,2} the Operation Clean Sweep (OCS) toolkit,³ and the British Standards Institution’s (BSI) Publicly Available Specification (PAS) to be published July 2021⁴. However at the time of writing, no compatible or standardised set of best practices to prevent pellet loss currently exists that certification schemes can apply. These Guidelines outline recommendations for developing solutions based on a set of standardised best practice criteria and the tools to verify them across the plastics supply chain, serving as a starting point for further harmonisation of policy development on pellet loss prevention] Contracting parties with measures already in place may use these as starting points for possible further actions by relevant actors. Examples can be found under Section 2.3 and Annex 1.

It is the intention that this guidance also supports The European Commissions’ A European Strategy for Plastics in a Circular Economy⁵, the EU Directive 2019/904 of the European Parliament on the reduction of the impact of plastic products on the environment and other relevant regulations and strategies to support Contracting Parties, including those who are Member States to the European Union.

The guidelines also provide information to support implementation reporting by Contracting Parties against Appendix 1 of the Recommendation.

¹BRCGS (2020). Plastic Pellet Loss Prevention, Additional Module 10. p.6. Issue 6 Packaging Materials. Available here.

²BRCGS (2020). Plastic Pellet Loss Prevention, Additional Module 10. Issue 6 Packaging Materials. Available here.

³Operation Clean Sweep (2017). Program Manual. Available here.

⁴British Standards Institution (2020). Project Launch: First Specification to Prevent Plastic Pellet Pollution. [online] Available here.

⁵EUROPEAN COMMISSION. “A European Strategy for Plastics in a Circular Economy”. COM/2018/028 final. Brussels 2018: Available at: https://eur-lex.europa.eu/resource.html?uri=cellar:2df5d1d2-fac7-11e7-b8f5-01aa75ed71a1.0001.02/DOC_1&format=PDF

2. Background

2.1 Context

OSPAR's marine litter objective is "to substantially reduce marine litter in the OSPAR Maritime Area to levels where properties and quantities do not cause harm to the marine environment". The North-East Atlantic Environment Strategy (2010 – 2020) commits to "develop appropriate programmes and measures to reduce amounts of litter in the marine environment and to stop litter entering the marine environment, both from sea-based and land-based sources".

To fulfil this objective OSPAR 2014 agreed a Regional Action Plan for Marine Litter (RAP ML) for the period 2014-2021. The RAP ML contains 23 national actions and 32 collective actions which aim to address both land based and sea based sources, as well as education and outreach and removal actions. Action 52 "To promote initiatives and exchange of best practice aiming at zero pellet loss along the whole plastics manufacturing chain from production to transport" contributing to efforts to combat land based sources of marine litter (Theme B) and aims for zero pellet losses in the environment.

A background document⁶ was published in 2018, which set out the issue of pellet loss; provided an overview of existing initiatives and identified possible measures that could be taken by OSPAR. The background document provides an overview of the available knowledge about plastic pellets (characteristics, presence in the environment and impacts) and existing initiatives aiming at zero pellet loss. On the basis of the background document, OSPAR adopted a Recommendation on the Reduction of Plastic Pellet Loss into the Marine Environment⁷ in 2021 (OSPAR Recommendation 2021/06).

2.2 Description of the issue

All plastic products are made from plastic pellets, powders or flakes, which can be virgin polymers or recycled, hereafter referred to collectively as "pellets". This material is handled and managed with different unharmonised and inconsistent practices across every stage of a supply chain including production, transport, storage, conversion into final products, recycling and disposal. Pellets can be lost at every point of the plastics supply chain and once in the environment are very difficult and costly to retrieve. They are known to be ingested by a range of animals and can cause harm^{8,9,10} to wild fauna while contaminating both land and marine ecosystems.

In addition to protecting our environment, action to reduce pellet loss also contributes to growing our circular economy where waste is reduced.

⁶<https://www.ospar.org/documents?v=39764>

⁷<https://www.ospar.org/documents?d=46268>

⁸Terepocki, Alicia K., et al. "Size and dynamics of microplastic in gastrointestinal tracts of Northern Fulmars (*Fulmarus glacialis*) and Sooty Shearwaters (*Ardenna grisea*)." *Marine pollution bulletin* 116.1-2 (2017): 143-150.

⁹Mato, Y. et al., Plastic Resin Pellets as a Transport Medium for Toxic Chemicals in the Marine Environment (Environmental Science & Technology, 2001), pp. 35(2), 318-324

¹⁰WRIGHT, S.L, THOMPSON, R.C. AND GALLOWAY T.S. The physical impacts of microplastics on marine organisms: A review. *In: Environmental Pollution*, Volume 178, 482-492. Elsevier: 2013.

While the plastic industry has developed and promoted a voluntary programme to reduce pellet loss, namely “Operation Clean Sweep®”¹¹, there is recognition that more needs to be done to take widely implemented action and achieve high environmental protection goals on this issue. There is wide support for a supply-chain accreditation approach where responsibility sits with every business involved in the chain. To ensure that they do not contribute to this plastic pollution problem the system will allow for verifying good practice and continuous improvement through independent auditing.¹²

2.3 Relation to other measures

Plastic pellets are recognised as the second largest direct source of microplastic pollution to the marine environment (EUNOMIA, 2016¹³). As a consequence, measures are being developed to prevent pellet loss at multiple levels, from industry, national, regional and global platforms in addition to the work of OSPAR.

The plastics industry itself has taken significant steps to address the problem with the development of Operation Clean Sweep® and importantly the promotion of the good handling practices within the programme across industry members. In addition, in January 2021, PlasticsEurope has committed to developing a certification scheme with European Plastic Converters¹⁴ by 2022. The intended OCS certification scheme will aim at control and document compliance with requirements targeting minimization of pellet loss across the entire plastic supply chain. It will also support the effective, harmonised and quantifiable implementation of the programme. This takes the European OCS programme beyond its current advisory role and beyond the United States’ OCS Blue programme with the use of external auditing.

At a national level, Scotland has committed as part of its work under its Marine Litter Strategy¹⁵, to develop solutions to reduce pellet loss to the environment. The Government department of Marine Scotland has worked with industry and relevant stakeholders to support the development of an internationally recognised pellet-handling standard¹⁶, developed by a standards body, to be published in July 2021. In addition they have also consulted extensively with industry and relevant stakeholders to develop a set of minimum requirements for both standards and certification schemes, which are reflected in this document. This work is supported regionally by the British-Irish Council, applies to businesses of all sizes across the entire supply chain, and each administration is expected to develop measures informed by this work.

France is drafting a decree to support the adoption of preventative, containment and clean-up measures to reduce pellet loss as well as regular inspections. The decree will apply to all businesses handling at least 5 tonnes of material annually and will undergo a period of public consultation prior to publication.

¹¹<https://www.opcleansweep.eu>

¹²<https://www.gov.scot/binaries/content/documents/govscot/publications/corporate-report/2020/03/preventing-plastic-pollution-pellet-loss-taking-supply-chain-approach-reduce-pollution-waste/documents/plsg-full-report-final/plsg-full-report-final/govscot%3Adocument/plsg-full-report-final.pdf>

¹³<https://www.eunomia.co.uk/reports-tools/plastics-in-the-marine-environment/>

¹⁴<https://www.plasticseurope.org/en/newsroom/press-releases/collaboration-agreement-first-ever-european-ocs-certification-scheme-signed>

¹⁵<https://www.gov.scot/publications/marine-litter-strategy-scotland/#:~:text=The%20Scottish%20marine%20litter%20strategy%20is%20a%20co-ordinated,address%20the%20impacts%20of%20litter%20in%20Scotland%27s%20seas.>

¹⁶<http://standardsdevelopment.bsigroup.com/projects/2020-00766>

In Sweden guidelines were recently developed¹⁷ on measures to minimize emissions of microplastics from manufacturing and management of plastics. The purpose of the guidance is to create awareness about the problems with material loss as well as provide examples of appropriate measures. Sweden has worked with industry and relevant stakeholders during the development of the guidelines.

In Spain, the Spanish Association of plastics industries (ANAIP) (OCS licensee) has developed an OCS certification Scheme together with AENOR (Accredited Certification Body) and supported by Plastics Europe Iberia, to verify the implementation of the international OCS Program and company's commitments to prevent pellet loss. This certification scheme, in place since 2019, applies to businesses of all sizes across the entire supply chain. Among the companies already certified there are compounders, converters, transporters and cleaning service companies. This certification scheme aims at checking the level of success in the application of responsible handling practices in a transparent manner and the evaluation of its implementation will be key for the Ministry for the Ecological Transition and the Demographic Challenge to decide on potential additional measures within the Marine Strategies

At a European Level, in acknowledgment of the work progressing regionally to reduce pellet loss, potential interventions are being considered as part of a study on microplastics unintentionally released into the environment (tyres, pellets and microfibers) launched by the European Commission in 2021 ('Cost-benefit analysis of policy measures reducing unintentional releases of microplastics'), and policies are being developed by the European Chemical Agency to implement pellet labelling and loss reporting within the Registration, Evaluation, Authorisation and Restriction of Chemicals framework. With such a varied range of parallel measures being developed, these guidelines aim to provide the principles of requirements for good practice that will ensure compatibility across the OSPAR region, and a level playing field for companies operating across it.¹⁸

2.4 Key principles for effective policy action to prevent pellet loss

The overarching objective of the OSPAR Recommendation is to achieve zero pellet loss across the plastic supply chain. Within the measures targeted at reducing and eliminating pellet loss, priority should be given to preventive measures to contain avoid pellet loss over remedial measures to mitigate and clean-up pellet spillage.

Policy measures should focus on prevention of spills at source. In particular, identifying and instituting preventive measures to reduce the risk of pellet leakage throughout the supply chain should be prioritised before remedial measures to clean-up pellets already in the environment.

Policy should aim to incorporate three key principles across such system designs in order to achieve the goal of zero pellet loss:

2.4.1 Priority orders of action for industry-wide best practice pellet handling

Best practices will include both handling protocols and equipment for which the development of minimum requirements will be needed to ensure compatibility, standardisation and equivalents, by actors across the supply chain.

¹⁷<http://www.naturvardsverket.se/upload/stod-i-miljoarbetet/vagledning/plast-mikroplast/Vagledning-atgarder-minimera-utslapp-mikroplast-tillverkning-hantering-plast-2020-05-06.pdf>

¹⁸ Once reporting requirements are developed under REACH it is proposed these guidelines are updated accordingly

Importantly, preventative measures are superior from both an economic and environmental perspective to containment or remedial measures. As the basis for risk assessment and pellet loss minimisation planning, best practices should provide multiple layers of protection along the **following hierarchy of measures** (Figure 1):

- **Prevention** – In the first instance, preventive measures should be implemented to avoid pellet spills, *e.g.* avoidance of unnecessary handling and puncture-proof packaging, protected storage, pneumatic equipment and automatic valves for loading and unloading.
- **Containment and Mitigation** – In the event a pellet spill cannot be avoided, remedial measures to contain the spill and prevent it from being lost into the environment should be implemented, *e.g.* site boundary barriers, catch trays, filter baskets, and wastewater filters.
- **Clean-Ups** – In the event a pellet spill is lost into the environment, remedial measures to clean up the pellet spill should be implemented, *e.g.* pneumatic devices, vacuum cleaners etc.

Polymakers are urged to embed a clear hierarchy of measures into their standard and certification-scheme frameworks.

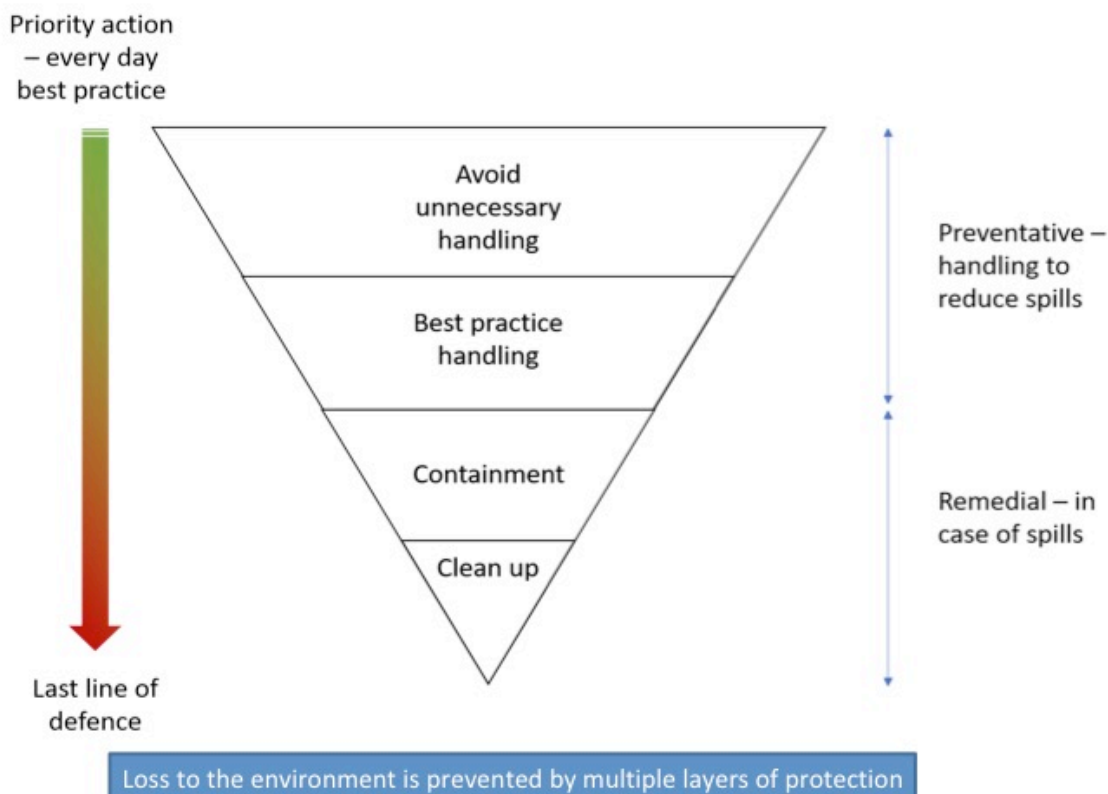
2.4.2 Reporting & Transparency

The reporting of any losses, and the reporting of upgraded handling practices, drives industry-wide improvement on the issue of pellet loss and allows for external tracking of progress.

2.4.3 Adoption

To stop pellet loss to the environment the above best practice must be implemented by the full plastics supply chain and instigate an industry-wide culture shift. This cannot be expected to happen with education and awareness-raising alone, as highlighted by the limited uptake of the Operation Clean Sweep scheme to date.

Some countries within OSPAR are already exploring options to implement legislation relating to pellet loss handling while elsewhere voluntary options using procurement requirements to drive certification uptake have been explored (see section 2.3). Countries within OSPAR may stimulate the adoption of pellet handling certification by promoting sustainable procurement.



In order to implement these principles, Contracting Parties can support the following work streams that will support timely, effective and consistent plastic pellet loss reduction:

1. Promote the development of **standards** that meet minimum requirements for demonstrating best practices and measures to prevent, contain / mitigate and clean-up pellet loss. Standards should apply the hierarchy of measures, namely prevention, containment / mitigation and clean up (see 2.4.1), to reduce the risk of pellet loss, striving for zero loss, and should be subject to periodic review and update.
2. Promote the development of **certification schemes**, which can verify implementation of best practices and measures, with independent external auditing and compatible reporting processes. The scheme is then used to demonstrate in a transparent manner the successful application of responsible handling practices by individual businesses and links across supply chains for a product. In addition the scheme can also be used to transparently report industry progress toward zero loss.
3. Promote adoption of best practice and certification schemes across the entire plastics supply chain, through regulatory and other measures. Measures should also be put in place to facilitate wide participation by all types and sizes of companies involved with pellet handling or management.

This document provides further guidance and key principles for both the pellet handling standards and certification schemes.

3. Guidance to reduce pellet loss with the introduction of a pellet handling standard and its use in a certification scheme.

3.1 Guidance: minimum requirements for pellet handling standards

Pellet handling standards should be developed by standards bodies, or by equivalent transparent and multi-stakeholder governance structures, to ensure that the content has been developed using consensus of all relevant parties, in a fair and transparent manner. Standards should be implemented at site-level (not company-level), wherever pellets are handled or managed. They should apply to all businesses, regardless of size, handling or managing new or recycled plastic pellets, and the requirements of a standard should cover;

3.1.1 Documentation of an Organisation's Responsibilities

All operational activities relating to pellet handling and management should be, assessed defined and compliance activities identified by individual businesses handling and managing pellets in their annual report. The organisation should clearly define operations, which they can and cannot control.

3.1.2 Management

Management should demonstrate leadership to prevent pellet loss with the establishment of a pellet-loss prevention policy accessible to the public with clear objectives and an implementation plan including defining necessary equipment, training and communication. Performance should be monitored, documented and analysed and enable reporting of estimated pellet losses to the relevant local and national public authorities. Policies should also be updated in response to any pellet spills or near misses. The policies and objectives should reflect the hierarchy of measures to prevent pellet loss to the environment, and list implemented measures towards the goal of achieving zero pellet loss.

Management should assign clear roles and responsibilities to specific members of staff to manage policy implementation including pellet loss prevention, containment, clean-up and performance monitoring against objectives.

3.1.3 Competence, training and awareness

Competence and requirements of staff to prevent, contain and clean up spills should be clearly documented, with training provided to achieve the objectives and highlight the importance of the work as relevant to the environment as well as health and safety. The importance of the environmental issue of pellet loss and policies to prevent this should be communicated to all staff on site.

Prevention training should include relevant equipment operating instructions, maintenance schedules and monitoring of measures in use and include information on the potential environmental impact and the corresponding handling and management precautions to be taken.

Containment training should include methods for identifying leaks as well as processes for containing any spills, maintaining containment equipment and maintaining a record of spills.

Clean-up training should importantly define processes to prevent the spread of spilled pellets during cleaning operations with appropriate waste management. Training should be delivered with the use of appropriate clean-up tools that are subject to a maintenance schedule. All clean-ups should be recorded.

For examples of equipment which may be used to support prevention, containment and clean-up of pellets please refer to existing best practice in the Annex to this document.

3.1.4 Risk assessment of pellet loss

All Businesses along the supply chain, should document a risk assessment of pellet handling activities within their control to identify the potential for spills, leaks and losses and their potential impact. The assessment should include mitigation measures, equipment and procedures for prevention, containment and clean-up, high risk areas, handling procedures and pathways to the external environment. In addition the assessment should also include health and safety policies as standard.

3.1.5 Operational controls

The business should establish, implement and maintain documented procedures to prevent pellet loss, as identified in the risk assessment. In addition these procedures should be monitored and reported in-house with regularity. The hierarchy of priorities are to prevent a problem (prevention), stop any problem getting worse (containment) and clean-up in the event of a spill or loss.

Prevention

Businesses should provide effective equipment and procedures to prevent spills during routine handling, maintenance and cleaning protocols, and ensure staff are trained to use it.

Preventative efforts should be concentrated in and around all handling locations including production, transportation and storage as it is here that pellet loss can be proactively avoided. Preventative measures can broadly be classified into two categories:

- a. *Avoidance of Unnecessary Handling* – Companies should, so far as is reasonably practicable, avoid any unnecessary handling of pellets that involve a risk of spillage. Exploring the possibility of minimising the number of transfer points in the supply chain should be the starting point for reducing opportunities where pellet spills could occur.
- b. *Best Practice Handling* - Where it is not reasonably practicable to avoid the handling of pellets in any given scenario, actors should take appropriate steps to reduce the risk of spills to the lowest possible level through employing measures preventing poor practice that may result in loss to the environment. This should include, for example, minimising risk of punctures or breakages during loading, unloading and storage of pellets; choosing low-risk storage areas.

Further examples can be found in Annex 1.

Mitigation and Containment

Businesses should provide effective equipment and procedures to ensure immediate containment of any pellet spills, with staff trained to respond rapidly to any issue. Containment measures would include, for example, using equipment to catch pellets wherever risks of regular spills remain (e.g. catch trays, bunding); preparing surfaces to be easy to clean in case of spills; equipment to recover spilled pellets and prevent further loss to the environment; and final barriers to prevent leakage to the environment (e.g. filters in external drains/ water treatment).

Specific guidance can be found in Annex 1.

Clean up

Businesses should provide effective equipment, staff training and measures to enable immediate and thorough cleaning of spills on site, whether indoors, outdoors or during transportation. Remedial clean-up off-site and in the environment is more challenging and requires specialist equipment.

Further examples can be found in *Operation Cleansweep® guidelines* <http://www.opcleansweep.eu/manual-tools/> and from the Plastic Soup Foundation <https://www.plasticsoupfoundation.org/en/2020/05/plastic-manufacturer-ducor-begins-promised-cleaning-action/>

3.1.6 Procurement

Businesses should implement procurement policy relating to goods and services handling pellets to encourage the use of responsible pellet handling practices across their supply chains. This will be an important driver in increasing adoption of measures throughout the full supply chain.

One way to drive adoption across the full supply chain could be to ensure that the ask for standards and certification are passed on from customer to supplier via procurement requirements to implement a formal chain of custody across a full supply chain (EUNOMIA, 2019)¹⁹.

3.1.7 Communication

Businesses should communicate the policies, implemented measures and expectations of pellet loss reduction both within their organisation with personnel at all handling and management facilities and make them available externally to suppliers, customers and interested parties.

3.1.8 Performance evaluation

The business should use monitoring, internal and independent auditing to evaluate its pellet loss prevention measures and policies, which should include an estimate of the amount of pellet lost per year as a way to track progress toward zero pellet loss. Evaluation should inform policy changes to ensure continual improvement, with all changes documented and communicated within the organisation. Audits should be annual and performed internally or by an external organisation. These records should be available for use, inspection and retained for a period of 5 years.

3.1.9 Improvement

Businesses will react to non-conformity with their policies; take action to rectify any issues and clean-up including dealing with any environmental impacts. Businesses must demonstrate learning from any issues to prevent any repeats of problems. All corrective actions should be documented and retained for 5 years.

3.2 Guidance: minimum requirements for a certification scheme

A pellet handling certification scheme or schemes would ideally operate internationally, ensuring a level playing field between countries and simplifying requirements for companies that operate in more than one

¹⁹EUNOMIA (2019) <https://www.gov.scot/binaries/content/documents/govscot/publications/corporate-report/2020/03/preventing-plastic-pollution-pellet-loss-taking-supply-chain-approach-reduce-pollution-waste/documents/plsg-full-report-final/plsg-full-report-final/govscot%3Adocument/plsg-full-report-final.pdf>

jurisdiction. Where multiple schemes are developed, it is important they are compatible across OSPAR Contracting parties and, as appropriate, compatible with the work done at the EU level.

A certification scheme should provide a transparent platform where the achievement of all businesses that are externally audited against an agreed standard can be recognised. The listing of business sites within a public registry of a scheme enables links in a supply chain to be made and verified to be compliant. It is the combination of the Register and the broader certification scheme requirements, including site application, auditing, governance structure and management that form a transparent, well managed and effective certification scheme.

As an explanation of the function of a certification scheme please see EUNOMIA, 2019.²⁰

The minimum requirements for a certification scheme are separated into those that are essential to establish a Scheme (phase 1), and those that are essential to develop it once established, (phase 2).

3.2.1 Essential Requirements – Phase 1

a. Database

A database system that forms a Register should be developed of a sufficient size to handle the level of data required, and have flexibility for additional future capacity. It is anticipated that the Register will be international and ultimately will, after a few years of operation, contain tens of thousands of company sites. The Register should hold information that is publicly available and for the Register Manager only.

After initial application of a site by a company, details should be updated on an annual basis.

b. Development, management and governance of the certification scheme

The Scheme and thus Register should be developed and managed by an independent organisation. However an industry association could fill this role with the oversight of a Governance Board to provide scrutiny of design and management of the Scheme. The Governance Board should be an independent multi-stakeholder group of experts from industry, NGOs, policy makers and certification bodies. In this case, the Scheme Manager should be responsible for the day-to-day running of the scheme, such as monitoring the performance, writing guidance overseeing auditor training and managing the registration of certified companies. The Scheme Manager should also report to and provide the technical expertise to the Governance Board. The Governance Board should take decisions on critical aspects of the Scheme. This would consist of, among other things, reviewing effectiveness of the Scheme and the approval criteria for new standards, training, certification bodies and certification body accreditation. A key aspect of the Governance Board's work with the Register Manager should be to develop phase two of the Scheme, enabling the procurement performance of companies to be demonstrated. This will drive compliance and adoption along supply chains and achieve full certification of entire supply chains.

c. Inclusion on the Register

The basic requirement to be certified and thus included on the Register is that a site or depot has been independently audited and has passed an appropriate standard approved by the certification scheme's Governance Board e.g. BSI PAS.

To run the Register a significant amount of data is required. This can be split between what is needed by the manager to develop the Register and what should be publicly available. A number of fields in the publicly

²⁰ <https://www.gov.scot/binaries/content/documents/govscot/publications/corporate-report/2020/03/preventing-plastic-pollution-pellet-loss-taking-supply-chain-approach-reduce-pollution-waste/documents/plsg-full-report-final/plsg-full-report-final/govscot%3Adocument/plsg-full-report-final.pdf>

available data should be searchable to enable companies using the register to easily find the information they are looking for.

The audit report is deemed confidential between the company audited and the auditor and may contain commercially sensitive information. Confidence in the auditing process is assured with the Scheme's use of an independent accredited auditor and reporting passing the audit, coupled with comprehensive auditor training (see section 3.2.1 f.) kept under review by Governance Board and public clarity on the requirements of each Standard's audit requirements.

Data, including that related to whether a company passes or fails an audit, should be kept for a minimum of 5 years. This will enable the Scheme Manager to determine whether a company is regularly failing and re-applying to join the Register. The Scheme Manager should keep records of companies that have failed an audit. Companies that have failed an audit should be removed from the public facing Register.

d. Registry applications and updates

The process for applying to join the Register should be simple to reduce barriers to uptake. Applications and updates should be made via an on-line portal. The company should provide their own details through the online portal. To limit the need for an additional verification step by the Scheme Manager, the auditor from an independent accredited certification body must provide the results of the audit and upload a copy of the certificate. Both the company and certification body applying must accept the privacy statement and Terms and Conditions for joining the register.

Each company site and each auditor from an accredited certification body should have their own unique identifier which is password protected. To maintain data security the Register must have a security protocol so that only the company representative can input their company information and only the specific auditor that carried out the audit from the certification body can update the audit information. In this way there should be no need for any extra verification of the audit results by the Scheme Manager. Application to join the register should therefore be almost instantaneous or certainly no later than an overnight refresh of the Register.

Company detail changes should be updated by the company contact or the auditor. The audit result must only be updated by the relevant auditor. Updates on the register should be instantaneous.

As the auditor is responsible for uploading the audit results it is important that they understand the need to update the audit results immediately to ensure the Register is fully up to date. It should be the responsibility of the company to stipulate to the auditor that timely updates to the register are required following an audit. This should be reiterated as part of any auditor training.

e. Auditing

A successful audit by an independent accredited auditor, for example accredited to the ISO/IEC 17021, is the key to being certified and thus allowed to join the Register. Many of the companies applying will already be audited by accredited certification bodies against other standards. To minimise cost and resources, the audit could be added to existing regular audits e.g. ISO 9001 or 14001 and require to be re-certified every 3 years, but most have an annual review. Sites should be subject to an external, independent accredited audit at best annually and at a minimum every three years for pellet loss prevention and the result should be uploaded to the Register by the accredited certification body.

The Register will display a list of companies meeting the standard, and also list certification bodies able to carry out audits against the relevant standards. This information should be publicly available to enable companies to identify an accredited certification body for future use.

Auditors

An accredited certification body should be recognised by the Scheme Relevant information should be provided and a decision taken if inclusion is appropriate. The agreed governance approval structure (see section 2b) should state where responsibility for approval of individual certification bodies lies.

Audit Re-certification delays

A scheduled audit may be delayed due to issues with the auditing company or the company that is being audited. In both cases a replacement audit should be arranged within 3 months, therefore a delay of 3 months maximum should be allowed before a company is removed from the Register.

Exceptional circumstances, such as the current Coronavirus pandemic, where site visits have not been possible, warrant special consideration and the periodicity requirements for auditing could be modified according to the best practice prescribed by the International Accreditation Forum and the International Laboratory Accreditation Cooperation.

In the event that a company isn't immediately recertified after the audit, the auditor will specify a short period of time for the company to resolve any identified issues. This time period should be appropriate depending on the scale and the risk of the issue identified. This time period cannot exceed 3 months. In such a circumstance there should be provision on the Register for the auditor to highlight this, but the company should not be removed. If the company does not meet the dates for resolution of the issue, then the company should be removed.

In both the above cases the Register should flag the company as being overdue for an audit and send a notification/alert to the company and auditor.

f. Auditor accreditation and Training

The certification body used to audit a company must be independent and well trained in the standard they are auditing.

A training package based on the standard can either be developed by the Scheme Manager and Governance Board, who would provide this to the certification body; or the certification body can take the standard and develop their own training requirements. Both methods are currently used in the Industry. The process for developing training should be defined by the Governance Board following advice by the Scheme Manager.

In either case the training package for each standard acknowledged by the certification scheme and the subsequent auditor training must ensure that the standards are audited in a stringent and consistent manner. This is to ensure that an audit pass reflects a consistent performance across all sites audited independent of the approved standard used or the auditor employed. The Scheme Manager and Governance Board should be responsible for reviewing and approving audit training packages and the development of training packages if required.

g. Communication

Acceptance on the Register

The Scheme should acknowledge that a company has either been accepted or an update has occurred. The Scheme should also inform a company if they are to be removed from the Register and give the reason for the removal.

Removal from Public Register

Companies should be removed from the Public register if:

- they are not audited in time with a pass result provided according to the timescales allowed,

- they are not re-certified at an audit and then fail to meet the requirements to obtain re-certification in the timescale required,
- they ask to have themselves removed from the Register. Obtaining a valid re-certification should enable them to be re-instated.

However, the Scheme Manager should retain the records (outlined in the data section above) of the companies.

The Scheme Manager should also communicate with any changes to service, including any significant downtime due to maintenance requirements, changes in audit protocols or updates or enhancements to the Register.

Representation and use of the Scheme by Companies

Companies should be represented on the Register by their name and location as a minimum with a preference to include their logos. There should be a means for companies to communicate their inclusion on the scheme with their customers, a link to the Register should be sufficient.

Language

Consideration should be given to language options to avoid barriers for understanding and adoption.

3.2.2 Essential Requirements – Phase 2

These are required to drive adoption of a newly established Scheme and should be developed with the overview of the Governance Board to ensure timely and effective implementation.

- The Register should have an area for end users, including retailers to outline and demonstrate compliance of their supply chains to the pellet handling standards, using procurement drivers. This is important as the retailers and other end users are a key driver in pushing compliance throughout the supply chain.
- The Scheme should provide a mechanism on the Register to recognise the procurement activities of the companies, for example if the company is only handling pellets from certified companies. To achieve this a set of rules will need to be developed describing how the site's procurement activity and the level of compliance by their suppliers is monitored. The rules and how this activity is checked should be determined by the Governance Board in accordance with its agreed roles and responsibilities (see section 2f). This feature would reduce reliance on awareness-raising to encourage uptake.
- The Scheme should set a mandatory requirement for participants to report estimates of pellet loss in order to assess effectiveness of the scheme. As Per OCS blue²¹, Scheme participants should report the number and volume of incidents of any unrecovered release of pellets, flakes, powders, within the physical custody of company, from containment to ground or water outside operated facilities and estimated to be greater than 0.5 litres or 0.5 kilograms per incident.

3.3 Guidance for reporting against the Recommendation

According to appendix 1 of the Recommendation, by 31 January 2023, Contracting Parties should report on the progress towards developing a certification scheme. After 31 January 2025 Contracting Parties should report every six years on the implementation of this Recommendation, and if known, ~~reflect~~ report on the uptake across industries in term of sectors, business numbers and business sizes.

²¹<https://www.opcleansweep.org/pledge/ocs-blue/>

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Annex 1: Examples of relevant initiatives and guidance

There are a large number of measures that can be implemented by the very many and different types of sites across the supply chain. These examples have not been subject to comparison, nor is it intended to provide an exhaustive list. Rather this document provides links additional information for further reference.

Operation Clean Sweep® <http://www.opcleansweep.eu>

Pellet spills can occur at all stages along the plastics value chain, including production, handling, transportation, conversion and recycling. To tackle the leakage of plastic pellets the Operation Clean Sweep® programme was initiated. Operation Clean Sweep® (OCS) is an international programme designed to prevent the loss of plastic granules (pellets, flakes and powders) during handling by the various entities in the plastics value chain and their release into the environment. First adopted in North America, the OCS programme is now implemented in Europe since 2015.

Examples of Measures presented in the OSPAR Background Document on pre-production plastic pellets <https://www.ospar.org/documents?v=39764>

Parts 5 and 7 of the Background Document describe a selection of existing measures that already exist as implemented by NGOs, industry and public authorities.

Swedish Guidance on measures to minimize emissions of microplastics from the manufacture and handling of plastics (2020): <http://www.naturvardsverket.se/upload/stod-i-miljoarbetet/vagledning/plast-mikroplast/Vagledning-atgarder-minimera-utslapp-mikroplast-tillverkning-hantering-plast-2020-05-06.pdf>

Swedish national guidance, which provides a description of environmental impact and possible protective measures relating to emissions from plastic pellets. The target group is mainly review authorities, supervisory authorities and operators.

United States Environmental Protection Agency (1992). Plastic Pellets in the Aquatic Environment: Sources and Recommendations. EPA842-B-92-010. *Final Report*. Available [here](#).

Plastic pellets are one source of marine debris of concern to the US EPA. EPA's Oceans and Coastal Protection Division (OCPD) of the Office of Wetlands, Oceans, and Watersheds (OWOW) initiated the study described in this report to make a comprehensive assessment of the sources, fate, and effects of pellets in the aquatic environment, and to determine what can be done to control and prevent their release to the environment. The goals of the study were to

- Summarize what is known about the presence and impacts of pellets in the aquatic environment,
- Identify and evaluate how pellets escape into the environment, and
- Recommend ways to control or prevent future pellet releases.

This study promotes EPA's national policy on pollution prevention, which is based on the Pollution Prevention Act of 1990 (HR 5931). EPA's policy is to (1) reduce or prevent pollution at the source whenever possible, and (2) to assist the State and Local governments and the private sector in achieving source reduction. The study results, therefore, will help to implement EPA's policy by assisting the plastics industry in implementing voluntary pellet-control programs to reduce the release of pellets into the aquatic environment. This report represents the first comprehensive assembly of information regarding the

presence and ecological effects of pellets in the aquatic environment, and is expected to become a basic reference for EPA and industry.

United States: An act to add Chapter 5.2 to Division 7 of the Water Code (2007). Assembly Bill No. 258, Chapter 735. Available [here](#).

This bill would require the state board and the regional boards, by January 1, 2009, to implement a program for the control of discharges of preproduction plastics from point and nonpoint sources, including waste discharge, monitoring, and reporting requirements that, at a minimum, target plastic manufacturing, handling, and transportation facilities, and the implementation of specified minimum best management practices for the control of discharges of preproduction plastic. The bill would require the state board to determine the appropriate regulatory methods to address the discharges from point and nonpoint sources. The state board would be required, when developing the program, to consult with any regional board with plastic manufacturing, handling, and transportation facilities located within the regional board's jurisdiction that have already voluntarily implemented a program to control discharges of preproduction plastic. The state board would also be required to include criteria for submitting a no exposure certification in all NPDES permits regulating plastic manufacturing, handling, or transportation facilities. The bill would provide that facilities that meet the no exposure certification criteria are conditionally exempt from NPDES permitting requirements.