



UNIT-8

Implementation – improving Environmental Performance

Learning Outcomes

By the end of this unit the learner will be able to:

- ✓ Describe the manager's role in setting, monitoring and communicating objectives and targets.
- ✓ Identify suitable operational controls to improve environmental performance

Unit 8

Implementation: Improving Environmental Performance

To have a truly effective performance management process that supports employee performance, development and success, everyone needs to be involved. Successfully engaging and informing senior executives, managers and employees will ultimately result in higher participation rates and better-quality performance management.

Therefore, managers need to clearly communicate to everyone what they are responsible for as part of a new performance management process. There are three stakeholder groups to consider here: executives and leadership, managers, and employees and HR.

The Manager's Role

Managers have a responsibility to recognize and reinforce strong performance in employees, and to identify and encourage improvement where necessary. Performance management must be viewed as a two-way discussion that goes on throughout the year. Employees should never be surprised by the ratings and feedback they receive in their formal performance reviews.

Managers are expected to use the performance management process as a valuable tool for supporting employee development and improvement. When managers lose interest, so do employees. To promote interest, managers should emphasize benefits and encourage employees to monitor and evaluate their own progress and performance.

Managers must determine an appropriate schedule for regular performance conversations. Short, regular meetings should be conducted to discuss milestones, successes and challenges. This allows better monitoring of progress and reduces the amount of effort it takes to prepare and conduct annual reviews.

Managers must use the annual performance review meeting to review achievements, setbacks, development and training, and they should use this information to set goals and plans for the coming year. They must deliver regular positive and constructive feedback to employees in one-on-one meetings as well as informally. It is good practice to praise an employee's good work in front of others, while addressing concerns privately, and to take notes on employee performance between conversations. The goal of this feedback is to identify problem areas and solutions, not to dwell on the past.

Managers should regularly check progress towards goals, revising goals or offering coaching or assistance as needed. They should communicate expectations clearly to employees and gather feedback on performance from multiple sources. Surveys and 360-degree feedback tools are especially helpful in evaluating and validating observations. Coaching, when necessary, should focus on specifics, rather than

vague suggestions. The employee should be notified of a coaching session in advance. During coaching, the manager should take time to understand the reasons behind an employee's low performance in order to help the employee deal with these issues.

Managers must also be willing to continuously work on improving their own performance, and they should take the time to understand the different management needs of different generations. Millennials may have different needs and expectations of managers from those of the Baby Boomer generation. For example, according to some research, millennials tend to seek constant feedback and recognition and are more likely to expect quick advancement in their careers.

Managers should support the professional development of their employees while making them accountable for it. A good manager regularly asks employees about their career-related goals and helps them identify areas they need to improve in order to achieve those goals. Each employee should have a well-defined job description and a decent understanding of the skills needed to progress in their careers. Time and flexibility to complete training and skill development are vital.

Finally, managers should complete and submit employee reviews by the designated deadline. Failing to do so indicates that the manager does not prioritize employee performance. It may also delay the payment of bonuses or other rewards for good performance. In order to properly review performance, managers must:

- Understand and correctly use the organization's rating scale
- Be objective and support ratings with clear evidence
- Provide details on how the employee met or did not meet milestones or other requirements
- Assign each employee a plan to encourage improvement and support company-wide success

Key Terms in Planning

While previous chapters have already covered some of these, it is important to keep the following terms and their definitions in mind when studying the process of planning.

- **Aspect**
An element of the organization's activities, products or services that does or may affect the health of either the environment or humans.
- **Impact**
Any positive or negative change in the environment caused wholly or partly by an organization's activities, products or services.

- **Target**

A measure of the EMS goal that an organization wants to reach. This usually involves setting a deadline by which to achieve this goal.

- **Milestones**

Checkpoints in the schedule set by the EMS that help gauge whether and how goals are being met.

- **Pace**

Schedule that an organization sets for reaching EMS objectives and targets.

Training and Competency

The ISO 14001 standards require the organization to identify whatever training may be necessary to fulfil its environmental responsibilities, and to provide this training to any and all employees whose work may have significant impact on the environment. There are two reasons for training employees specifically with regard to an EMS. First, every employee can have an impact on the environment. Second, any employee can have good ideas about improving management efforts.

Each person and function within the organization plays a role in environmental management. Thus, everyone in the organization should be trained on the environmental policy, significant environmental impacts of their work activities, key EMS roles and responsibilities, procedures that apply to their activities, and the importance of conformance with EMS requirements.

However, training is just one element of competence. Employee competence is typically based on a combination of education, training and experience. For tasks that may cause significant environmental impacts, there should be clear criteria for measuring the competence of individuals performing those tasks. These criteria should include the following:

- 1. Ensure that training needs are identified.**

This helps managers to develop a plan for either internal or external training. All individuals will need some level of training as well as education on ISO 14001 requirements. Some will need specific training in emergency response. Others may need their roles to be changed and redefined due to changing responsibilities or positions.

- 2. Ensure that these needs are met.**

There must be a system to ensure that individual training plans are carried out as intended. These plans must be well-defined while also including a broader description of how the organization's

training strategy is structured. Training may include specific courses or seminars, internal workshops and briefings.

3. Confirm that the training has achieved its purpose.

Feedback from training sessions in the form of either written individual reports or questionnaires can help verify this. Employee tests and internal auditing are also good ways of determining the effectiveness of the training. Certain aspects of this are easy to determine if they can be defined numerically or with other objective data, but other aspects are harder to measure. For instance, how might an organization measure whether or not awareness of an issue has improved over the course of a year?

4. Confirm that the individual is more competent and aware following their training.

Noting improvements, monitoring failures due to ignorance, and giving employees simple field tests to complete are all ways of confirming this. Contractors who work for the organization must also be subject to training requirements. The training of individuals whose actions are likely to have the most environmental impact should be prioritized.

Many employees may already be qualified on the basis of their experience and previous training. New employees, on the other hand, will require much more training. On-the-job training is especially important for areas related to employee safety. Creating one or several EMS training courses or packages can help meet these challenges.

Finding time for training can be difficult, but there are many creative ways of dealing with this problem. Safety meetings, staff meetings and training “toolboxes” are helpful for reinforcing responsibilities.

In reviewing training needs, the qualifications and training needs of environmental managers and trainers must also be considered. Certification programs may be appropriate for certain situations.

Finally, since determining competency for various tasks can be a challenge, competency criteria should be as objective as possible. Consider “job aids” to supplement training or help establish competence. Examples of job aids include written or visual job procedures, decision tables or flow charts.

Key steps in developing a plan include the following:

Step 1: Assess training needs requirements

Step 2: Define training objectives

Step 3: Select suitable programs and methods

Step 4: Prepare training plan (who, what, when, where, how)

Step 5: Implement training program

Step 6: Track training (and maintain records)

Step 7: Evaluate training effectiveness

Step 8: Improve training program (as needed)

Communication

There are two levels of communication to consider: internal communication and external communication. In both instances, a successful communication program focuses on:

- Setting communication goals in a timely manner
- Communicating regularly and integrating EMS communication results with other EMS records
- Ensuring that stakeholder communication is a two-way process

Setting Communication Objectives

Communication objectives help to frame the message an organization sends about its EMS. Considering how these goals will be met helps to determine the best method for communicating this message. If an organization has informational posters, safety data sheets and contact information to answer employees' questions, there is at least one internal communication program in place at the facility.

Communicating Progress on the EMS

Communicating progress on an EMS is an on-going activity that:

- Helps maintain support for the EMS
- Reinforces the information in the EMS
- Helps create a two-way discussion between a facility and its stakeholders.

Simple and effective methods of regular internal communication include:

- Bulletin board postings
- Email/printed newsletters
- Breakfast meetings or staff meetings
- Pre-printed messages on pay stubs or inserts in pay cheques.

Examples of regular external communication include:

- Community newsletters
- Facility tours
- Presentations at local organizations, including Chambers of Commerce and schools
- Holding public meetings.

Staff, resources, and relative proximity and interest level of stakeholders are important considerations when deciding which techniques are best suited to a given organization. It is also necessary to periodically review communication programs to ensure they are effective and up to date.

Ensuring Communication is a Two-Way Process

For effective communication, a system should be in place for ensuring that the questions and concerns of both internal and external stakeholders are addressed. This is especially important when dealing with external stakeholders. A **Stakeholder Communication Record** can serve to document the nature of the inquiry, to whom it was made, when it was made, what it concerned, and the response given. Documenting inquiries and responding in a timely manner can help strengthen customer and supplier relationships, investor and employee morale, and community and regulator trust.

Document Control

A dynamic EMS must keep pace with constant changes in the environment, the business world, and personnel and management in the facility. Therefore, keeping documents updated and ensuring that the staff members are working efficiently are both key factors in the success of an EMS. This is known as **document control**.

Document control generally calls for the organization to:

- Develop a procedure for controlling EMS documents
- Determine who needs to be involved in this process, including who has the authority to revise existing EMS documents or develop new ones
- Determine who needs access to controlled copies of EMS documents
- Notify users when new documents are created or existing documents are revised
- Periodically review and update EMS documents
- Ensure that obsolete documents are not used
- Where possible, integrate EMS document control with other systems (such as quality)

The heart of EMS document control is the development of a procedure that outlines:

- Who is authorized to create new EMS documents and revise existing ones
- The process for revising documents
- Review of EMS documents to determine the need for revisions and removal
- Where to find EMS documents

An electronic system can be used to create a document control index to track the revision history of EMS documents. If multiple copies of the same EMS document exist in a facility, records should be kept of who has these copies.

Operational Controls

Operational controls are the specific actions or procedures a facility might follow to prevent or minimize negative environmental impacts. It is especially important to consider those processes or activities that were identified as significant environmental aspects. The following strategies are useful for drafting or revising operational controls:

- For existing controls, interview the staff responsible for the process or activity. Find out what changes have been made and why.
- For unwritten controls, use staff interviews to draft one.
- Check operation and maintenance manuals for best management practices.
- For all controls, elicit input from the staff who will be implementing the control.

In determining which activities require operational controls, it is helpful to use the following guidelines.

Identify operations associated with legal requirements, significant environmental aspects, and objectives and targets.

- Which have procedures and are documented, which have procedures but aren't documented, which don't have procedures (but need them), and which are effectively controlled with simple work instructions?
- Do the operational controls ensure regulatory compliance?
- For operational controls linked to goals and targets, the target measure should show that the root cause of environmental impact is addressed.

Determine how source reduction may address these operations.

Source reduction is about minimizing the risk of environmental impacts by using processes that are safe (or safer than the alternatives) and prevent pollution and waste from occurring in the first place.

Source reduction consists of six techniques:

1. **Input Substitution:** replacing a toxic substance with a non-toxic or less toxic substance.
2. **Product Reformulation:** replacing an existing product with one that is less toxic or less resource-consuming.
3. **Process Redesign or Modification:** developing and using different processes from the ones currently being used.
4. **Process Modernization:** upgrading or replacing existing equipment and methods of operation with other equipment and methods based on the same process line.
5. **Improved Operation and Maintenance:** improved organizational practices, system adjustments, product and process inspections, or process control equipment or methods.
6. **Recycling, Reuse, or Extended Use of Chemicals or Resources:** use of equipment that is essential to the process line.

If source reduction is not a realistic goal, it is important to determine what controls exist, and whether they are effective, by following the steps below:

- 1. Improve existing controls or identify new ones.** Operational controls that fail to meet goals and targets can be improved. The existing practices may not be appropriate or have not been properly applied.
- 2. Determine who is responsible for maintaining and reviewing operational controls.** Someone needs to be responsible for both maintaining and reviewing operational controls. This may be one person for smaller facilities, or a team of workers headed by a line manager who reviews the controls.
- 3. Train employees and contractors on operational controls.** Once the operational controls are drafted, a training program needs to be developed for those individuals who are responsible for maintaining or reviewing the controls.

The process for developing and applying operational controls should be documented, including:

- How operational controls are determined
- How they are catalogued
- Who is responsible for maintaining the operational controls
- How they are developed and reviewed
- How they are documented
- Where they are kept and how they are made available

Emergency Response Plan

An **emergency response plan (ERP)** is a mandatory part of the OH&S program. Emergency response is one of the four activities included in emergency management. An ERP involves prevention, preparedness and recovery. The ERP outlines internal/external resources, roles, responsibilities and accountabilities, as well as any necessary training involved in dealing with emergency response situations.

In an emergency, the safety of all workers depends on each worker's understanding of their specific role and responsibilities in such situations. Musculoskeletal injury (MSI) prevention considerations should always be included in emergency response planning.

Some examples of ERP requirements include:

- ensuring all emergency signage is understandable and easy to read
- placing emergency equipment and gear within easy reach of those who need to use it
- ensuring that workers understand what is required of them in the event of an emergency

Incorporating emergency preparedness and response into the OH&S program strengthens the internal responsibility system and is essential for building a safe and healthy workplace for all.

Basic Requirements of an ERP

According to the ISO 14001 standards, the following is required when developing an ERP:

- The ERP must establish a system for identifying and responding to potential emergencies and accidents that may impact the environment.
- The organization must respond to actual emergencies or accidents in a way that prevents or reduces environmental damage.
- The ERP must be subject to regular reviews (i.e. audits) and revisions as necessary, particularly after emergencies or accidents occur.
- If it is possible to test a procedure outlined in the ERP, it must be tested.

Essentially, if there is an emergency situation where a negative environmental impact takes place, the company needs to have plans in place to deal with this situation to avoid or minimize environmental damage. In order to decide which situations to anticipate, it is helpful to consider the following:

- Whether the impact of an aspect is positive or negative. Emergency response is only necessary, of course, when the impact is negative.
- Whether the organization controls an aspect or merely influences it. Control is necessary when responding to emergencies.
- The significance of the aspect. Aspects that pose only small risks to the environment do not require emergency response planning. Aspects that may cause major damage, however, do need to be included in an ERP.

Benefits of an Emergency Response Plan

Outlined below are some of the benefits associated with developing effective emergency preparedness and response procedures that go beyond legal requirements. Having an ERP:

- demonstrates a commitment to the health and safety of workers and the public
- reduces potential harm to people, equipment, materials and the environment
- ensures that all staff members know and are capable of fulfilling their roles and responsibilities
- identifies both internal and external resources and capabilities
- ensures mutual aid agreements with other organizations are effective
- effectively reduces emergency response times
- helps restore business operations as soon as possible
- enhances public perception of the industry.

Members of the coordinating ERP group are responsible for the following:

- Creating a list of potential emergency response participants. Coordinating Group members may also be aware of specialist groups that might be called upon in specific emergency situations.

- Locating copies of existing emergency plans and reviewing these.
- Addressing concerns about weaknesses in the plan.
- Preparing a brief description of all emergency participants and their roles and resources, including personnel, equipment, special knowledge, facilities, and soon.

Special Considerations for Mines and Smelters

Many mines and smelters operate in remote areas where government agencies may be extremely limited or under-resourced. In such cases, the mine or smelter will be responsible for providing the majority of the resources necessary to deal with emergencies. This includes equipment, such as community ambulances, and training for local groups, such as volunteer firefighters. In some cases, towns close to mines and smelters may grow considerably as a result of the company's presence. This can become a problem if the town or city grows to such an extent that it becomes too large for the emergency response agencies to deal with effectively. In such cases, volunteer organizations may step in to help out.

A checklist of emergency response participants can be developed along the following lines. (Mines in remote areas will not have access to all of these agencies. In these cases, company employees must fill in the gaps.)

- Fire department and police
- Emergency health services (ambulances, paramedic teams, poison centres)
- Hospitals
- Public health authorities
- Environmental agencies, especially those responsible for air, water and waste issues
- Other industrial facilities in the area with emergency response facilities
- Transport companies and suppliers
- Civil defence teams
- Welfare services
- Red Cross/Crescent
- Public works and highways departments, port and airport authorities
- Public information authorities and media organizations

Again, the company may have to provide most of the equipment and facilities to be able to react to an incident, especially if it is in a remote location. However, external agencies or NGOs may sometimes be able to contribute staff and equipment in emergency situations. Facilities located in highly-developed areas, on the other hand, generally have much more efficient energy services and environmental agencies available to them.

A huge range of groups are involved in responding to environmental emergencies, including local communities, local and national authorities, foreign governments, the UN, non-governmental organizations, and corporations. The UN's **Joint Environment Unit** works to sort out responsibilities and

help member states organize and work together in times of crisis. Over the past 15 years, the Joint Environment Unit has worked with many international partners to develop systems, training, and coordination tools that make environmental emergency responses more effective.

Environmental emergencies are unavoidable. Beyond the unpredictable and uncontrollable forces of nature, human error will always exist. Accidents will happen. Conflict will occur, and recur. Climate change and population growth will continue to complicate matters until they can be resolved. But with planning, preparation and coordination, countries are better able to cope with disaster, and the international community is able to respond quickly and effectively.

Environmental Incidents, Emergencies, and Disasters

Environmental emergencies may be caused by natural processes or by humans and human technologies, or by a combination of these. Mining activities in particular present some of the biggest threats in terms of their potential negative impact on both the environment and nearby human populations. Potential risks associated with mines include land contamination from waste dumps, contamination of ground and surface water systems, the release of hazardous materials, and safety issues with unstable dams.

A well-known example of an environmental emergency incident is the Merriespruit (South Africa) tailings dam disaster of 1994. The 31m-high northern wall of the Harmony Gold Mine tailings dam collapsed, resulting in about 2.5 million tonnes of liquid tailings, or waste, flooding the entire nearby mining village. Seventeen people lost their lives, many homes were destroyed, and severe harm was caused to the environment.

At the time of the Merriespruit disaster, there was little to no legislation that dealt with the environmental aspects of emergency situations. This changed with the introduction of the **National Environmental Management Act (NEMA) 107** of 1998, which specifically addressed environmental accidents and disasters.

Section 30 of NEMA relates to the control of **environmental incidents**. An incident is defined as “an unexpected, sudden and uncontrolled release of a hazardous substance, including from a major emission, fire or explosion that causes, has caused or may cause significant harm to the environment, human life or property.”

Section 30 states that whoever is responsible for an incident must report the incident to the relevant authorities. Their report must include which individuals or areas may be affected by the incident, and how. The responsible party must also contain and minimize the effects of the incident to the best of their abilities by taking steps to both clean up the area and assess both the short- and long-term effects of the incident on the environment and on human health.

Failure to fulfil the requirements of Section 30 may result in a compliance notice being issued by an Environmental Management Inspector (EMI). It is important to note that Section 30 was amended in

2013, when the Second Amendment Act 30 of NEMA introduced **Section 30A**. This section specifically discusses **emergency situations**, which differ from the “incidents” described in the original Section 30.

An emergency situation is defined as “a situation that has arisen suddenly that poses an imminent and serious threat to the environment, human life or property, including ‘disaster’ as defined in section 1 of the Disaster Management Act, 2002 (Act No. 57 of 2002) but does not include an incident referred to in section 30 of this Act.” Section 30A allows certain authorities to issue verbal or written instructions to the party responsible for causing an emergency, without having to obtain prior authorization (as they would for a mere “incident”).

It is especially important for a mining operation to be able to distinguish between an environmental incident and an environmental emergency situation. The definition of what constitutes a **disaster** in terms of the **Disaster Management Act (DMA)** is also important.

A disaster is defined as “a progressive or sudden, widespread or localised, natural or human-caused occurrence” which:

(a) Causes, or threatens to cause

- death, injury or disease;
- damage to property, infrastructure, or the environment; or
- disruption of the life of a community

(b) Is too significant for those affected by the disaster to cope with on their own.

When determining whether an event is a disaster as defined by the DMA, the mine must consider the severity of the effects of the event, and whether these effects are significant enough to justify calling on external parties to help the mine deal with the problem. For example, the Merriespruit tailings dam failure was considered a disaster because it deeply affected an entire village, whereas a minor spillage in a confined area of the mine would be considered merely an environmental incident.

However, the definitions outlined in Sections 30 and 30A of NEMA are somewhat problematic because the definition of an incident includes a reference to disasters, despite the distinction made in 30A. This results in a loophole that responsible parties can take advantage of by trying to rely on Section 30A, rather than Section 30. In other words, they may claim a mere incident is a disaster in order to avoid having to obtain the authorization required for dealing with incidents.

Effective management of environmental incidents and emergency situations is necessary for a mine in terms of preventing or minimizing any negative impacts that future accidents and emergencies may cause. While Sections 30 and 30A of NEMA might not have prevented events such as the Merriespruit disaster, the impact of such a disaster on the environment was certainly taken into consideration during the drafting of these sections.

As Kofi Annan, the Secretary General of the United Nations in 1999, said, “Prevention is not only more humane than cure, it is also much cheaper. Above all let us not forget that disaster prevention is a moral imperative, no less than reducing the risks of war.”

Mitigation and Compensation

There are many ways of defining **mitigation**. The EU defines mitigation in Directive 85/337/EC as “measures envisaged in order to avoid, reduce and, if possible, remedy significant adverse effects” (1985). Treweek defined mitigation as “any deliberate action that is taken to alleviate adverse effects, whether by controlling the sources of impacts or the exposure of receptors to them” (1999). Rundcrantz and Skärbäck (2003) defined mitigation as something that “limits or reduces the degree, extent, magnitude or duration of adverse impacts.”

Perhaps the most useful and influential definition of mitigation was provided by the European Commission’s guidance note on Article 6 of the Habitats Directive (European Commission, 2000), which defined mitigation as “measures aimed at minimizing or even negating the negative impact of a plan or project, during or after its completion.”

Essentially, mitigation involves finding the best methods of avoiding, minimizing, and fixing problems associated with environmental impacts. It is a vital part of effectively safeguarding the environment and human populations.

Mitigation measures must be well-timed and carried out properly if they are to be effective. This process is called **impact management**, and it takes place during the implementation stage of a project. A written plan should be prepared for this purpose. This plan should include a schedule of agreed actions.

The goals of mitigation are to:

- Find better alternatives and ways of doing things
- Increase the environmental and social benefits of a proposal
- Avoid, minimize or remedy negative impacts

It is important to note the difference between mitigation and **compensation**. Cowell (2000) defined environmental compensation as “the provision of positive environmental measures to correct, balance or otherwise atone for the loss of environmental resources.” Kuiper (1997) stated that compensation involves “the creation of new values, which are equal to the lost values.” In other words, compensation is the act of replacing something lost with something new of similar worth.

In the US, the Clean Water Act shows the connection between mitigation and compensation by defining mitigation as “sequentially avoiding and minimizing impacts and compensating for remaining unavoidable impacts.” Put simply, compensation is just one of several ways of mitigating environmental damage.

WHO and Emergency Response Funding

There is a misconception that emergency preparedness and response measures put extra burdens on organizations. However, World Health Organization (WHO) activities to support risk reduction and emergency preparedness activities should be primarily funded through the WHO country's regular budget. However, additional funding might be obtained from:

- Setting aside a portion of extra budgetary overseas assistance and/or relief and recovery funds for emergency preparedness
- Fundraising for specific projects that are not funded by the above sources

Pollution Incidents

A **pollution incident** is an event which causes, or may cause, a leak, spill or other release of a substance which leads to environmental contamination. (This does not include noise pollution.)

A plan for coping with a pollution incident is known as a **Pollution Incident Response Management Plan (PIRMP)**. Specific requirements for a PIRMP are listed in Part 5.7A of the **Protection of the Environment Operations (POEO) Act** of 1997, as well as the POEO (General) Regulation 2009, or POEO (G) Regulation. The basic requirements listed include the following:

- Anyone who holds an environment protection license (EPL) must have a PIRMP.
- The plan must include the information detailed in the POEO Act and the POEO (G) Regulation. It must also be in the format required by the POEO (G) Regulation.
- Licensees must keep the plan at the location the EPL was issued for.
- Licensees must test the plan. The POEO (G) dictates that testing must occur annually, with additional testing after incidents.
- If a pollution incident leads to, or may lead to, environmental damage, the procedures outlined in the PIRMP must start immediately.

Reporting a Pollution Incident

Under Section 148 of the POEO Act, those who cause pollution incidents (including licensees) are required to report them. The Amending Act makes the following changes to this reporting obligation:

- The pollution incident must be reported immediately, rather than “as soon as practicable.”
- All relevant authorities must be notified of the incident, not just the regulatory authority determined by the POEO Act. Relevant authorities may include
 - The EPA
 - The Ministry of Health
 - The Work Cover Authority
 - Local councils
 - Fire and Rescue NSW

- The EPA is given the right to direct the owner of the area where the incident occurred in terms of notifying other authorities.
- The maximum penalty for failing to fulfil the POEO requirements regarding notification of an incident is doubled to \$2 million.

Reporting is especially important when there is a risk of “material harm to the environment.” Section 147 of the POEO Act defines damage as “material” when:

- It causes, or may cause, harm to humans or to ecosystems in the area that is significant
- It results, or may result, in more than \$10,000 worth of loss or property damage (or whatever amount is required by the regulations)

Section 147 further states that “loss” includes the cost of all measures taken to prevent, mitigate, or repair harm done to the environment.

Section 150 of the POEO Act requires the following information to be included when reporting a pollution incident:

- the time, date, type, duration and location of the incident
- where the pollution is occurring or is likely to occur
- what kind of pollutants are involved, and in what quantity
- the circumstances in which the incident occurred (including the cause, if known)
- how the organization will deal with the incident, and what steps have already been taken
- any other information suggested by the regulations

Section 150 also states that, in addition to immediate reporting, the responsible party is also expected to notify all relevant authorities of any new information or developments which surface after the initial report. Just like when reporting the original incident, these extra reports must be made as soon as the new information becomes known or the development occurs.

In the UK, the Environment Agency incident hotline can be called when reporting any of the following:

- damage or danger to the natural environment
- pollution to water or land
- poaching or illegal fishing
- dead fish or fish gasping for air
- watercourses blocked by a vehicle or fallen tree, causing risk of flooding
- flooding from main rivers or the sea
- incidents at Environment Agency-regulated waste sites
- illegal removals from watercourses
- unusual changes in river flow
- collapsed or badly damaged river or canal banks

Further Reading:

- ✓ *Environmental Performance Reviews OECD Environmental Performance, OECD (2018)*
- ✓ *Environment and Development, (2017), By K. R. Shanmugam, K. S. Kavi Kumar*