Section 3: Environmental Aspects and Impacts

(Defining the Impact Your Organization Has on the Environment)

Identifying how your organization's operations and services affect the environment is a critical element of your EMS. It is here that you will begin the first step of defining your organization's environmental "footprint" (i.e., how your operations and services affect the environment), leading to measurable goals for improving your environmental performance through your EMS.

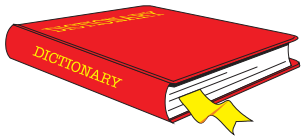
The step-by-step tasks described in the following sections will guide your organization in identifying its environmental footprint. This process is one of the most challenging portions of EMS implementation and requires focus and teamwork. However, this is the opportunity for your organization to stop, take a hard look at your individual operations and activities, and identify how these positively and negatively affect the environment.

You are about to embark on a process of organizational "discovery" that will help everyone involved better understand your operations and the unique role that each of you, individually and collectively, play in managing your wastewater facility's environmental impacts. The result of this effort will be a list of environmental aspects and impacts, and the processes/activities that potentially create them. From this list, your team will develop a means to prioritize those that are most significant and those that require your organization's most immediate attention. This may seem daunting, but if you follow the step-by-step approach it will be manageable and you will quickly realize the benefits of this effort.

Step-by-Step Guide to Identify and Prioritize Environmental Aspects

Step 1) Clarify EMS Jargon with Your Team
Step 2) Determine Your Core Operations and Supporting Activities—Your EMS "Fenceline"
Step 3) Construct Input/Process/Output Diagrams
Step 4) Develop a List or Matrix of Environmental Aspects and Impacts
Step 5) Prioritize Your Environmental Aspects and Impacts
  a. What Criteria will you Use to Prioritize?
  b. How Will the Criteria be Used?
Step 6) Develop a System Procedure for Identifying Your Environmental Aspects/Impacts
Step 7) Check Your Environmental Aspect Identification Procedure for EMS Conformance
Step 8) Review and Revise Your Environmental Aspects/Impacts

Key Section Terms



EMS Core Team – A cross-functional team made up of individuals within the organization that helps facilitate EMS implementation across the organization. Team members are the EMS experts and cheerleaders.

Environment – Surroundings in which an organization or facility operates, including air, water, land, natural resources, flora, fauna, humans and their interrelation.

Environmental Aspect – Element of an organization's activities, products or services that can interact with the environment. Aspects = Causes

Environmental Impact – Any change to the environment, whether adverse or beneficial, that results from an organization's activities, products or services.
Impacts = Effects

EMS Fenceline – Project scope and/or operational areas in an organization in which the EMS is implemented. For example, for wastewater operations, this could include the pretreatment and the laboratory operations.

"Footprint" – The environmental impact of your facility; how your operations and services interact with the air, water, land, resources, local and regional community, etc.

Stakeholders – Groups and organizations having an interest or stake in an organization's EMS (e.g., regulators, shareholders, customers, suppliers, special interest groups, residents, etc.).

Test your Knowledge!

It's a good idea to be sure you have a clear understanding of the difference between activities, aspects, and impacts. Here's a short quiz to use with your EMS Core Team (the answers are below). Indicate which of the following terms is an activity, aspect, impact, or none?

Aspect, Impact, Activity, or None

1) Air pollution/degradation
2) Burning diesel fuel
3) Digester
4) (Electrical) energy consumption
5) Water consumption
6) Degradation of a stream/creek
7) Burning bio-diesel fuel
8) Spilled Solvent
9) Recycling Program
10) Cleaning Spills

Answers:
1) Impact **2)** Aspect – driving the truck is the activity **3)** None **4)** Aspect **5)** Aspect **6)** Impact **7)** Aspect **8)** Aspect – spill is an aspect; worker contamination and degradation to water/soil an impact **9)** Activity **10)** Activity

Before we jump directly into the next steps, the aspect/impact analysis presents a terrific opportunity for you to involve not only the Core Team, but also your front-line employees. In fact, their participation is often referred to as a fundamental key to successful EMS implementation. These are the employees who have hands-on knowledge and experience of all of the activities you are preparing to evaluate and who are the closest to the actual operations. Their involvement will also help instill an understanding and appreciation for the interaction between the environment and their daily work activities. Involve them early, because it will reap wonderful rewards throughout implementation. Talk about getting buy-in for your EMS!

Step 1) Clarify EMS Jargon with Your Team

One of the first hurdles that you will likely encounter is having your Team(s) achieve a comfort level with the EMS "jargon" involved in this phase of activities. Therefore, take a look at two terms that you or your employees may not have seen before—aspect and impact. Environmental aspects are the parts of your operations and activities that interact with the environment. Environmental impacts are the changes to the environment, positive or negative, resulting from your organization's operations and activities. Still a little unclear?

Well, try thinking about it this way: the aspects are the causes and the impacts are the effects.

Aspects = Causes and Impacts = Effects

For example, the burning of gasoline in your car can <u>cause</u> air emissions which <u>affect</u> the air quality.

Here are some examples from wastewater facilities:

Operation or Service Activity	Environmental Aspects	Potential Environmental Impacts (Effects)
Burning of Fuels	Air Emissions (CO)	Degradation of Air Quality
Transport of Diesel Fuel	Spills and Leaks	Soil and Groundwater Contamination
Maintenance of Fleet Vehicles	Used Oil Recycling	Conservation of Natural Resources
Equipment Maintenance	Solid Waste Generation	Reduction in Landfill Space
Facility Boilers	Electricity Use (Gas & Diesel)	Reduction in Natural Resources
Office/Administrative Activities	Recycled Paper	Conservation of Landfill Space

Why is this distinction so important? In order for your organization to build and grow a culture of continual improvement with regard to the environment, you first need to identify how your organization affects or impacts its surrounding environment. To ultimately manage the identified

impacts, you also need to identify the operations and/or activities that cause the impacts and the ways these occur. The more clearly your team can define this relationship, the better able they will be to understand what needs to be done to control and manage the most important impacts.

Step 2) Determine Your Core Operations and Supporting Activities—Your EMS "Fenceline"

Once your team has a solid understanding of the terms "aspect" and "impact," work with your EMS Team(s) and management to define exactly what operations and supporting activities will be the initial focus of your EMS efforts. This area or operation is commonly referred to as the EMS "fenceline." An EMS can be applied to any operation or activity within your wastewater facility, big or small—a department, division, operation or your entire facility. Remember, this is YOUR EMS and only you can decide what makes sense for your organization.

Other wastewater facilities and local organizations that have implemented EMSs advise: Think Big, Start Small! It may be tempting at first to include all of your operations and facilities within your EMS fenceline, but it is usually unrealistic for most organizations to launch and manage such a large-scale project, considering the human and financial resources involved. Consider starting with a small section of your organization, and then add more departments and facilities as your EMS experience and expertise grows. This way you develop a solid understanding of the EMS process and a group of internal experts that can act as mentors as your EMS grows.

Example Fencelines from Wastewater and Public Organizations that have Implemented EMSs:

Louisville and Jefferson County, KY Metropolitan Sewer District	Wastewater Treatment Facility and Purchasing Department
Oakland County, MI Drain Commissioner's Office	Wastewater Treatment Plant— Engineering and Construction
Rivanna, VA Water and Sewer Authority Complex	Wastewater Treatment Plant
Kent County, DE Department of Public Works	Wastewater Treatment Facility and Biosolids Operation
City of Eugene, Oregon	Wastewater Division
Charleston, South Carolina	Entire Wastewater Operation
San Diego, California	Wastewater O&M Division

Three Lessons Learned

(from wastewater facilities):

1. Ensure the activities you list for your aspects/impacts have potential or direct impacts on the environment. Do not list activities that have little or no impact on the environment (i.e., you do not have to list every single thing at your facility).

2. Make your aspect ranking method simple and easy to understand.

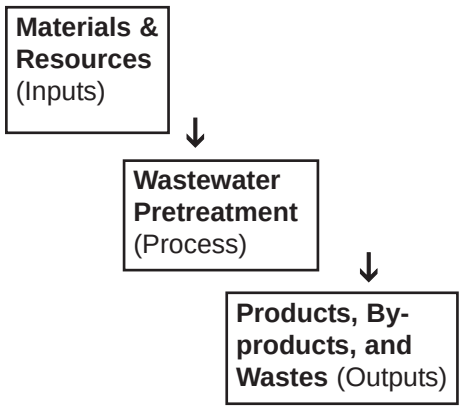
3. Keep your aspect analysis procedure flexible—remember, this process is not set in stone—if you do not feel your aspect analysis is working, change it! Remember, an EMS is about continual improvement.

Questions to Consider:

- What resources do you have at your disposal for EMS activities?
- Where will you get the most bang for your buck? What areas give you the most heartburn at the moment or are of greatest concern to your community?
- Where do you use the most natural resources? Energy? Hazardous materials?
- What areas have the most support and/or interest? Have receptive management? Line supervisors? Employees?

Inputs/Process/Outputs Overview

One way to visualize the environmental "footprint" of your operations and activities is to construct input/process/output diagrams. These diagrams will help you identify what materials and resources you use (inputs), where they are used (the process), and how they are turned into a product or service (output), re-used as by-products (output), or become wastes (output). A simple input/process/output diagram is provided below. As you will see in this section, these diagrams are helpful in identifying your environmental aspects.

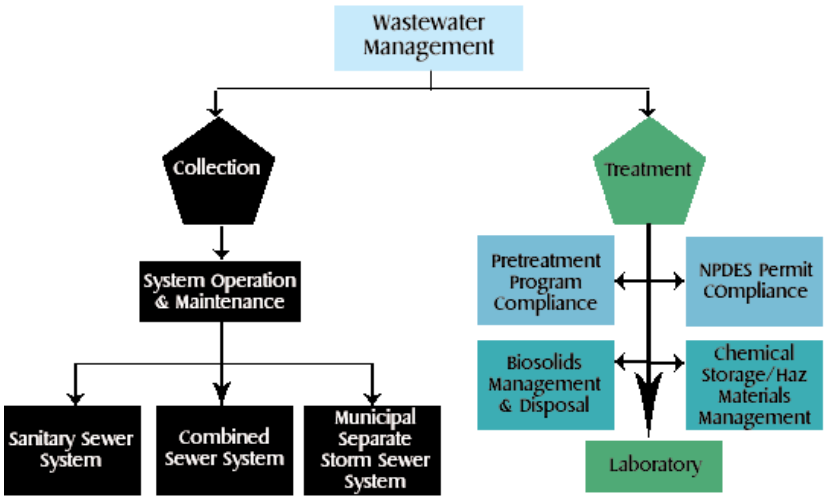


Step 3) Construct Input/Output Diagrams

Once you have defined which operations and activities fall within your EMS implementation scope, take a closer look inside your fenceline. To understand your environmental aspects and impacts, it helps to understand the inputs/processes/outputs that are part of the operations and activities within your fenceline. At this point you may be thinking, “okay I can do that, let’s sit down and drum up a list. We pretty much know our impacts on the environment.” Although your team could probably brainstorm a pretty good list, the EMS process helps you focus your efforts to ensure that you cover all bases and that nothing slips through the cracks.

One common approach for conducting this assessment is to first create a flowchart of your EMS fenceline with associated processes and operations.

A typical wastewater facility-level diagram is presented below as an example of the common format:



For example purposes, let’s say that your organization selected “Treatment” as its EMS fenceline. Based upon the above example you would then dig a little deeper to look at the individual operations/activities within this fenceline. To accomplish this, organizations commonly utilize input/process/output diagrams (see sidebar) to help understand and visualize processes as well as how materials are used, re-used and disposed within each individual operation or activity. You are probably wondering why “Laboratory” is highlighted a little differently than the other operations/activities in the diagram above. The next few pages will walk through the basics of determining environmental impact for a laboratory operation.

The next step is to construct the input/process/output diagrams for each of the operations/activities within your fenceline and laboratory as selected in the sample diagram.

Materials & Resources → (Inputs)
Effluent
Biosolids
Lab Equipment
Chemicals
Gases
Microbiological Media
Energy
Supplies

Laboratory (Process)
- Chemical Analysis
- Biological Analysis
- Physical Analysis
- Monitoring
- Sampling
- Generation of Data

↓

Products → (Outputs)
Laboratory Data

By Products → (Outputs)
Recyclables (e.g. Glassware, Packaging, Paper, etc.)

Wastes (Outputs)
Analysis (Chemical) Wastes
Glassware
Solid Waste (e.g. Trash, Empty Containers, etc.)

This process for developing input/process/output diagrams should now be continued for each of the other operations/activities within your defined fenceline. For example, if your EMS Team were working from the example flowchart presented above, you would proceed to develop diagrams for Chemical Storage/Haz Materials Management, Biosolids Management and Disposal, Pretreatment Program Compliance, and NPDES Permit Compliance. Remember, this is only an example. Your defined fenceline might entail very different operations/activities both in number and type.

"By focusing on the creation of input/process/output diagrams first in the determination of our impacts and aspects, we were able to see the environmental consequences of our organization."

San Diego, California
Refuse Disposal Division

REMEMBER

Keep in mind as you brainstorm and generate your aspect/impact list that you are not expected to manage environmental issues outside your influence or control. For example, while your organization probably has control over how much electricity it buys from a supplier, it likely does not control or influence the way in which that electricity is generated. Therefore, your focus as you develop your list should be on the environmental aspects of your own operations and services within the fenceline that you define.

COACH'S CORNER

Your EMS Site Team(s) are terrific at producing input/process/output diagrams in the areas in which they work. Along with the Site Team member(s), have a Core Team member and a person from your environmental staff when you develop your diagrams. This is a great opportunity for operational and environmental staff to discuss your facility and processes, perhaps for the first time.

COACH'S CORNER

When you identify your aspects and their impacts, you want to identify:

1) Regulated Aspects (e.g., Air Emissions, Water Discharges, etc.)

2) Non-Regulated Aspects (e.g., Electrical/Energy Use, Land Use, etc.)

3) Emergency Situations/ Conditions (e.g., Spills, Leaks, etc.)

4) Positive Impacts on the Environment (e.g., Recycling Paper, Re-Use of Water, Using Biogas as an Energy Source, etc.)

"Don't beat your aspect analysis to death—do the evaluation the best you can and move on. It is very easy to get bogged down in this element and not make any progress. Don't be afraid to say, 'good enough for now, let's move on.'"

Beth Eckert
Gastonia, North Carolina
Public Works and Utilities Department

Step 4) Develop a List or Matrix of Environmental Aspects and Impacts

Once you have identified your core fenceline operations and activities and created diagrams to "visualize" your processes, it's time to create your list of environmental aspects and impacts. Get together with the employees from the areas where you have input/process/output diagrams to brainstorm and work together on your wastewater environmental aspect/impact list. Start with each process. For instance, look at the example diagram and text on the previous page and take a closer look at chemical analysis, then biological analysis, followed by physical analysis and so on.

The most common approach to developing this list of environmental aspects and impacts is to develop a matrix for each of your input/process/output areas to collect relevant information in an organized and manageable manner.

Referring back to the laboratory example, the first step is to add the various processes involved in laboratory operations/activities. The following is an example for the laboratory:

Operation/Activity
Chemical (Nutrient) Analysis
Biological Analysis
Physical Analysis
Sampling, Analysis & Monitoring
Laboratory/Biosolids Testing
Laboratory/Recycling Program

Next, add the various aspects related to each individual process. Remember, aspects are how these processes interact with the environment and are the causes of potential environmental impacts. Adding some aspects, the example matrix would now look like this:

Operation/Activity	**Aspects**
Chemical (Nutrient) Analysis	Hazardous Waste Disposal
Biological Analysis	Spills, Solid Wastes, Hazardous Waste
Physical Analysis	Solid Wastes
Sampling, Analysis & Monitoring	Energy Use
Laboratory/Biosolids Testing	Energy Use, Solid Wastes, Hazardous Waste
Laboratory/Recycling Program	Glassware Recycling (+)

Okay, at this point you have brainstormed with your team and with the help of your visual diagrams. You've identified the various processes involved and their associated aspects. Now, let's add the potential impacts to the environment of each process. Doing so would look like:

Operation/Activity	Aspects	Impacts
Chemical (Nutrient) Analysis	Hazardous Waste Disposal	Potential Land and Water Degradation, Landfill Use
Biological Analysis	Spills, Solid Wastes, Hazardous Waste	Depletion of Natural Resources, Landfill Use, Hazardous Waste Disposal
Physical Analysis	Solid Wastes	Landfill Use
Sampling, Analysis & Monitoring	Energy Use	Depletion of a Natural Resource
Laboratory/Biosolids Testing	Energy Use, Solid Wastes, Hazardous Waste	Depletion of Natural Resource, Landfill Use, Hazardous Waste Disposal
Laboratory/Recycling Program	Glassware Recycling (+) - see sidebar on positive aspects	Conserving Landfill Space (+) - see sidebar on positive aspects

Sample lists of aspects and impacts from wastewater facilities are provided in Appendix A.

NOTE

As a public organization, you may want to consider involving external stakeholders (neighbors, local community groups, etc.) in identifying potential environmental aspects and impacts that affect the local community. For example, you may want to consider effluent, odor, and light pollution issues.

Step 5) Prioritize Your Environmental Aspects and Impacts

Whew! At this point you probably have a large list or a number of individual operation/activity lists of environmental aspects and impacts. Don't worry! An EMS is structured so that you do not have to manage all of these aspects and impacts at once. The next step of the process is to whittle the list down, through a prioritization technique, to a manageable group of the most "significant" to your organization. So, how do you narrow your list to focus on what is most significant? First you need to develop a means to rank and differentiate, or "prioritize," the different aspects that you have identified, to determine which of them are most significant.

REMEMBER

Don't forget to include your positive aspects! Take a look at your pollution prevention plans, reuse and recycling initiatives, etc. Build momentum from how you are minimizing and preventing pollution already. For example, for disposal of glassware (the activity) used in your laboratory operations, your (positive) aspect would be recycling the glassware and the (positive) impact would be conserving landfill space.

COACH'S CORNER

Involving personnel from the frontline in identifying your inputs/processes/outputs and your aspects/impacts list is a good way to ensure buy-in to your EMS. Besides, employees who are involved day-to-day with the front-line operations are typically the best in identifying the environmental issues associated with activities (working with the environmental department).

"Don't get too far down in the weeds"

Many wastewater facilities have reported getting caught up in too much detail and generating very large lists of environmental aspects and impacts. Remember that this is an iterative process—a process that stresses the importance of **continuous improvement**. If you do not catch every aspect/impact during your first review, it's okay. You will most likely catch it during the next cycle as your EMS is refined and matures.

NOTE

When you prioritize the environmental impacts at your facility, consider what is regulated as one of your key scoring criteria.

Significant criteria to consider when prioritizing your environmental aspects:

- ⇨ Impact to Natural Resources
- ⇨ Impacts to Land, Water and Air
- ⇨ Cost
- ⇨ Probability of Occurrence
- ⇨ Volume
- ⇨ Toxicity
- ⇨ Regulated
- ⇨ Public (Stakeholder) Impact
- ⇨ Nuisance
- ⇨ Human Health Impacts

The basic process that you will use is to (1) define a group of selection criteria (e.g., air, water, land), (2) develop a scoring system, and (3) apply this criteria to each of the listed environmental aspects to achieve a total rank or number. For example, looking at the laboratory, the scores come out as follows:

Operation/ Activity	Aspects	Impacts	Changes to Air	Changes to Land	Changes to Water
Chemical (Nutrient) Analysis	Hazardous Waste Disposal	Hazardous Waste Disposal	3	5	5
Biological Analysis	Spills, Solid Wastes, Hazardous Waste	Depletion of Natural Resources, Use of Landfill Space, Hazardous Waste Disposal	1	1	3
Physical Analysis	Solid Wastes	Use of Landfill Space	1	5	3
Sampling, Analysis & Monitoring	Energy Use	Depletion of a Natural Resource	1	1	1
Laboratory/ Biosolids Testing	Energy Use, Solid Wastes, Hazardous Waste	Depletion of Natural Resource, Use of Landfill Space, Hazardous Waste Disposal	1	3	1
Laboratory/ Recycling Program	Glassware Recycling (+)	Conserving Landfill Space (+)	1	3+	1

Step 5a) What Criteria will you Use to Prioritize?

As with every other part of the EMS, the Keep It Simple, Simple [KISS] rule applies here. Experience has shown that a simple system for prioritizing environmental aspects and impacts has generated the same results as a more complex one, but in a shorter period of time and with happier EMS team members. There is not a magic number here in terms of how many criteria you will utilize; it really depends on what factors are important within your organization and what allows your organization to simply and effectively rank your identified aspects. The criteria you use to determine significance will act as a filter to identify those environmental aspects that your organization will need to manage. Here's some simple advice: Don't have too many criteria. A very complicated grading system will confuse and discourage those involved and make this process much more difficult than necessary. Remember the KISS rule!

Step 5b) How Will the Criteria be Used?

Once you have selected your criteria for ranking your aspects and impacts, apply the criteria to each of the entries on your aspects & impacts list using a quantitative ranking method. A simple 1 – low; 3 – medium; and 5 – high impact rating system works well and avoids long discussions about the difference between a 2 and 3 or a 3 and 4.

However, if your team can't seem to decide if something should be a 3 or a 5, call it a 4 and move on! **Don't let the pursuit of the perfect become the enemy of the good!**

Refer back to the laboratory example, suppose that our teams selects the following three criteria for prioritizing aspects: Impact to Air, Land, and Water.

Adding the criteria into our example table and applying our simplified scoring system, your team would end up with something like this:

Operation/ Activity	Aspects	Impacts	Air Impact	Land Impact	Water Impact	Total Score
Chemical (Nutrient) Analysis	Hazardous Waste Disposal	Hazardous Waste Disposal	3	5	5	13
Physical Analysis	Solid Wastes	Use of Landfill Space	1	5	3	9
Biological Analysis	Spills, Solid Wastes, Hazardous Waste	Depletion of Natural Resources, Use of Landfill Space, Hazardous Waste Disposal	1	1	3	5
Laboratory/ Biosolids Testing	Energy Use, Solid Wastes, Hazardous Waste	Depletion of Natural Resource, Use of Landfill Space, Hazardous Waste Disposal	1	3	1	5
Laboratory/ Recycling Program	Glassware Recycling (+)	Conserving Landfill Space (+)	1	3+	1	5
Sampling, Analysis & Monitoring	Energy Use	Depletion of a Natural Resource	1	1	1	3

NOTE

Every environmental aspect you determine to be significant will require you to verify current controls (procedures, work instructions, etc.) or to implement new controls to show that you are managing your significant environmental issues *(for more information, see the Operational Control section later in this Handbook).*

REMEMBER

The number of and criteria you use for your wastewater facility are up to you!

Involving Contractors and Temporary Staff

It is important to involve contractors and temporary employees in this phase of your EMS, particularly if they work in areas that can create a significant impact on the environment. The wastewater facilities that have EMSs in place that contributed to this Handbook involve them in the aspects/impacts analysis, as well as in the setting of objectives and targets if they work in areas that could have an environmental impact.

Three Things to Avoid

(from wastewater facilities):

1. Breaking aspects into too much detail. For example, hazardous waste use and disposal in the lab does not need to be broken down into each chemical's hazardous waste use and disposal as an aspect.

2. Making your significance threshold too low and thereby taking on too many significant aspects. Remember that for every significant aspect you name, you must have an operational control (i.e., procedures, manuals, work instructions, etc.) in place.

3. Getting bogged down when discussing applicable scores for an environmental aspect. Come to a consensus and move on.

REMEMBER

Your wastewater facility has the flexibility to determine the criteria and the method for determining significance. This is a subjective exercise that is not standard for every organization. Consider the approach that fits your organization and remember to consider technical, business and stakeholder issues.

Three Keys to Success

(from wastewater facilities):

1. Educate, Educate, Educate—the EMS Core Team and all employees on their roles and responsibilities in the environmental aspect/impact analysis.

2. Define your significant ranking criteria for all employees who participate in your ranking process so that they know what the terms mean as they score aspects.

3. Create cross-functional teams for your review. Include frontline employees from the applicable areas and the environmental department on the team(s) that conduct the aspects analysis.

To reinforce what we just learned, let's look at another wastewater example, this time looking at the environmental aspects/impacts from the collection and distribution of wastewater via a sanitary sewer system.

The activities, aspects, and impacts of operating and maintaining a wastewater sanitary sewer system could include:

Operation/Activity	Aspect	Impact
Repairing/Maintaining Manholes	Use of Oils and Lubricants	• Depletion of a Natural Resource • Contamination of Water/Land
Repair Leaking Sewer Lines	Energy Use	• Depletion of a Natural Resource • Employee H&S
Operate & Maintain Pump Stations	Sewer System Overflows (SSOs) – i.e., spills	• Degradation of Water/Land (Streams, Creeks, Soil, etc.) • Impact to Public Health

Brainstorming with the sanitary sewer and environmental staff, the EMS Core Team scores the sewer system overflow/sewage backup aspect for significance. Note that the criteria that scored the highest (land and water impact and health & safety), match the impact areas that came from your aspect/impact list.

Operation/ Activity	Aspect	Impact	Land Impact	Air Impact	Water Impact	Health & Safety	Total Score
Operate & Maintain Pump Stations	Sewer System Overflows (SSOs)	•Degradation of Water/Land (Streams, Creeks, Soil, etc.) •Impact to Public Health	5	1	5	5	16

So, you came up with a total score of 16 for this aspect. But what does this score mean? Once you've determined all your aspects and their associated impact scores for the operations/activities within your defined fenceline, you will need to establish a threshold for significance based on what your organization can reasonably manage (for instance anything over 15 could be considered significant in this last example).

Keep in mind that each organization has the flexibility, based on its business, technical, legal, operational, and interested party concerns and requirements, to set what it considers to be a significant threshold value. As mentioned previously, make sure that everyone realizes that each aspect that is identified as significant (i.e., a total score over your determined threshold) will require some kind of operational or

equipment control measure, training, recordkeeping and other relevant EMS required management practices to minimize or prevent the environmental impacts. Remember, this is a continuous process, so you don't need to save the world the first time around!

Now, compare how other aspects within the sanitary sewer operation and other wastewater operations scored against sewer system overflows. Conduct a reality check with the employees in sewer operations and maintenance and the environmental department to see if your environmental significance ranking makes sense. Did the aspects of your operations/activities that surfaced to the top make sense? If not, discuss this among your group and ensure that it wasn't a scoring error. Ensure that everyone understands how and why the aspects identified as significant became so and that they are committed to focusing on these areas in subsequent EMS tasks.

Step 6) Develop a System Procedure for Identifying Your Environmental Aspects/Impacts

When you're satisfied that your process for identifying and ranking your environmental aspects/impacts conforms to the EMS requirements, it's time to document the process in a written system procedure. Your system procedure clearly defines what you'll do, roles and responsibilities, when they'll do it, methods for communicating, and where the information will be stored. This documented procedure will be a consistent, easily accessible, and clear guide for ensuring that this important element of your EMS is carried out according to your plans.

For sample procedures on identifying environmental aspects from wastewater facilities, see Appendix A.

Step 7) Check Your Environmental Aspect Identification Procedure for EMS Conformance

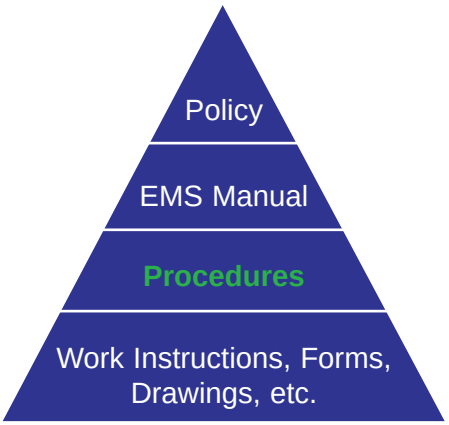
Once you have your Environmental Aspect Identification Procedure in place, review it for EMS conformance.

Check ✓

1) Have you conducted a sound methodology?
2) Have you included all core fenceline operations and activities?
3) Have you developed a list of significant environmental aspects and impacts?
4) Is the aspect/impact list reviewed at least annually?
5) Does your procedure account for changes to operations and activities?

"Once your original aspect/impact list is developed and you have controls in place, you need to come up with a process to deal with change and a way to capture any new activities and aspects and score them for significance."

Donna Adams
Eugene, Oregon
Wastewater Division



An Environmental Aspect ***system procedure*** is required for this element. A system procedure defines the purpose (why the procedure is needed), scope (to what operations/areas/staff the procedure applies), roles & responsibilities (who needs to complete the tasks), and the tasks that need to be completed for this element.

Select volunteers to take part in the aspects analysis that have in-depth knowledge of the activities you are evaluating. Their knowledge is your system.

James Naber
Buncombe County, North Carolina
Metropolitan Sewer District

Establish a simple aspect ranking system. A complicated ranking system will confuse and discourage those involved in prioritizing your environmental aspects.

Rick Bickerstaff
Charleston, South Carolina
Commissioners of Public Works

The input/process/output diagramming exercise was a great team building exercise between the Environmental Department and the frontline employees.

Laura Fiffick
Houston, Texas
Port of Houston Authority

Step 8) Review and Revise Your Environmental Aspects/Impacts

Once you have your aspect list in place and you have determined your significant environmental issues at your wastewater facility, keep the information up-to-date. Using the written procedure you have developed, review your aspect list at least once a year and complete an aspect/impact review when you have any new or changed operations or services coming on-line.

Environmental Aspects and Impacts

(Cut out this section for handy reference)

The **Purpose** of this EMS element is to:

- Identify and rank the environmental aspects and impacts of your wastewater facility.

The **Results** of this EMS element are:

- A list/table (EMS record) of the activities, environmental aspects and environmental impacts of your wastewater facility.
- Significance criteria (EMS record) for ranking your priority environmental impacts.
- A system procedure (EMS document) for environmental aspect and impact identification and significance determination.

Before you Begin this EMS element:

- Draft your environmental policy.
- Complete your wastewater legal and other requirements procedure and requirements list.

ISO 14001 Requirements	Key Links to Other EMS Elements	Required Documents & Records	Optional Documents & Records
Environmental Aspects The organization shall establish and maintain a procedure(s) to identify the environmental aspects of its activities, products or services that it can control and over which it can be expected to have an influence, to determine those which have or can have significant impacts on the environment. The organization shall ensure that the aspects related to these significant impacts are considered in setting its environmental objectives. The organization shall keep this information up-to-date.	**Objectives & Targets -** In setting your environmental goals, remember to consider the significant aspects of your operations and services. **Training & Awareness -** Employees working in significant aspect operation and service areas need to understand their responsibilities in these priority areas. **Communications -** Communicate your significant aspects throughout your fenceline. Also, make a decision on whether you will communicate your significant aspects to the public. **Operational Control -** Control and manage (through procedures, work instructions, manuals, etc.) all your significant aspects.	Aspect and Impact Analysis Procedure A List of Significant Criteria A List of Significant Environmental Aspects	Activity/Aspect/Impact List Input/Output Diagrams