




MP 5

Environmental Aspects Evaluation

Revision list


Revision No.	Description	Written By/Revised By	Date
0	First issue	C. Abela	04.10.2010
1	Inclusion of table 5.9 Degree of Influence and reference to it in Sections 5.5.2 and 5.5.3	C. Abela	08.02.2011
2	Update to Terms and Definitions and replaced the term 'gravity' with 'severity' as per Aspects Registers	S. Scicluna	14.05.2013
3	Minor correction in section 5.5.2	S. Scicluna	02.07.2014

Revised by:	Verified by:	Approved by:
[signed] S. Scicluna Environmental Coordinator	[signed] E. Borg Manager RAO	[signed] R. Azzopardi Management Representative

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1. Aim and Scope

The objective of the procedure is to define responsibilities and detailed rules used by EMC to identify and evaluate direct and indirect environmental aspects.

The aim of the environmental aspects evaluation is to identify those aspects which have significant environmental impacts and hence to plan improvement programs to improve or to keep these aspects under control within the EMS.

The procedure is applicable to all EMC activities within the EMS scope.

2. References

EN ISO 14001:04, clause 4.3.1

3. Terms and Definitions


EMC: Enemalta Corporation

EMS: Environmental Management System

Environment: context in which an organization works, including air, water, soil, natural resources, the flora, fauna, human beings and their relationships;

Environmental aspect: element of activities, products or services of an organization that can interact with the environment; a significant environmental aspect is an environmental aspect that has or can have a significant environmental impact.

Environmental impact: the effect an aspect has on the environment

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4. Responsibilities

Environmental coordinator (EC)

- Proposes environmental aspects evaluation criteria
- Coordinates environmental data and information gathering, evaluation and updating
- Proposes the environmental aspects evaluation

Environmental representatives (ER):

- identifies environmental aspects
- supports the EC in environmental data and information gathering, evaluation and updating,

Management representative (MR)

- approves the environmental aspects evaluation criteria and the environmental aspects evaluation

5. Detailed procedural rules


5.1 Introduction

The environmental analysis is composed of:

- environmental review;
- environmental aspects registers (EAR);
- matrix of environmental data.

In the environmental review, the following are described:

- the established activities and processes;
- the environment (surface water, air, etc.) on which environmental impacts act;
- the more significant environmental aspects.

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The environmental review is modified according to significant variations such as with the introduction of new activities or processes, enlargement or decommissioning of significant plants, etc.

The EAR includes the environmental aspects identification and evaluation. It is updated every time the environmental aspects evaluation changes, or each time new environmental aspects are introduced, or eliminated once they are no longer applicable.


The matrix of environmental data (e.g. resources consumption, waste production, atmospheric and wastewater discharge analysis, etc.) has to be updated at least annually.

The environmental aspects evaluation is an input of the management review to:

- update the integrated policy;
- identify priorities for the continuous improvement;
- set and update objectives for improvement;
- define training programmes for staff;
- identify areas of priority for internal audits;
- address procedure definition.

To update the evaluation of environmental aspects, the following shall be considered:

- changes in structures, plants, activities;
- new services, plants, structures or infrastructures;
- replacement, elimination of raw/auxiliary materials;
- changes in procedures or work practices;
- organisation or role variations;
- staff changes;
- legislative changes;
- deficiencies found during audits, or based on proposals made by the corporation's staff;
- new agreements of programmes/Conventions between organizations or with public authorities;
- changes in land use in areas affected by impacts from EMC activities;

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5.2 Direct and indirect environmental aspects

Direct environmental aspects are those environmental aspects under EMC total management control which aspects are linked to maintenance or EMC plants.

Environmental Aspects are mentioned as “indirect” if EMC may not have full management control over them (for example subcontracted services).


The output of the EA identification and evaluation process is the "Environmental Aspects Register" (EAR); into this register, the following are listed:

- identified environmental aspect (with related impacts);
- business activity to which this is connected;
- information and explanatory elements that could be useful to clarify the context and evaluation decisions;
- whether the environmental aspect is linked to normal, anomalous or emergency conditions;
- the control method adopted (procedures, monitoring or other) and the instruments for the environmental aspect management;
- opportunities for improvement (this column is compiled only for the initial environmental analysis);
- evaluation of aspects through evaluation criteria;
- actions expected within the EMS (if for the current year training and improvement has been planned the column will be marked with an X. The same applies if the procedure and monitoring have been implemented).

5.3 Environmental aspects identification

The environmental representatives for MPS, DPS and Distribution shall identify environmental aspects (both direct and indirect) and shall fill in the proper columns of the EA register.

ISO 14001 staff shall give support and information where necessary to complete the task.

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5.4 Data and information collection

To complete the tables of evaluation of environmental aspects, the environmental representatives for MPS, DPS and Distribution shall collect data and information for the evaluation as follows:

- the latest version of the table “evaluation of environmental aspects”;
- results of all environmental measurements (eg. consumption of resources, production of waste, etc.) reported in the matrix of environmental data;
- the latest reports for internal and external audits;
- non-conformity and internal and external environmental communications;
- information arising from environmental accidents;
- new or updated legislation ;
- records related to training;
- data or environmental information linked to new services, developments, processes.

The environmental coordinator shall analyse the collected data and information.

If the information available is not adequate, the environmental coordinator shall ask for further environmental measurements to quantify new aspects or changes in the existing aspects.

5.5 Environmental aspects evaluation

The environmental coordinator shall evaluate the significance of the individual aspects referring to the criteria specified in paragraph 5.7 and 5.8 respectively for aspects in normal and anomalous conditions (§5.7) and emergency conditions (§5.8).


For every significant aspect the organisation shall prepare a "response": an improvement objective, or control through procedures or monitoring.

The approval of the EAR is by the Management Representative.

5.5.1 Direct aspects – normal and anomalous conditions

For each direct environmental aspect, the environmental coordinator answers to the questions of each of the five criteria listed in the table in Section 5.7 and assigns the appropriate score.

The final score is calculated as the total sum of the scores for each of the five applied criteria.

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The aspect is:

- significant if the sum of the scores is greater than or equal to 8
- not significant if the sum of the evaluation is less than 8

5.5.2 Indirect aspects

For the indirect environmental aspects the sum must be multiplied by a coefficient, which measures the degree of influence that the organization may have on the environmental aspect.

The coefficient for the degree of influence may vary between 0 and 1, 1 being the maximum if the influence is direct and total and 0 if the possibility of influence is negligible. The factor for the degree of influence will be chosen such as to best describe the situation according to table 5.9.

Below is an example to explain how the weighting of the environmental aspect is calculated.

Solid waste production by an external contractor will be considered.

This is an Indirect aspect which occurs under normal conditions

Table in Section 5.7 will be used to calculate the weighting of this environmental aspect according to the listed criteria and which best explains the situation for EMC:


Criterion	Weighting	Remarks
1	2	There are applicable laws, no problems in respecting them
2	3	Other interested parties concerns
3	2	Small pollution or resources consumption
4	4	Minimum cost significant margins for improvement
5	2	Data available but information can be improved or updated
Total Weighting	13	

Since this is an indirect aspect than the total weighting has to be multiplied by the value for the degree of influence which best describes the situation.

According to Table 5.9 the value for the degree of influence in this case will be 0.7 ie EMC has substantial influence on the contractor

Final score is: $13 \times 0.7 = 9.1$ ie >8

Hence this aspect is to be considered as a **significant aspect**.

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5.5.3 Emergency aspects

For emergency condition environmental aspects a method of calculation based on numerical and qualitative evaluation is applied using:

- frequency of occurrence, assessed with a factor f ranging between 1 and 5
- severity of consequences, assessed with a factor s ranging between 1 and 5

The two tables in Section 5.8 give the evaluation scheme for the factors f and s .

Significance c is the product of the two factors: $c = f \times s$

The environmental aspect is classified:

- significant environmental aspect if $c \geq 5$
- not significant environmental aspect if $c < 5$

For the indirect environmental aspects the product must be multiplied by a coefficient, which measures the degree of influence that the organization may have on the environmental aspect.

The coefficient will range between 0 and 1, 1 being maximum if the influence is direct and total and 0 if there is no possibility of influence. The value for the degree of influence which best describes the situation will be chosen according to table 5.9.

5.6 "Environmental Aspects Evaluation" records

The environmental coordinator proposes the environmental aspect evaluation to the Management representative for approval.

The environmental coordinator updates the Environmental review and its annexes – including the EAR - and retains them for at least 2 years.

5.7 Environmental aspects evaluation criteria (normal conditions)

N.	Criterion	Score =1	Score =2	Score =3	Score =4
1	Existence of laws (or authorisations, permits) applicable to the aspect. Difficulties in meeting limits or law requirements.	There are no laws applicable to this aspect.	There are applicable laws, but there are no problems to respect them. Measured values are far from the threshold values.	Measured values are close to the limit values; the requirements of law are difficult to comply with.	Measured values have exceeded threshold values or law (or permit) requirements are not complied with.
2	Existence of concern of interested parties (public authorities, local population, customers, suppliers, shareholders, employees, public press, associations, credit and insurance organizations).	No concern	Small economic concerns of shareholders and/or customers	Other interested parties concern (reports, announcements, etc.)	Legal proceedings are ongoing; or have been received written communications; or were organised public events
3	Environment vulnerability in site surroundings. Resources or pollution size and importance	Not vulnerable. Minimum pollution or resources consumption	Small pollution or resources consumption	Highly vulnerable. Not negligible pollution or resources consumption.	Extremely vulnerable; the environmental aspect may create significant impacts even alone. Great pollution or resources consumption
4	Possibility of improvements.	No	Low-margin improvement.	Good opportunities for improvement.	Minimum cost and significant margins of improvement
5	Availability of information for environmental aspect characterization.	Data are available, reliable and updated.	Data are available but information can be improved or updated.	Significant lack of information and measures. The aspect is not sufficiently known	No data or information



5.8 *Environmental aspects evaluation criteria (emergency conditions)*

Occurrence frequency (F factor)

Score	Occurrence frequency description
1	Remote, probably will never happen
2	Extremely unlikely, could happen once in the course of the life of "installation"
3	Reasonably likely: could happen with frequency equal to about once a year; or the frequency accident is difficult to assess and the complexity of the operations of restoration lead to make a careful evaluation
4	Likely: frequency event equal to about once every four months
5	Very likely: frequency event equal to about once per month

Consequences severity (S factor)

Score	Consequences severity description
1	Very limited; the impact is localized and not lasting and toxicity of the substances involved is nothing or very low and the quantity in play are very limited; or the physical effects are such as not to cause damage to the environment and, if not minimal, to people.
2	Limited; the impact is located or lasting, and requires the reclamation; or the toxicity of the involved substances is at least medium, or physical effects are such that they can cause damage to the environment or to persons in a limited extent.
3	Moderate; the impact is localized and lasting, and requires the reclamation; the toxicity of the involved substances is at least medium, or physical effects are such that can cause damage to the environment or to the people.
4	May be caused significant environmental damage, with animals or plants species or habitat negatively concerned, or any serious damage to persons for consequences severity or concerned people number.
5	Event clearly serious; possible risk of death for humans; events that fall within the type of "Major Accident" according to the Seveso Directive.



5.9 Degree of Influence criteria

Qualitative	Value of the coefficient	Criteria to evaluate the degree of influence
No influence	0	No opportunities to influence the impact
Low	0.3	Possibility exists to carry out information or awareness activities, there is no contract in place; there is no other way to address the impact
Medium	0.5	Possibility exists to address the impact through contracts; the contractor is not working at EMC premises
High	0.7	Contract exists; the impact can be influenced through the contract and by carrying out on site controls. The contractor is working at EMC premises
Total	1	EMC has direct influence on the contractor and has all the opportunities to influence the impact

6. Reference documents

Environmental review

EA register

Matrix of environmental data