



Ministry  
of Defence

# Element 4: Environmental Aspect Identification, Risk and Impact Assessment, Mitigation and Opportunities



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## Amendment record

1. This chapter has been reviewed by the Directorate of Levelling Up, Climate Change and Sustainability together with relevant subject matter experts and key environmental stakeholders. Any suggestions for amendments should be sent to:

[SPO-LUCCS@mod.gov.uk](mailto:SPO-LUCCS@mod.gov.uk)

Version No	Date	Text Affected	Authority

## Use of must and should

2. Where this chapter says must, this means that the action is a compulsory requirement.

3. Where this chapter says should, this means that the action is not a compulsory requirement but is considered best practice to comply with the policy.

## Scope

4. This policy applies to all those employed by Defence (military or civilian) as well as those working on behalf of Defence (for example, contractors). It applies to all Defence activities carried out in any location (UK or overseas).

## Introduction

5. This element provides the guidance and best practice that should be followed and will assist users to comply with the expectations for risk assessments as set out in Element 4 of the Volume 1 to JSP 816 (this JSP). The element covers:

- a. environmental risk management; and
- b. the application of environmental aspect identification, risk and impact assessment, mitigation and opportunities through the application of the EMS 'cycle' stages.

## Purpose and expectations

6. This guidance supports Defence organisations with putting in place suitable and sufficient methods for identifying environmental aspects, their impacts, their risks and opportunities as a basis of effective Environmental management.

**E4.1** The Defence Organisation has mechanisms in place to identify its environmental aspects, impacts and assess its risk profile.

**E4.2** The Defence Organisation has mechanisms in place to manage its environmental impacts and risks, including provision of proportionate controls and mitigations.

**E4.3** Where environmental risks and impacts are significant, these risks are elevated, and Leadership are actively involved in their management.

**E4.4** The Defence Organisation has arrangements in place to ensure communication of environmental aspects, impacts, risks and opportunities to all stakeholders, outlining control measures needed to deliver effective environmental management.

**E4.5** The Defence Organisation has mechanisms in place to continually improve risk management with the aim of protecting the environment from harm.

**E4.6** The Defence Organisation tracks changes, such as those impacting equipment, operations, infrastructure, training, people, plans and procedures, and takes action to manage associated risk.

**E4.7** An Environmental case is maintained throughout the acquisition lifecycle that identifies, evaluates and manages the risk from concept development through to disposal.

**E4.8** The Defence Organisation has mechanisms in place to identify and deliver environmental opportunities within its sphere of influence.

## Environmental risk and opportunity management

7. Risk management in Defence must be carried out in accordance with JSP 418 and JSP 892. Defence organisations should be able to demonstrate that they have effectively



integrated a risk management framework into their Environmental Management System (EMS). This will enable them to identify, assess, manage, mitigate, report and monitor environmental risks and opportunities in support of Defence's EP expectations. Opportunities in this context relate to environmental aspects which present Defence Organisations with an area of focus which may have positive environmental benefits (e.g. reducing waste or emissions or increasing awareness) rather than simply mitigating identified risks (e.g., preventing pollution). Risks and opportunities are frequently inter-related, and this should be reflected in the risk management process.

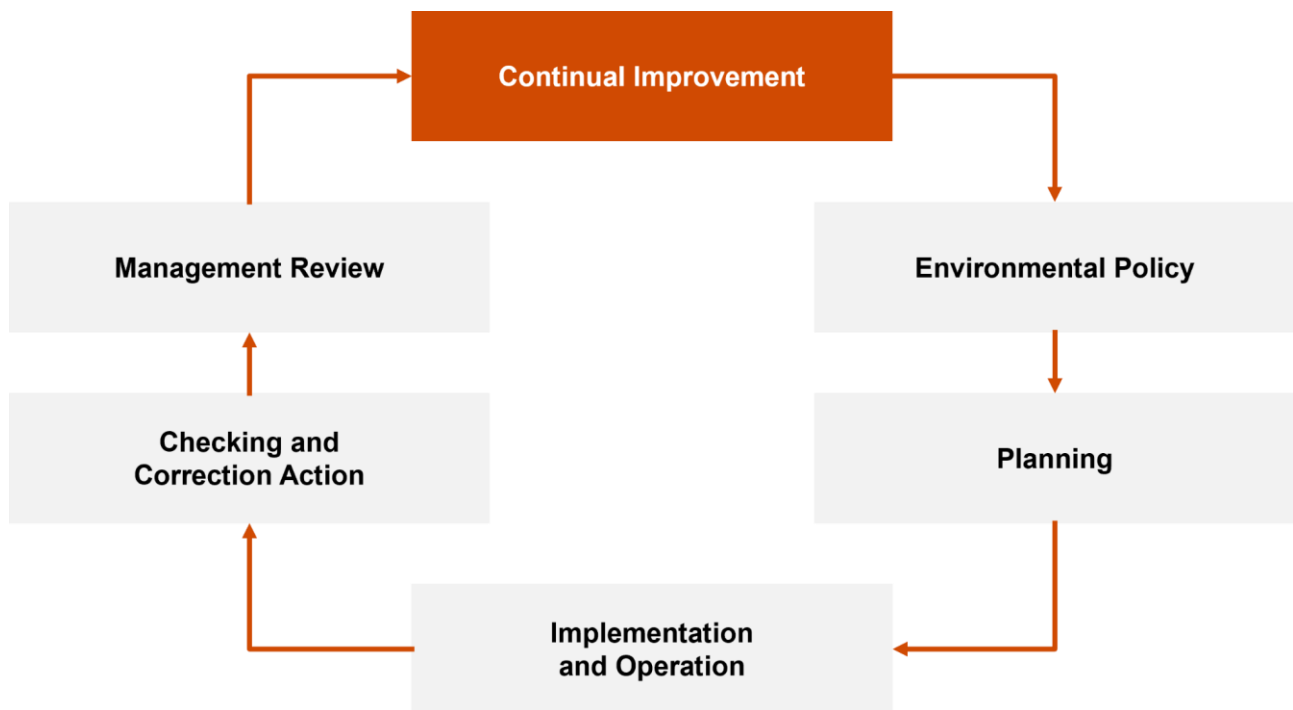
8. A risk management framework should clarify how environmental risks and opportunities are effectively managed, by ensuring:

- a. suitable and sufficient environmental risk assessments are carried out and they are proportionate to the environmental risk.
- b. appropriate management controls and procedures are in place including the provision of adequate training.
- c. competency requirements are defined for specific roles.
- d. there is an appropriate elevation process with ownership and acceptance of risk through the chain of command.

9. The EMS should be proportional to the risks associated with the site/organisation size and activities undertaken. For small or low risk sites/organisations it may be appropriate for them to be covered by a nearby establishment's EMS.

10. An EMS consists of the following interrelated functions (commonly known as the 'plan, do, check, review' cycle). The assessment and application of environmental aspects is relevant throughout the following stages.

- a. **Plan.** Planning establishes the overall direction for environmental programmes. It provides the framework for establishing policy goals, as well as identifying the site's/organisation's environmental aspects and impact, along with their legal responsibilities.
- b. **Do.** Establishing and recording the structure, roles and responsibilities for managing environmental aspects. This provides the operational framework, procedures and documentation required by an EMS. It requires strong communication, awareness and training.
- c. **Check.** The framework for measuring results, acknowledging performance and diagnosing problems through audits and inspections. Checking and corrective action keeps the site on track to meet its environmental goals, objectives and targets.
- d. **Review.** Assessment of progress against defined objectives and targets. It is an opportunity to assess what change, if any, is required to sustain continual improvement in overall environmental performance.



*Figure 1: EMS function cycle*

## EMS cycle review stages

11. The Defence organisation should review and record its environmental aspects. A good way to do this is through a 'cycle' review (Figure 1), comprising the four steps outlined below:

### STAGE 1 - SETTING UP

12. Organisations should review their current management practices as a preparatory stage for identifying environmental aspects and assessing impacts. This is likely to comprise of two elements:

- a. documented commitment and leadership to set out their vision of performance and accountability and the appointment of a 'management representative' to oversee the implementation of the EMS.
- b. initial environmental review or a gap analysis to assess existing practices against an EMS based on ISO 14001.

13. An initial environmental review may be undertaken prior to the implementation or refreshing of an EMS. It should:

- a. establish a baseline from which performance can be measured.
- b. establish current environmental practice/policy.
- c. identify key areas of environmental impact's significance.
- d. highlight priorities for improved performance.
- e. provide a mechanism to set out a project plan for implementation.

## Site-specific environmental policy

14. An organisation or site should set out its environmental aims and policies in a policy statement or a site organisation and arrangements (O&A) statement. Statements must be maintained; revised when circumstances change and, should be reviewed at least annually and/or as part of the Management Review. The O&A statement is the driver for the site's EMS. The O&A statement along with any other relevant documentation should be made available for viewing publicly on site and communicated with relevant stakeholders.

15. The O&A statement is a 'statement of the intentions and principles of action of the site regarding its environmental aspects'. It should refer to the Secretary of State's [HS&EP Policy Statement](#) and must include commitments to comply with all environmental legislation, with MOD and TLB policy, along with continual improvement in environmental performance. It must be signed and dated and identify the parts of the site covered.

16. The policy statement should include:

- a. significant aspects and steps being taken to manage them.
- b. personal commitments of the Commanding Officer / Head of Establishment (OIC/HOE).
- c. a basis for setting realistically achievable environmental objectives, based on their significance.
- d. a commitment to understanding the requirements of the relevant regulatory bodies.

## STAGE 2 - PLANNING

17. Planning commences with an exercise to identify and establish the environmental aspects relevant to the organisation's activities and sites.

18. 'Environmental aspects' are the way the organisation interacts with the environment (both how the organisation impacts the environment and how the environment can impact the organisation). They are often split into direct aspects (those which can be controlled such as emissions to air, land or water) and indirect aspects (which can be influenced, but not directly controlled, such as contractor activities and the supply chain). Environmental aspects can have a negative impact (presenting an issue) or a positive impact (presenting an opportunity). A simplified example is below.

Function	Activity	Environmental Aspect	Direct Impact	Indirect Impact
Office activities	Production of briefings and reports	Energy use from IT Equipment	Climate Change	Resource Depletion
	Office lighting and heating	Production of Non-Hazardous Waste	Waste Burden	Climate Change and Resource Depletion

*Figure 2: Identification of Aspects and Impacts*

19. Organisations and sites should record their prioritised results in an environmental aspects and impacts register.

20. The register provides the basis for:

- a. setting objectives and targets and establishing internal performance indicators (PIs) designed to measure and control environmental aspects.
- b. establishing a management programme to support the EMS objectives.
- c. reviewing and monitoring improvements.
- d. revalidating the site's policy statement.

21. An environmental aspects and impacts register should be reviewed annually. More frequent review may be justified by any adverse audit results, evidence of uncontrolled aspects, new processes or new activities. Records of superseded or amended environmental aspects should be maintained.

### **Environmental Risk and Opportunity Assessment**

22. An Environmental risk and opportunity assessment describes how to identify and evaluate items or activities of environmental significance for each of the site's aspects. It is intended to determine the site's/organisation's compliance with environmental law, MOD policy and environmental management practices. The assessment should also take account of the local and global environmental impacts and typically has five steps:

- a. identification of activities.
- b. identification of aspects.
- c. assessment of significance.
- d. evaluation of priority.
- e. documentation, management and review.

#### **Step 1 - Identifying environmental activities**

23. The site/organisation will identify all the activities that occur or arise within the scope of the EMS. On many sites (or programmes and projects) the initial environmental review will describe these. Each activity should be captured on the aspects and impacts register.

#### **Step 2 - Identifying environmental aspects**

24. For each activity the environmental aspects will be identified and entered on the register. Because the MOD EMS is based on ISO 14001, all aspects must be considered. The conditions under which MOD operates have to be taken into consideration, whether 'normal', 'abnormal' or 'emergency'.

25. Consideration must also be given in the analysis and documentation of environmental aspects to the following factors:

- a. Past aspects. Consideration should be given to the consequences of all former activities. Examples might include the uncontrolled or undocumented disposal of

waste materials at a particular site, persistent spillage around tanks, fuel depots and chemical storage areas.

b. Current aspects. Consideration should be given to ongoing aspects of MOD Activities.

c. Planned aspects. Environmental aspects of any proposed or planned activities need to be considered.

26. Some aspects may not be obvious. Examples may relate to staff travel to work, policy and design work, visitor's behaviour, establishing a requirement for procurement, disposal of equipment at end of life and contractors' aspects when working on behalf of MOD. These 'indirect' aspects can be influenced by good management but are generally more difficult to control or quantify. Aspects may be remote and also unpredictable. It is not acceptable, however, to dismiss indirect aspects as being totally beyond the control of the site. Evaluation of indirect environmental aspects and their associated impacts must be considered as part of MOD policy and procurements EMSs.

27. It is likely that some environmental aspects recorded by MOD sites will occur MOD-wide or across the whole TLB. Decisions on how to manage them should be taken at the appropriate level. Examples are:

- a. environmental aspects attributable to joint public and private partnerships (commonly referred to as PFIs or PPPs) and other contractor and supplier actions.
- b. office services and facilities management.
- c. MOD-wide contracts for office-based machinery (e.g. furniture, photocopiers).
- d. MOD-wide contracts for the services that distribution/logistics companies provide, for example, hire cars, modes of transport, fuel usage, vehicle maintenance.

### **Step 3 - Assessment of significance**

28. Assessing the significance of environmental aspects will be a matter of judgement for those managing the site/organisation and with knowledge of the site/organisation and its activities. In general, if there is a breach in regulation or the environmental aspect is already a business concern to the site/organisation, then an assessment of the aspect's significance will be required.

29. Determining significant environmental aspects and associated environmental impacts is necessary in order to determine where control or improvement is needed and to set priorities for management action based primarily on environmental factors. The organisation's environmental policy, environmental objectives, training, communications, operational controls and monitoring processes should be developed primarily based on knowledge of its significant environmental aspects. The determination of significant environmental aspects should be an ongoing process.

30. Initially significance should be determined using the decision tree at Figure 3. Assessors should be aware that the identification of significant aspects can be subjective and be influenced by experience, local environmental sensitivity and management controls and procedures. Wherever insufficient information is available the aspect will be recorded as significant.



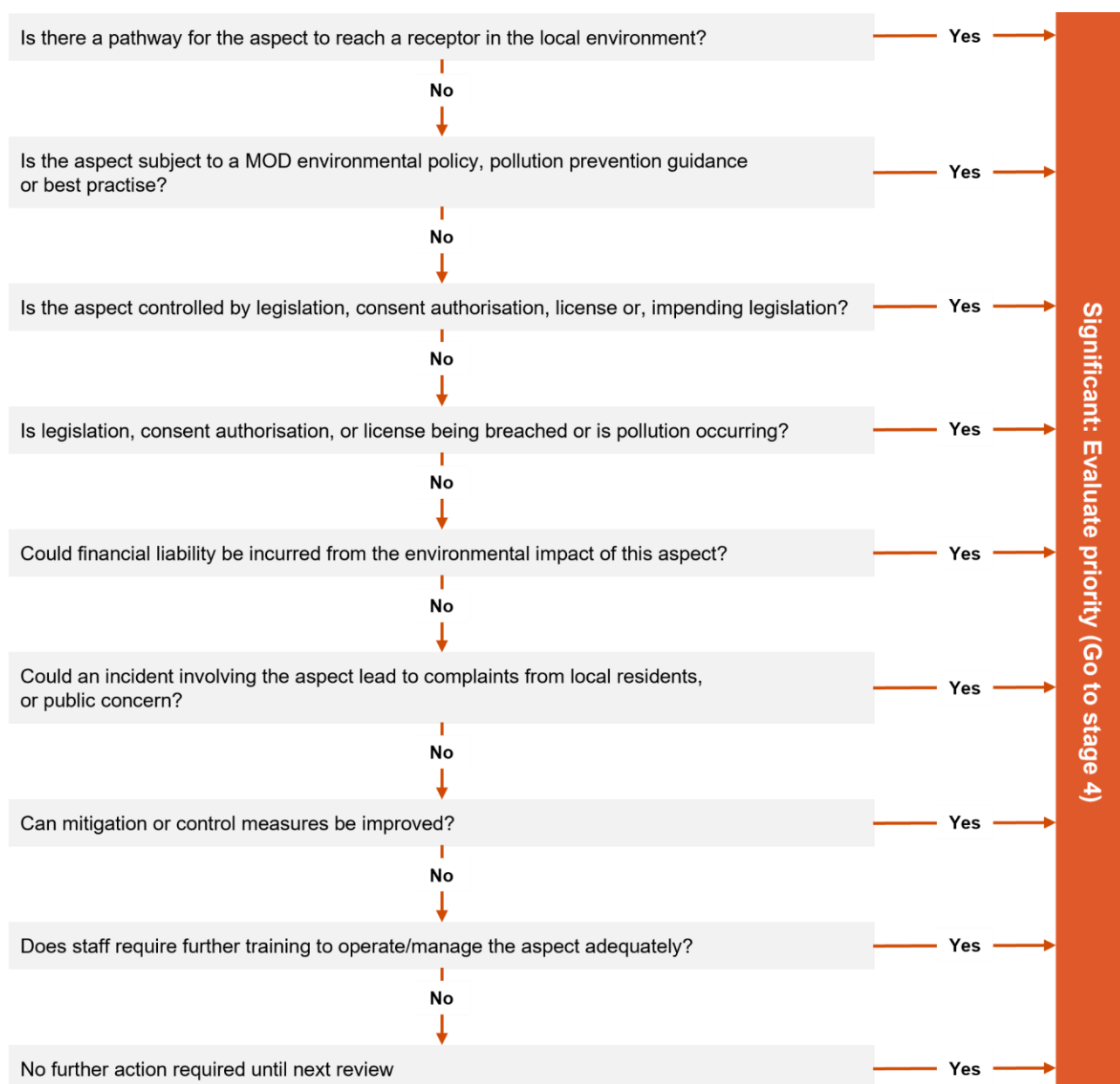


Figure 3: Identification of Significance

#### Step 4 - Evaluation of priority

31. The level of significance is a function of the likelihood of an aspect harming the environment (presenting an issue) or benefiting the environment (presenting an opportunity) and the scale of the consequences. It may be evaluated using the following:

$$\text{Significance} = \text{Likelihood} \times \text{Consequence}$$

Likelihood is the *probability of an environmental impact or benefit occurring*.

Consequence is the *magnitude of the impact or benefit on the environment*.

32. Likelihood and consequence can be determined using the scoring system (see Figures 4 and 5). Likelihood described by Figure 4 derives scores for the probability of an aspect occurring considered under normal, abnormal and emergency operating conditions. Control measures such as work instructions and training are taken into account, as these may significantly limit the likelihood of an aspect occurring. The presence and record of

control measures will also act as a permanent record of management action in the event of inquiry or audit or regulatory review. Figure 5 describes the scale of the consequence that could arise from an environmental aspect, scoring the most severe outcome as 4 and falling to 1. Scores should be determined by selecting the scenario that best describes each aspect.

Likelihood	Prompt	Score
<b>Most Unlikely</b>	Comprehensive control measures in place	1
<b>Unlikely</b>	Acceptable control measures in place	2
<b>Likely</b>	Minimal control measures in place	3
<b>Most Likely</b>	Ineffective control measures in place	4

*Figure 4: Likelihood of an Environmental Aspect Occurring*

Consequence	Prompt	Score
<b>Negligible/ Trivial</b>	No noticeable environmental impact or benefit, contained within immediate area. No nuisance to local inhabitants	1
<b>Minor/Slight</b>	Minor impact or benefit on the environment. Minor nuisance to local inhabitants.	2
<b>Serious</b>	Noticeable impact or benefit on the environment. Creates public nuisance.	3
<b>Major</b>	Major impact or benefit on the environment. Media coverage, adverse public opinion.	4

*Figure 5: Scale of Environmental Consequence*

33. Having assigned scores for both the likelihood and consequence associated with an environmental aspect, the level of significance is calculated by multiplying the two scores together. The rating will produce a range of values between 1 and 16 providing an indication of priorities for action. A table of four significance bands and suggested priorities for action is set out in Figure 6.

34. The priority for action will vary from site to site/organisation. Typically, a high priority requires immediate attention within the EMS. The chain-of-command and/or local line management should be appraised, and the existing procedures or controls may need to be reconsidered or the activity altered or suspended. Once priorities are identified, appropriate action should be undertaken to elevate significant environmental risks to an establishment's or unit's relevant senior leadership.

Value	Priority
<b>1 or 2</b>	Negligible
<b>3 or 4</b>	Low
<b>6 or 8</b>	Medium
<b>9, 12 or 16</b>	High

*Figure 6: Environmental Significance Priority Levels*

## **Step 5 - Documenting, management and review**

35. All aspects that are evaluated must be recorded in the environmental aspects register. It will demonstrate that the site/organisation is aware of and is managing their risks and opportunities and will assist in prioritising expenditure and manpower resource allocation, proportionate to the level of risk.

36. Introductory data should include an appropriate file reference and the date when the register was created or last updated. The following data elements should be included:

- a. a reference or serial number to identify the environmental aspect which should be used in any cross reference within the EMS.
- b. activity – very brief description of the activity that gives rise to the environmental aspect.
- c. a brief description of the environmental impact including positive environmental impacts (those that benefit the environment).
- d. the value for the significant aspect evaluated during the risk assessment.
- e. assessment date – the aspect that has not been identified by an assessment provides a date for the source, for example the date of the LQA report.
- f. review date – the date when the assessment is due for annual review.
- g. EP Action Plan reference.

### **STAGE 3 - IMPLEMENTATION AND OPERATION 'DOING'**

37. The organisation or site should define the relevant roles and responsibilities of those implementing the system.

38. Organisation or site management should ensure that appropriate resources (financial, equipment, people) are made available, considering both the current and future needs of the site.

39. Sites/organisations are recommended to form an environmental committee or action group, likely to include the following representatives: Senior management, CO/HOE, EMS management representative, Environmental Adviser, Health and Safety Advisor, and other specialist roles as required (pollution control, conservation etc).

#### **Communication**

40. As part of the EMS, sites/organisations will be required to develop a procedure to report internally and externally on how its activities affect the environment. Further details on how organisations communicate their environmental matters are outlined in Element 11 of this JSP.

### **STAGE 4 - CHECKING**

41. Sites/organisations should develop and maintain appropriate documentation to monitor and measure key activities for each environmental aspect identified.

42. They should establish, implement and maintain a procedure to periodically evaluate and record evidence of compliance with legal requirements. This will normally be done as part of the audit programme.

## STAGE 5 - MANAGEMENT REVIEW

43. Sites should regularly review their EMS and evaluate it for continuing suitability, adequacy and effectiveness. Reviews should address business change and the potential impact of forthcoming regulations and other requirements.

44. The Review should seek to verify that:

- a. audit and other recommendations have been implemented.
- b. new or growing areas of concern have been considered, along with legislative developments.
- c. ultimately the EMS remains relevant, effective and meets the site's needs.

### Element summary

45. The Defence organisation should ensure that:

- a. it has mechanisms in place to assess its risk profile and identify its Environmental aspects.
- b. it has mechanisms in place to manage its environmental risks and impacts, including provision of proportionate controls.
- c. where Environmental risks and impacts are significant these risks are elevated, and Leadership are actively involved in their management.
- d. it has arrangements in place to ensure communication of Environmental aspects, risks, impacts and opportunities to all stakeholders, outlining control measures needed to deliver effective Environmental Management.
- e. it has mechanisms in place to continually improve risk management with the aim of protecting the environment from harm.

### Plan- Do- Check- Act- (PDCA) Cycle

46. This diagram is designed to illustrate where this, and all the elements of JSP 816, fit into the PDCA cycle.

