MOD	ASEMS Procedures	Procedure AAP02
AAP02 – Monitoring and Measurement		Page 1

0 **SHOWING CONFORMANCE**

0.1 **Options**

- 0.1.1 There are three options to demonstrate conformance when applying this system procedure:
 - Follow the defined system procedure using the recommended guidance and a. tools, including allowed variations and options.
 - Use an equivalent process and tool set generated elsewhere and document b. evidence of procedural equivalence.
 - Use an equivalent bespoke process and tool set for the project and document C. evidence of procedural equivalence.

1 INTRODUCTION

- 1.1.1 This procedure describes how IPTs should monitor and assess the performance of the safety and environmental management system(s), equipment and supporting activities (e.g. maintenance). The procedure thus covers both direct measures of safety and environmental performance (e.g. incident rates in service) and indirect measures (e.g. non-conformances in the Safety and Environmental Management Systems, late production of documentation).
- 1.1.2 Protocols for collecting safety and environmental performance data, (e.g. noise monitoring) and calibrating monitoring equipment may also be required.

2 PROCEDURE OBJECTIVES

- 2.1.1 To ensure that there are arrangements in place to monitor, measure, assess and document progress of the following:
 - SMS and EMS implementation;
 - Completion of objectives and targets and Safety and Environmental Management Plans;
 - Completion of actions arising from non-conformance and observations;
 - Completion of actions arising from Management Reviews; and
 - Safety and environmental performance of equipment and supporting activities, (for example, priority environmental impacts and safety risks, compliance with legal and non-legal standards and adherence to operational controls).

Issue	Authorised by CESO DE&S	ISSUE LEVEL:	Release V2.2e/s	
Approval	Authorised by DG S&E	DATE:	November 2007	
DOCUMENT IS UNCONTROLLED IN PRINT				

MOD	ASEMS Procedures	Procedure AAP02
AAP02 – Monitor	Page 2	

3 RESPONSIBILITIES

3.1 Accountability

3.1.1 The IPTL is accountable for the completion of this procedure.

3.2 Procedure Management

3.2.1 IPTLs may delegate the management of this procedure to the IPT Safety and Environmental Focal Point(s).

3.3 Procedure Completion

3.3.1 IPT Safety and Environmental Focal Point(s), and/or contractor could be responsible for the completion of this procedure.

4 WHEN

4.1.1 The applicability of this procedure is ongoing from the initial implementation of POSMS and POEMS to the end of the project

5 REQUIRED INPUTS

- a. Environmental Management Plan (Form EMP06/F/02, Form EMP06/F/03) and Safety Management Plan (outputs from SMP03);
- b. Operational controls (**Form EMP07/F/01** and outputs from SMP07);
- c. Non-conformance and corrective action records (Form AAP04/F/01);
- d. Safety and environmental communications (SSP01);
- e. Management Review Records (Form AAP03/F/01); and
- f. Performance data on equipment and supporting activities.

6 REQUIRED OUTPUTS

- a. Completed **Form AAP02/F/01** Monitoring Schedule.
- b. Completed Form AAP02/F/02 Monitoring Data Assessment Record.

OR

Equivalent actions and documentation that ASEG is satisfied achieve the same objectives.

	ISSUE LEVEL:	Release V2.2e/s	
DOCUMENT IS UNCONTROLLED IN PRINT	DATE:	November 2007	

MOD	ASEMS Procedures	Procedure AAP02
AAP02 – Monitoring and Measurement		Page 3

7 DESCRIPTION

7.1 Step 1: Identify elements to be monitored and assessed

- 7.1.1 An IPT will identify the elements that will be monitored and assessed. This will include as a minimum the following:
 - SMS and EMS implementation;
 - Progress against objectives and targets and Safety and Environmental Management Plans;
 - Progress of corrective or preventive actions produced from Non-conformances and Observations;
 - Progress of actions produced in Management Reviews; and
 - Safety and environmental performance of equipment and supporting activities (for example, priority environmental impacts and safety risks, compliance with legal and non-legal standards and adherence to operational controls).
- 7.1.2 If an IPT believes there are other elements in addition to the above that should be monitored (e.g. roll out of training) then these should also be defined and documented.

7.2 Step 2: Produce a Monitoring Schedule

- 7.2.1 The elements of the SMS and EMS that the IPT has to monitor and assess should be documented. Information to be documented is as follows:
 - Element to be monitored:
 - Frequency of monitoring data collection;
 - Frequency of monitoring data assessment;
 - Who is responsible for collecting the monitoring data
 - Who is responsible for assessing the monitoring data;
 - Data source (where the information is to be obtained from); and
 - Comparison requirements (e.g. comparison against legal compliance requirements, operational control requirements, objectives and targets).
- 7.2.2 **Form AAP02/F/01** Monitoring Schedule can be used to document the above information.
- 7.2.3 Various parties may be responsible for collecting safety and environmental monitoring data, depending on what data is required to be collected. For example as well as the IPT, this may also include Customer 2 and contractors. Monitoring data collected by Regulators and local authorities may also be utilised.
- 7.2.4 Where the monitoring schedule includes monitoring data which will be collected by parties outside of the scope of the SMS and EMS, for example Customer 2, the IPT can only request that the third party provides the information rather than demand it. It should be noted that equipment contractors would be classed as being within the

	ISSUE LEVEL:	Release V2.2e/s	
DOCUMENT IS UNCONTROLLED IN PRINT	DATE:	November 2007	

MOD	ASEMS Procedures	Procedure AAP02
AAP02 – Monitor	AAP02 – Monitoring and Measurement	

scope of the SMS and EMS, if they were undertaking activities on an IPT behalf.

7.3 Step 3: Produce measurement and calibration protocols

- 7.3.1 In addition to the production of the monitoring schedule, it may be necessary to produce detailed monitoring procedures which set out how the monitoring data should be collected, eg noise monitoring.
- 7.3.2 Where monitoring equipment is used, it should be calibrated or verified at specified intervals, or prior to use, against measurement standards traceable to international or national measurements standards. If no such standards exist, the basis used for calibration should be recorded.
- 7.3.3 Where the activities described in this step may be performed by parties outside the scope of the SMS and EMS, for example Customer 2, the IPT can only request that they are carried out rather than demand it. Where the activities are being performed by contractors on behalf on an IPT, they will be classed as being within the scope of the SMS and EMS.

7.4 Step 4: Collect monitoring data

7.4.1 Monitoring data will be collected as defined in the Monitoring Schedule (Form AAP02/F/01).

7.5 Step 5: Assess monitoring data

- 7.5.1 At set intervals defined in the Monitoring Schedule (Form AAP02/F/01), the Safety and Environmental Focal Point(s) and other designated parties will assess monitoring data to establish actual performance against designed or required performance. Where non-conformances or observations are identified, these should be dealt with in accordance with AAP04 Non-conformance and corrective action.
- 7.5.2 Other parties which may be involved in the assessment include the:
 - Safety and Environmental Committee(s) (for example for large or complex projects);
 - Equipment contractors or consultants where they have a notable role in the operation of the SMS or EMS, and/or
 - IPTL.
- 7.5.3 An IPT may wish to combine this assessment with the Management Reviews (AAP03). This may not be suitable for large and/or complex projects.
- 7.5.4 **Form AAP02/F/02** Monitoring Data Assessment Record, can be used to document the result of the monitoring review.

8 RECORDS AND PROJECT DOCUMENTATION

- 8.1.1 Where relevant, the outputs from this procedure should feed into the following:
 - a. Audit Schedules (Form AAP01a/F/01).
 - b. Management Review (AAP03).

	ISSUE LEVEL:	Release V2.2e/s
DOCUMENT IS UNCONTROLLED IN PRINT	DATE:	November 2007

MOD	ASEMS Procedures	Procedure AAP02
AAP02 – Monitoring and Measurement		Page 5

- c. Non-Conformance and corrective action (AAP04).
- 8.1.2 A copy of the information produced from following this procedure should be stored in the Project Safety and Environmental Cases as appropriate.

9 RECOMMENDED TOOLS AND FORMS

- a. **Form AAP02/F/01** Monitoring Schedule.
- b. Form AAP02/F/02 Monitoring Data Assessment Record

10 GUIDANCE

10.1 General

- 10.1.1 JSP 375, 430, 438, 418, 454, 553 include some guidance on monitoring and measurement. The ISO14000 series is also useful, particularly ISO14001 and ISO 14004, and OHSAS 18001 and ISO 9001.
- 10.1.2 It may be beneficial in the assessment process to utilise formal techniques (e.g. trend analysis) in the process of reviewing performance and identifying areas for improvement.

10.2 Aligning safety and environment

10.2.1 The key alignment opportunity in this procedure is to monitor and review safety and environmental performance at the same time.

10.3 Warnings and Potential Project Risks

10.3.1 If monitoring and measurement is not carried out, it will not be possible to demonstrate that the SMS and EMS are achieving their aims of continual improvement. Not carrying out monitoring and measurement could also result in an increase in safety and environmental risks and impacts, and non-compliance with applicable standards and operational controls.

	ISSUE LEVEL:	Release V2.2e/s	
DOCUMENT IS UNCONTROLLED IN PRINT	DATE:	November 2007	

MOD	ASEMS Procedures	Procedure AAP02
AAP02 – Monitor	AAP02 – Monitoring and Measurement	

Form AAP02/F/01 – Monitoring Schedule						
Project(s) Title						
IPT:						
Completed by:					Date:	
Reviewed by:					Date:	
Element to be monitored/assessed		Frequency of monitoring/assessment	Data source	Respon	nsibility for oring/assessment	Comparison requirements

	ISSUE LEVEL:	Release V2.2e/s
DOCUMENT IS UNCONTROLLED IN PRINT	DATE:	November 2007

MOD	ASEMS Procedures	Procedure AAP02
AAP02 – Monitor	ring and Measurement	Page 7

Form AAP02/F/02 – Monito	ring Data - Assessment Record	
Project(s) Title		
IPT:		
Audit name and or reference no:		
Completed by:		Date:
Reviewed by:		Date:
Date of meeting:		
Location of meeting:		
Attendees:		
Minutes:		

	ISSUE LEVEL:	Release V2.2e/s
DOCUMENT IS UNCONTROLLED IN PRINT	DATE:	November 2007