



Ministry of Defence

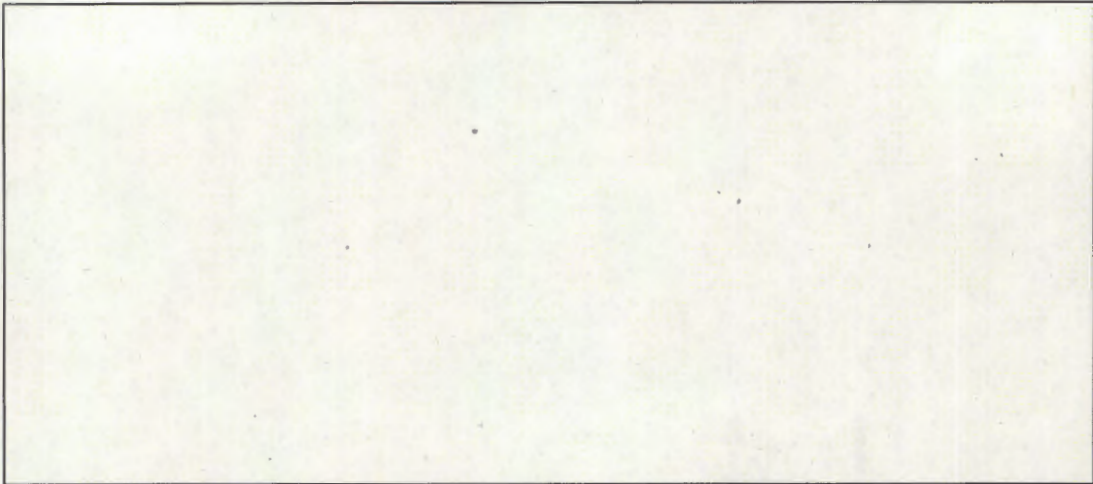
JSP 498

MAJOR ACCIDENT CONTROL REGULATIONS

Edition 4.0

Published by DSEA-DOSR-MACR,
Part of the Defence Safety and Environment Authority
Fir 3b, #4304, MOD Abbey Wood South
Bristol, UK, BS34 8JH

MAJOR ACCIDENT CONTROL REGULATIONS COMPETENT AUTHORITY
DSEA/DOSR/008/003
Supersedes Edition dated April 2008



RECORD OF CHANGES

Amendment No	DSEA Amendment Authority	Amendment Summary	Inserted by	Date

Authority

This Joint Service Publication, JSP 498 Edition 4 Major Accident Control Regulations supersedes JSP 498 dated April 2008. It is Published and issued under the authority of the Defence Safety and Environment Authority (DSEA), on behalf of the Defence Board.

Sponsor

Comments and queries concerning this publication should be addressed to:

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Status

All hard copies of JSP 498 Edition 4 are uncontrolled.

JSP 498 Edition 4 Major Accident Control Regulations will be updated whenever additional or improved guidance becomes available. Readers are encouraged to assist in the continued update of this document by informing the DSEA of any required changes.

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Foreword

The Secretary of State for Defence (SofS) through his Safety & Environmental Protection (S&EP) Policy Statement requires Top Level Budget Holders and Trading Fund Chief Executives to conduct defence activities with high standards of S&EP. They are expected to achieve this by implementing robust, comprehensive Safety & Environmental Management Systems.

As Director of the Defence Safety and Environment Authority (DSEA), I am responsible for providing MOD regulatory regimes for S&EP in the Land, Maritime, Nuclear and OME domains. The regulations set out in this JSP are mandatory and full compliance is required, except as set out in JSP 815. It is the responsibility of commanders and line managers at all levels to ensure that personnel, including contractors, involved in the management, supervision and conduct of defence activities are fully aware of their responsibilities.

DSEA regulators are empowered to enforce these regulations.

D Applegate

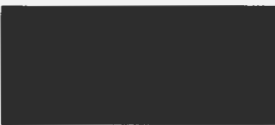
D Applegate
Director
Defence Safety and Environment Authority

Preface

Joint Service Publication (JSP) 498 – Major Accident Control Regulations lays down the framework and regulations, standards and guidance for the control of Major Accident Hazards within defence. JSP 498 is to be used by all members of the Armed Forces, civilian employees and others, including contractors. It does not replace legislative obligations and full reference is to be made to national and international regulation and legislation and where applicable Host Nation requirements. Deliberately written in plain English, the publication avoids the use of 'legal jargon' and provides full references where applicable.

It is the Defence Safety and Environment Authority requirement that the highest standards of safety and environmental management shall be delivered. This is achieved through the development of its regulations and policies into a robust and comprehensive Safety and Environmental Management System, articulated in a series of Joint Service Publications (JSPs) endorsed by the DSEA. There are clearly hazards and risks whenever dangerous substances are present and a Major Accident involving dangerous substances can have catastrophic consequences for personnel, the environment and for Defence capability. Thus the control of Major Accident Hazards (dangerous substances) is essential if the MOD is to fulfil its common-law duty of care obligations, and fulfil its statutory obligations while maintaining Defence capability.

JSP 498 specifies the DSEA's regulations for the Control of Major Accident Hazards and the mitigation of the effects in the event of an Accident occurring. It also defines the responsibilities of the key stakeholders and specifies the required methodology for assuring the Secretary of State for Defence that the arrangements for the Control of Major Accident Hazards are consistent with his safety policy statement.



MACR CA

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CHAPTER 1

MAJOR ACCIDENT CONTROL REGULATIONS

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INTRODUCTION

1 This JSP sets out the Major Accident Control Regulations (MACR) for the MOD. MACR implements arrangements to achieve results at least as good as those achieved by non-MOD controlled sites which fall within scope of the Control of Major Accident Hazard Regulations 1999 (COMAH) as amended.

2 COMAH is UK legislation made under the Health and Safety at Work etc. Act (HSWA) 1974. It has been developed in response to a European Union (EU) Directive (96/82/EC) as amended by EU Directive (2012/18/EU) under the terms of the European Communities Act 1972 and for technical legal reasons cannot be applied to the Military Forces or Defence Establishments of Member States.

3 However, the established policy of the Secretary of State (S of S) where legislation does not apply and where appropriate, measures will be introduced in MOD to achieve as good as or better results than those demanded by statute.

4 MACR discharges that policy in the context of prevention of a Major Accident (MA) and the mitigation of consequences to human health and or the environment should one occur. The MACR Competent Authority (CA) (see Chapter 2) is empowered by Permanent Under Secretary (PUS) via Director Defence Safety & Environment Authority to maintain and regulate MACR.

MAJOR ACCIDENT DEFINITION AND CRITERIA

5 MACR defines an MA as an occurrence (in particular, a major emission, fire or explosion) resulting from uncontrolled developments during the operation of any MACR qualified establishment, that leads to serious danger to human health and or the environment, whether immediate or delayed, inside or outside of the establishment and involving one or more dangerous substances.

6 An accident meeting any one of the following criteria is classified as an MA and must be notified to the MACR CA:

6.1 Any fire, explosion or accidental discharge of a dangerous substance involving a quantity of at least 5% of the qualifying quantity for the establishment (see paragraph 7).

6.2 Any fire, explosion or accidental discharge involving more than 50 Tonnes of a petroleum product (see serial 34 of Appendix 1A1).

6.3 Injury to persons and damage to property caused by an accident directly involving a dangerous substance that results in one of the following events:

- (a) A death.
- (b) Six persons injured within an establishment and kept in hospital for at least 24 hours.
- (c) One person outside the establishment kept in hospital for a period of 24 hours.
- (d) Dwellings outside the establishment damaged and unusable as a result of the accident.
- (e) The evacuation or confinement of persons for more than two hours. Calculated by Persons x Hours with a value of at least 500.
- (f) The interruption of off-site drinking water, electricity, gas or telephone services for more than two hours. Calculated by Persons x Hours with a value of at least 1000.

6.4 Immediate damage to the environment as follows:

- (a) Permanent or long term damage to terrestrial habitats within the following levels:
 - (i) 0.5 hectare (ha) or more of a habitat of environmental or conservation importance protected by legislation.
 - (ii) Ten or more ha of more widespread habitat, including agricultural land.
- (b) Significant or long term damage to fresh water or marine habitats within the following levels:
 - (i) 10 km or more of river or canal.
 - (ii) 1 ha or more of a lake or pond.
 - (iii) 2 ha or more of delta.
 - (iv) 2 ha or more of coastline or open sea.
- (c) Significant damage to an aquifer or underground water of 1 ha or more.
- (d) Damage to property within the following levels:

- (i) Damage within the establishment of at least 2 million euro.
 - (ii) Damage outside of the establishment of at least 500,000 euro.
- 6.5 Accidents and near misses which are regarded as being of particular technical interest for preventing MAs and limiting their consequences, but which do not meet the criteria above, should be notified to the MACR CA.

SCOPE

7 The Regulations cover establishments that hold or anticipate holding any individual or aggregated quantities of named or generic categories of dangerous substances above qualifying thresholds (see Annex 1A).

8 There are two qualifying threshold quantities for each of the named and generic categories of dangerous substances that delineate classification of individual establishments that fall within scope of MACR. These are Lower Tier Site (LTS) or Top Tier Site (TTS).

9 Establishments may also fall within the scope of MACR (even though the threshold quantities of substances are not exceeded) if qualifying threshold quantities of specified dangerous substances could be produced as a result of loss of control of a process.

10 Dangerous substances classed as In Transit and held in Intermediate Temporary Storage are not to be taken into account when calculating maximum anticipated quantities if held for up to a maximum period of four days, whether moving by road, rail, sea or air.

11 Determination of qualification under MACR is illustrated in the flowchart at Annex 1B. It should be noted that MACR applies to the establishment as a whole, rather than individual activities within the establishment.

EXISTING MACR ESTABLISHMENT

12 If during an establishment's life it's holdings of dangerous substances are reclassified, reduced or increased, thus altering the status from LTS to TTS or vice versa, the Head of Establishment (HOE) is to update the MACR MAPP/SR and notify the MACR CA. Where the change means the establishment will move from LTS to TTS the MACR CA SG will undertake a re-assessment in accordance with the timescales shown below. If the change is from TTS to LTS status any immediate re-assessment would be an unnecessary burden as the establishment would already be meeting the more stringent requirements and the re-assessment may be left until the 5 yearly assessment is due. The MACR CA SG will formally confirm the change of status to the HOE. Changes will fall into the following two categories:

12.1 Anticipated Change (LTS to TTS). Where a change in holdings of dangerous substances is anticipated and the timescale permits forward planning, the updated Major Accident Prevention Plan (MAPP) (see Chapter 3), Safety Report (SR) (see Chapter 4), On-Site Emergency Plan (see Chapter 5) and Off-Site Emergency Plan (see Chapter 8) should ideally be in place on the day the change is implemented. These establishments will be formally reassessed within six to nine months of the change. If the timescale does not permit the above documents to be put in place by the day the change is implemented, then the timescale for an unforeseen change (see paragraph

12.2) may be utilised. The MACR CA is to be notified of such intentions at the earliest opportunity.

12.2 Unforeseen Change (LTS to TTS). Circumstances may suddenly force change onto an establishment with very little notice or no notice at all, in which case forward planning by the HOE will be prevented. This may be due to the reclassification of a dangerous substance resulting in the lowering of threshold levels or simply to meet an operational imperative. In such circumstance the HOE is to inform the MACR CA and put in place the updated MAPP, SR, On-Site Emergency Plan and Off-Site Emergency Plan (provision of information to the Local Authority to enable a plan to be produced) within six months of the change occurring, during which time an advisory visit may be requested.

These establishments will be formally reassessed within twelve months of the change.

MACR ESTABLISHMENTS MOVING FROM TTS TO LTS

13 Where an establishment moves from TTS status to LTS status there will no longer be a requirement under JSP 498 to pro-actively inform people within the PIZ of the hazards and actions to be taken. Neither will there be a requirement to have an Off-Site Emergency Plan. Establishments should consult with the Local Authority Emergency Planning Officers on the actions to be taken to withdraw these documents. The Local Authority Emergency Planning Officers may wish to continue with the provision of an Off-Site Emergency Plan to assist them in meeting their emergency planning objectives under the Civil Contingencies Act. Establishments should co-operate in maintaining the base information available to the Emergency Planners if this is the case.

NEW MACR ESTABLISHMENTS

14 New MACR establishments are those where a new build is planned or a change to role has been agreed and it is anticipated that dangerous substances will be held above MACR qualifying threshold levels. In these instances the MACR CA must be informed as soon as possible and in accordance with the requirements of paragraph 18.1. A liaison visit to the establishment will be arranged three months prior to operations commencing to advise on MACR requirements. The HOE is required to put in place the MAPP, SR (TTS only), On-Site Emergency Plan and Off-Site Emergency Plan (TTS only) before dangerous substances are received into the facility. Formal assessment by the MACR CA will take place within six to twelve months thereafter. This in-built delay is to allow time for any new and therefore immature procedures to be fully embedded.

15 The timeframes for formal assessment or reassessment may be varied at the discretion of the MACR CA.

INTERPRETATION

16 In these regulations, unless the context otherwise requires, the interpretation of wording and terminology given in Annex 1C applies.

ABBREVIATIONS

17 A list of abbreviations used in this JSP is given in Annex 1D.

DUTIES OF HEAD OF ESTABLISHMENT

18 The HOE of a qualifying establishment is charged under MACR with the prevention of MAs and with mitigating the consequences to human health and or the environment of any that occur. This imposes the following specific duties which may be discharged through a competent MACR Co-ordinator:

18.1 Notifying the MACR CA of the existence and qualification of the establishment according to the LTS or TTS threshold criteria. This is achieved by completing the Notification Proforma given in Annex 1E and forwarding it to the MACR CA. (See also the interpretation of Establishment in Annex 1C).

18.2 Providing to the MACR CA details of the HOE, the type and maximum anticipated quantity of dangerous substance held, the operation concerned, the establishment MAPP, the On-Site Emergency Plan and the assessment of the risks to human health and or the environment of establishment activities.

18.3 Notifying the MACR CA of the programme of the mandatory exercises (see Chapter 5).

18.4 Providing to the MACR CA a Conformance Certificate signed by the HOE, two weeks prior to the formal visit by the MACR CA Assessment Team. Examples of Conformance Certificates are given in Annex 1F (for LTS) and Annex 1G (for TTS).

18.5 Advising the MACR CASG of the details any major accidents or near misses which do occur and making suitable arrangements to allow the MACR CASG to attend any Inquiry into such accidents.

18.6 Additionally TTSs are required to:

- (a) Demonstrate in an SR that adequate measures have been taken to prevent or mitigate the consequences of an MA.
- (b) Provide relevant information to the Local Authorities (LA) (see Chapter 8) in whose area they are located, sufficient to enable them to prepare an Off-Site Emergency Plan.
- (c) Provide information to people within the Public Information Zone (PIZ) (see Chapter 4).

APPLICATION TO DETACHED UNITS AND OUTSTATIONS

19 The main factors to consider when deciding if a detached unit or outstation should be included within the MAPP or SR of the parent establishment are given in Annex 1H.

DISCOUNTING HAZARDOUS INSTALLATIONS

20 MACR establishments can discount individual Hazardous Installations if it can be shown that the installation will not generate a Major Accident (MA) in its own right and will not significantly contribute to an MA if one should occur on or off-site. The establishment should provide the justification and rationale for wishing to discount an installation. The degree of detail should be proportionate to the potential risk. Acceptance of the justification case is at the discretion of the MACR CA and will be exercised by the Assessment Manager.

APPLICATION OVERSEAS

22 MACR does not apply to short term deployments overseas i.e. deployments lasting less than 12 months. Where a deployment lasts more than

12 months and it is considered impracticable or inappropriate to implement MACR because of the operational situation, a case is to be submitted to the MACR CA through the Chain of Command. The MACR CA will assess each case on its merits and has the authority to defer implementation. All such decisions will be subject to periodic review in conjunction with the Top Level Budget Holder (TLBH).

23 Permanent overseas bases come within scope of MACR if the provisions of paragraphs 7 to 11 apply. All requirements of the MAPP apply, however, elements of the SR may be difficult to implement in full depending on the individual circumstances. There may be local sensitivities or areas of concern that are quite different to those in the United Kingdom (UK). This could mean that some of the MACR requirements, in respect to the provision of information to the general public about the hazards posed and arrangements with local emergency services, are not readily applicable.

24 The HOE should consult the MACR CASG on any aspect of the SR or emergency plans where it is considered that strict adherence to the MACR requirements will cause unacceptable difficulty or be contrary to the formal agreements that exist with the host country. Any agreement to vary the MACR requirements for a particular establishment will be formally authorised by the MACR Assessment Manager.

APPLICATION TO VISITING FORCES

25 In accordance with the Visiting Forces Act 1957 the Armed Services of other countries are required to comply with host nation Legislation and MOD Regulations. Detailed arrangements for each establishment are subject to formal agreements that cover the requirements of SHEF. Establishments under the control of the United States Air Force Europe (USAFE) are not covered by the MACR arrangements as agreed by the MOD, HSE and USAFE Liaison Committee who have deemed that the USAFE's own procedures provide a suitable alternative.

ANNEX 1A

CLASSIFICATION OF DANGEROUS SUBSTANCES

- 1 General
- 2 Substances and Thresholds
- 4 The 2 % Rule
- 5 Aggregation Rule
- 8 Conversion Formulae

GENERAL

1 For the purposes of the Major Accident Control Regulations (MACR) dangerous substances are classified using data in the Approved Supply List (ASL) of the Chemical Hazard Information and Packaging for Supply Regulations 2002 (CHIP). Alternatively the classification can be found on Safety Data Sheets issued by the supplier. For explosives the classification is undertaken in accordance with the definitions of class 1 of the European Agreement concerning International Carriage of Dangerous Goods by Road (UN/ADR), concluded on 30 September 1957 as amended.

SUBSTANCES AND THRESHOLDS

2 For the purposes of notification, dangerous substances are grouped into the following two categories:

2.1 **Named Substances.** A comprehensive list of Named Substances is given in Appendix 1A1 along with thresholds for Lower Tier Sites (LTS) and Top Tier Sites (TTS).

2.2 **Generic Substances.** A comprehensive list of Generic Substances is given in Appendix 1A2 along with thresholds for LTS and TTS.

3 Where a dangerous substance or group of dangerous substances listed in Appendix 1A1 also falls within a category listed in Appendix 1A2, the qualifying thresholds set out in Appendix 1A1 must be used.

THE 2% RULE

4 The quantities considered for the application of the regulations are the **maximum anticipated holdings** present at any time. Dangerous substances held at an establishment in small quantities should be ignored **for notification purposes** if they fulfil both the following criteria:

4.1 The amount held is less than 2% of the dangerous substance qualifying threshold.

4.2 Its location means that it cannot initiate a Major Accident elsewhere, on or off-site.

AGGREGATION RULE

5 The aggregation rule is used to decide if an establishment qualifies as an LTS or TTS when the maximum anticipated quantity of a single dangerous substance (or category of dangerous substance) does not exceed the qualifying threshold. The quantities of all dangerous substances present at an establishment are added together as partial fractions of their threshold quantities.

6 The following equation should therefore be used;

$$q1/Q + q2/Q + q3/Q + \dots > 1$$

Where, q_x is the quantity of dangerous substance x falling within Appendix 1A1 or Appendix 1A2 and Q is the relevant threshold quantity. The equation needs to be applied for both lower tier and top tier threshold quantities. As an example, if an establishment holds 30 tonnes of explosives HD 1.1 and 15,000 tonnes of petroleum products the equation would read (using the top tier threshold levels);

$$30/50 + 15,000/25,000 = 1.2$$

As 1.2 is greater than 1 the establishment would qualify as an Top Tier MACR establishment even though neither individual holding is in excess of the Upper Tier threshold quantity.

7 If in any doubt about application of the aggregation rule the establishment should contact the MACR Competent Authority who will assist in applying the aggregation rule to determine if the establishment is subject to MACR.

CONVERSION FORMULAE

8 The maximum anticipated quantities have to be expressed in Tonnes. This can be achieved by using the following formulae:

8.1 Bulk LPG. For holdings in Litres, multiply by 0.575 (Butane) or 0.512 (Propane) and divide by 1000. For holdings expressed in cubic metres, multiply by 0.575 (Butane) or 0.512 (Propane).

8.2 Liquid Oxygen (LOX). For holdings in Litres, multiply by 1.140 and divide by 1000. For holdings expressed in cubic metres, multiply by 1.140.

8.3 Bulk Fuel. For holdings in Litres, multiply by 0.807 (Aviation Kerosene F34, F35 and F44), 0.850 (all Diesel Fuels) or 0.950 (Petrol) and divide by 1000. For holdings expressed in cubic metres, multiply by 0.807 (Aviation Kerosene F34, F35 and F44), 0.850 (all Diesel Fuels) or 0.950 (Petrol).

8.4 Packed Stock. For all other flammable line items eg, lubricants, paints, glues, solvents etc. held in Litres, multiply by 0.850 and divide by 1000.

APPENDIX 1A1
NAMED SUBSTANCES

Serial (1)	Dangerous Substance (2)	Lower Tier Threshold (Tonnes) (3)	Top Tier Threshold (Tonnes) (4)
1	Ammonium nitrate (see Note 1)	5000	10000
2	Ammonium nitrate (see Note 2)	1250	5000
3	Ammonium nitrate (see note 3)	350	2500
4	Ammonium nitrate (see note 4)	10	50
5	Potassium nitrate (see note 5)	5000	10000
6	Potassium nitrate (see note 6)	1250	5000
7	Arsenic pentoxide, arsenic (V) acid and or salts	1	2
8	Arsenic trioxide, arsenious (III) acid and or salt	0.1	0.1
9	Bromine	20	100
10	Chlorine	10	25
11	Nickel compounds in inhalable powder form (nickel monoxide, nickel dioxide, nickel sulphide, trinickel disulphide, dinickel trioxide)	1	1
12	Ethyleneimine	10	20
13	Fluorine	10	20
14	Formaldehyde (concentration = > 90%)	5	50
15	Hydrogen	5	50
16	Hydrogen chloride (liquefied gas)	25	250
17	Lead alkyls	5	50
18	Liquefied extremely flammable gases (including LPG)	50	200
19	Natural gas (whether liquefied or not)	50	200
20	Acetylene	5	50
21	Ethylene oxide	5	50
22	Propylene oxide	5	50
23	Methanol	500	5000
24	4, 4-Methylenebis (2-chloraniline) and or salts, in powder form	0.01	0.01
25	Methylisocyanate	0.15	0.15
26	Oxygen	200	2000
27	Toluene diisocyanate	10	100
28	Carbonyl dichloride (phosgene)	0.3	0.75
29	Arsenic trihydride (arsine)	0.2	1
30	Phosphorus trihydride (phosphine)	0.2	1
31	Sulphur dichloride	1	1
32	Sulphur trioxide	15	75

APPENDIX 1A1
NAMED SUBSTANCES

Serial (1)	Dangerous Substance (2)	Lower Tier Threshold (Tonnes) (3)	Top Tier Threshold (Tonnes) (4)
33	Polychlorodibenzofurans and polychlorodibenzodioxins (including TCDD), calculated in TCDD equivalent	0.001	0.001
34	Petroleum products: a. Gasolines and Naphthas. b. Kerosenes (including Jet Fuels). c. Gas Oils (including Diesel Fuels, Home Heating Oils and Gas Oil Blending Streams).	2500	25000
35	The following CARCINOGENS at concentrations above 5 % by weight: 4-Aminobiphenyl and/or its salts, Benzotrichloride, Benzidine and/or salts, Bis(chloromethyl) ether, Chloromethyl methyl ether, 1,2-Dibromoethane, Diethyl sulphate, Dimethyl sulphate, Dimethylcarbamoyl chloride, 1,2-Dibromo-3-chloropropane, 1,2-Dimethylhydrazine, Dimethylnitrosamine, Hexamethylphosphoric triamide, Hydrazine, 2- Naphthylamine and/or salts, 4-Nitrodiphenyl, and 1,3 Propanesultone	0.5	2

NOTES

1. Ammonium nitrate (5 000/10 000): fertilisers capable of self-sustaining decomposition.

This applies to ammonium nitrate-based compound/composite fertilisers (compound/composite fertilisers containing ammonium nitrate with phosphate and/or potash) in which the nitrogen content as a result of ammonium nitrate is — between 15,75 % (1) and 24,5 % (2) by weight, and either with not more than 0,4 % total combustible/organic materials or which fulfil the requirements of Annex II of Directive 80/876/EEC,

— 15,75 % (3) by weight or less and unrestricted combustible materials, and which are capable of self-sustaining decomposition according to the UN Trough Test (see United

Nations Recommendations on the Transport of Dangerous Goods: Manual of Tests and Criteria, Part III, subsection 38.2).

2. Ammonium nitrate (1 250/5 000): fertiliser grade

This applies to straight ammonium nitrate-based fertilisers and to ammonium nitrate-based compound/ composite fertilisers in which the nitrogen content as a result of ammonium nitrate is

- more than 24,5 % by weight, except for mixtures of ammonium nitrate with dolomite, limestone and/or calcium carbonate with a purity of at least 90 %,
- more than 15,75 % by weight for mixtures of ammonium nitrate and ammonium sulphate,
- more than 28 % (4) by weight for mixtures of ammonium nitrate with dolomite, limestone and/or calcium carbonate with a purity of at least 90 %, and which fulfil the requirements of Annex II of Directive 80/876/EEC.

3. Ammonium nitrate (350/2500): technical grade

This applies to:

- ammonium nitrate and preparations of ammonium nitrate in which the nitrogen content as a result of the ammonium nitrate is
- between 24,5 % and 28 % by weight, and which contain not more than 0,4 % combustible substances,
- more than 28 % by weight, and which contain not more than 0,2 % combustible substances,
- aqueous ammonium nitrate solutions in which the concentration of ammonium nitrate is more than 80 % by weight.

4. Ammonium nitrate (10/50): “off-specs” material and fertilisers not fulfilling the detonation test

This applies to:

- material rejected during the manufacturing process and to ammonium nitrate and preparations of ammonium nitrate, straight ammonium nitrate-based fertilisers and ammonium nitrate-based compound/composite fertilisers referred to in notes 2 and 3, that are being or have been returned from the final user to a manufacturer, temporary storage or reprocessing plant for reworking, recycling or treatment for safe use, because they no longer comply with the specifications of Notes 2 and 3;
- fertilisers referred to in note 1, first indent, and Note 2 which do not fulfil the requirements of Annex II of Directive 80/876/EEC.

5. Potassium nitrate (5 000/10 000): composite potassium-nitrate based fertilisers composed of potassium nitrate in prilled/granular form.**6. Potassium nitrate (1 250/5 000): composite potassium-nitrate based fertilisers composed of potassium nitrate in crystalline form.**

7. Polychlorodibenzofurans and polychlorodibenzodioxins.

The quantities of Polychlorodibenzofurans and polychlorodibenzodioxins are calculated using the following factors:

International Toxic Equivalent Factors (ITEF) for the congeners of concern (NATO/CCMS)			
2,3,7,8-TCDD	1	2,3,7,8-TCDF	0.1
1,2,3,7,8-PeDD	0.5	2,3,4,7,8-PeCDF	0.5
		1,2,3,7,8-PeCDF	0.05
1,2,3,4,7,8-HxCDD	0.1	1,2,3,4,7,8-HxCDF	0.1
1,2,3,6,7,8-HxCDD	0.1	1,2,3,7,8,9-HxCDF	0.1
1,2,3,7,8,9-HxCDD	0.1	1,2,3,6,7,8-HxCDF	0.1
		2,3,4,6,7,8-HxCDF	0.1
1,2,3,4,6,7,8-HpCDD	0.01		
OCDD	0.001	1,2,3,4,6,7,8-HpCDF	0.01
		1,2,3,4,7,8,9-HpCDF	0.01
		OCDF	0.001

(1) 15,75 % nitrogen content by weight as a result of ammonium nitrate corresponds to 45 % ammonium nitrate.

(2) 24,5 % nitrogen content by weight as a result of ammonium nitrate corresponds to 70 % ammonium nitrate.

(3) 15,75 % nitrogen content by weight as a result of ammonium nitrate corresponds to 45 % ammonium nitrate.

(4) 28 % nitrogen content by weight as a result of ammonium nitrate corresponds to 80 % ammonium nitrate.

APPENDIX 1A2

GENERIC SUBSTANCES

Serial (1)	Dangerous Substance (2)	Lower Tier Threshold (Tonnes) (3)	Top Tier Threshold (Tonnes) (4)
1	Very toxic	5	20
2	Toxic	50	200
3	Oxidizing	50	200
4	Explosive (see note 2) where the substance, preparation or article falls under UN/ADR division 1.4	50	200
5	Explosive (see note 2) where the substance, preparation or article falls under any of: UN/ADR Divisions 1.1, 1.2, 1.3, 1.5 or 1.6	10	50
6	Flammable - R10	5000	50000
7	a. Highly flammable - R17	50	200
	b. Highly flammable - R11	5000	50000
8	Extremely flammable - R12	10	50
9a	Dangerous for the Environment risk phrase; - R50 very toxic to aquatic organisms (including R50/53)	100	200
9b	Dangerous for the Environment risk phrase; - R51/53 toxic to aquatic organisms and may cause long term adverse effects in the aquatic environment	200	500
10	ANY CLASSIFICATION not covered by serials 1 to 9 in combination with the following risk phrases:		
	a. R14 (reacts violently with water [includes R14/15])	100	500
	b. R29 (in contact with water, liberates toxic gas)	50	200

NOTE

1. The Risk Phrase numbers eg, R10 and R12 relate to those given in the Chemical Hazard Information and Packaging for Supply Regulations 2002 (CHIP).

2. An "explosive" means:

— a substance, preparation or article covered by Class 1 of the European Agreement concerning the International Carriage of Dangerous Goods by Road (UN/ADR), concluded on 30 September 1957, as amended, as transposed by Council Directive 94/55/EC of 21 November 1994 on the approximation of the

laws of the Member States with regard to the transport of dangerous goods by road (3).

Included in this definition are pyrotechnics, which for the purposes of this Directive are defined as substances (or mixtures of substances) designated to produce heat, light, sound, gas or smoke or a combination of such effects through self-sustained exothermic chemical reactions.

Substances and articles of Class 1 are classified in any of the divisions 1.1 to 1.6 in accordance with the UN/ADR classification scheme. The divisions concerned are:

Division 1.1: "Substances and articles which have a mass explosion hazard (a mass explosion is an explosion which affects almost the entire load virtually instantaneously)."

Division 1.2: "Substances and articles which have a projection hazard but not a mass explosion hazard."

Division 1.3: "Substances and articles which have a fire hazard and either a minor blast hazard or a minor projection hazard or both, but not a mass explosion hazard:

(a) combustion of which gives rise to considerable radiant heat; or

(b) which burn one after another, producing minor blast or projection effects or both."

Division 1.4: "Substances and articles which present only a slight risk in the event of ignition or initiation during carriage. The effects are largely confined to the package and no projection of fragments of appreciable size or range is to be expected. An external fire shall not cause virtually instantaneous explosion of virtually the entire contents of the package."

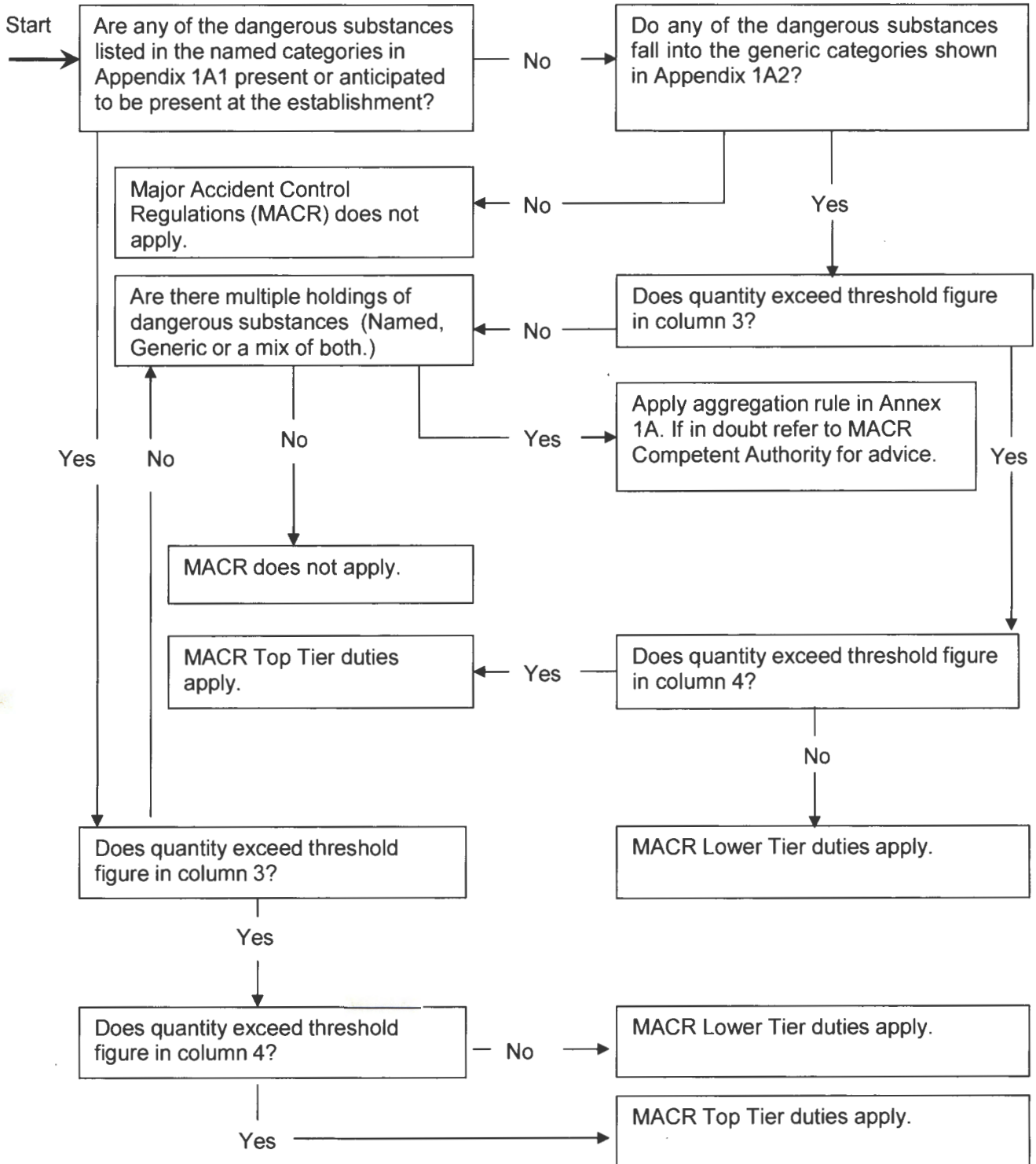
Division 1.5: "Very insensitive substances having a mass explosion hazard which are so insensitive that there is very little probability of initiation or of transition from burning to detonation under normal conditions of carriage. As a minimum requirement they shall not explode in the external fire test."

Division 1.6: "Extremely insensitive articles which do not have a mass explosion hazard. The articles contain only extremely insensitive detonating substances and demonstrate a negligible probability of accidental initiation or propagation. The risk is limited to the explosion of a single article." Included in this definition are also explosive or pyrotechnic substances or preparations contained in articles.

In the case of articles containing explosive or pyrotechnic substances or preparations, if the quantity of the substance or preparation contained is known, that quantity shall be considered. If the quantity is not known, then the whole article shall be treated as explosive.'

ANNEX 1B QUALIFICATION

FLOWCHART



Note 1: In order to simplify the flow diagram a number of potential outcomes are not shown. These outcomes are ones which the MACR CA SG has already determined are not feasible within the MOD.

Any difficulty in applying the flow diagram should be referred to the MACR CA SG.

ANNEX 1C

TERMINOLOGY

1 The terminology used in this JSP has the following meaning:

Assessment	The process of scrutinising the documents required by Major Accident Control Regulations (MACR) and reaching a conclusion as to the adequacy of the arrangements to prevent Major Accidents (MAs) or minimise their consequences.
Assessment Manager	The person responsible for co-ordinating the various assessment tasks and ensuring that the conclusions are communicated to the MACR Competent Authority (CA) and Head of Establishment (HOE).
Competent Person	One who is deemed competent by virtue of appropriate training, knowledge, experience or other qualities to carry out the task to the required standard. (See JSP 375 Definitions for a fuller meaning).
Dangerous Substance	A substance, mixture or preparation: a. Listed in Appendix 1A1 of Annex 1A; or b. With a category specified in column 1 of Appendix 1A2 of Annex 1A, and present as a raw material, product, by-product, residue or intermediate.
Demonstrate	To prove, justify or make a case for, through information provided.
Domino Effect	The combined consequences of an MA at one establishment or installation being triggered by an incident at another establishment or installation.
Emergency Control Centre	The location on an establishment from which emergency operations will be co-ordinated. This will include facilities such as communications, power, maps etc. for representatives of the establishment and the emergency services.
Emergency Services	Police, Fire, Ambulance and Coastguard Services who are liable to respond to an emergency at the establishment.
Endorsement	The MACR CA formal approval of the measures to prevent and mitigate MA hazards.

(Endorsement does not relieve the HOE of any responsibility as they must ensure that measures stated in the Major Accident Prevention Policy (MAPP) and Safety Report (SR) are in place. However it does show that measures put in place are thought by the MACR CA to be adequate, reducing the risk to an acceptable level).

Environment	The surroundings around, over and under an establishment including the flora, fauna, buildings and infrastructure.
Establishment	The whole area under the control of the same person where dangerous substances are present at one or more installations. Two or more areas under the control of the same person and separated only by a road, railway or inland waterway shall be treated as one whole establishment. An establishment, which consists of a number of fragmented areas, may be split into two or more qualifying areas at the discretion of the MACR CA.
Establishment Incident Controller	Normally operates at the forward control point and provides the interface between the Emergency Control Centre (ECC) and the incident.
Establishment Main Controller	Has overall responsibility for directing operations from the ECC.
Head of Establishment	The individual at the establishment responsible for controlling its operations, including health and safety.
Health Authority	In England and Wales means a Health Authority established under Section 8 of the National Health Service Act 1977 and in Scotland means a Health Board established under Section 2 of the National Health Service (Scotland) Act 1970.
Installation	A building or area within an establishment in which dangerous substances are present, or are intended to be processed, used, handled or stored, and it includes - <ul style="list-style-type: none"> (a) equipment, structures, pipework, machinery and tools, (b) railway sidings, docks and unloading quays serving the unit, and (c) jetties, warehouses or similar structures, whether floating or not, which are necessary for the operation of the unit; The definition of 'installation' is broad. It includes

	<p>storage and is neither restricted to a processing or handling activity nor to buildings or particular types of plant. It encompasses all the supporting infrastructures which are connected to the parts of the establishment where dangerous substances are primarily used, handled or stored.</p>
In Transit	<p>The movement of dangerous substances between locations by road, rail, sea or air, including safekeeping, in formally approved areas for up to a maximum period of four days.</p>
Intermediate Temporary Storage	<p>Storage of dangerous substances in the transportation chain, including railway and marshalling yards, stabling areas, lorry parks, docks, wharves and quays.</p>
Key Personnel	<p>People who have a significant role to play within the On-Site Emergency Plan.</p>
Local Authority	<p>The local civil authority eg, District Council, County Council, Council for the Local Government or County Borough Council etc. This may include more than one authority if boundaries are close to the establishment. In these instances it would be normal for one authority to have primacy.</p>
MACR Co-ordinator	<p>The individual nominated by the HOE to act as the focus for all MACR matters relating to that establishment.</p>
Major Accident	<p>An occurrence such as a major emission, fire or explosion resulting from uncontrolled developments during the operation of any MACR establishment that leads to serious danger to human health and or the environment, whether immediate or delayed, inside or outside the establishment and involving one or more dangerous substances.</p>
Major Accident Prevention Policy	<p>A document compiled by an establishment to explain the policy relating to the prevention and mitigation of MA hazards within the establishment.</p>
Maximum Anticipated Holdings	<p>The maximum anticipated holdings irrespective of the current amount held that the establishment expects to hold in a 5 year period, this may be the maximum capacity available or the maximum licensed amount.</p>

Mitigation	The process of reducing the scale of the consequences of an MA.
MACR Competent Authority	Authority set up to introduce and enforce Major Accident Control Regulations - JSP 498.
MACR Competent Authority Support Group	The permanent support staff having specific expertise in Safety, Health, Environment and Fire topics and experience in associated technical areas that supports the MACR CA, acts as the MOD focus for MACR and maintains JSP 498.
National Competent Authority	Authority set up to regulate the Control of Major Accident Hazards Regulations 1999 (COMAH) comprising the Health & Safety Executive and the Environment Agency or the Scottish Environment Protection Agency as applicable.
Notification	Formal submission from an establishment notifying the MACR CA of its existence and qualification according to the Lower Tier or Upper Tier threshold criteria for the dangerous substance or category of dangerous substance held.
Off-Site Emergency Plan	A document produced by the local authority based on the MA hazards, identified by the establishment in their SR, that could affect human health and or the environment beyond the MOD boundary, or that will require the attendance of external emergency services in the event of an incident.
On-Site	A document produced by the HOE Emergency Plan encompassing the establishment response to an MA involving dangerous substances.
People	All persons including service personnel, civil servants, contractors, visitors and members of the public.
Public Information Zone	The area around an establishment where people will be immediately affected by an MA and who require certain information on what actions to take in the event of an emergency.
Safety Report	A document that demonstrates that an establishment that stores or processes dangerous substances has taken all measures necessary to prevent MAs and mitigate the consequences to human health and or the environment of any that do occur.

Senior Emergency
Services Officer

Usually the senior Police Officer who has primacy over the developing incident and is located within the ECC.

Significant Change

Changes resulting in the introduction or removal of hazards that could lead to an MA, changes in the operation or stock holdings of the establishment, Changes in management structure e.g. delayering, contractorisation or partnership arrangements developments in the surrounding area and or changes to habitat or species awareness on or near the establishment.

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ANNEX 1D

ABBREVIATIONS

1 The following abbreviations are used in this JSP:

ACOP	Approved Code of Practice
A&ER	Ammunition and Explosives Regulations
AFFF	Aqueous Film Forming Foam
ALARP	As Low As Reasonably Practicable
AONB	Area of Outstanding Natural Beauty
AM	Assessment Manager
AP	Air Publications
ASL	Approved Supply List
BFI	Bulk Fuel Installation
BGS	British Geology Survey
BLBH	Basic Level Budget Holder
BR	Books of Reference
BT	British Telecom
CA	Competent Authority
CA SG	Competent Authority Support Group
CDM	Construction, Design and Management
CESO	Chief Environment and Safety Officer
CHASP	Central Health and Safety Project
CHIP	Chemical Hazard Information and Packaging for Supply
CIE	Regulations
COMAH	Chief Inspector of Explosives
COSHH	Control of Major Accident Hazards Regulations 1999
	Control of Substances Hazardous to Health
COSLA	Convention of Scottish Local Authorities
CRNP	Cellular Radio Network Provider
CSD	Client Services Directorate
DESC	Defence Environment and Safety Committee
DE&S	Defence Equipment & Support
DFS	Defence Fire Service
DIO	Defence Infrastructure Organisation
DOSG	Defence Ordnance Safety Group
DSEA	Defence Safety & Environment Authority
EA	Environment Agency
EC	European Community
ECC	Emergency Control Centre
ECN	Emergency Communications Network
EIC	Establishment Incident Controller
EMC	Establishment Main Controller
EMR	Establishment Maintenance Review
EMS	Environmental Management System
EPA	Environmental Protection Act 1990 (as amended by The

	Environment Act 1995)
EPO	Emergency Planning Officer
ERA	Environmental Risk Assessment
ES	Exposed Site
ESA	Explosives Storage Area
ESTC	Explosives Storage and Transport Committee
EU	European Union
EWS	Emergency Water Supply
FCP	Forward Control Point
GRA	Generic Risk Assessment
HCC	Hazard Classification Code
HD	Hazard Division
HDS	Hazard Division Sign
HOE	Head of Establishment
H&S	Health & Safety
HSE	Health & Safety Executive
HSWA	Health & Safety at Work etc. Act 1974
ICP	Integrated Contingency Planning
IE	Inspector of Explosives
ISO	International Standards Organisation
JSP	Joint Service Publication
LA	Local Authority
LGA	Local Government Association
LNR	Local Nature Reserve
LTS	Lower Tier Site
LQA	Land Quality Assessment
MA	Major Accident
MACR	Major Accident Control Regulations
MAPP	Major Accident Prevention Policy
MATTE	Major Accident To The Environment
MEPP	Munitions & Explosives Processing Procedures
MDP	Ministry of Defence Police
MGS	MOD Guard Service
MHSWR	Management of Health & Safety at Work Regulations 1999
MMMF	Man Made Mineral Fibres
MPGS	Military Provost Guard Service
MSER	Manufacture and Storage of Explosives Regulations
MT	Motor Transport
NEQ	Net Explosive Quantity
NHS	National Health Service
PCB	Polychlorinated Biphenyl
PES	Potential Explosion Site
PIZ	Public Information Zone
PPE	Personal Protective Equipment
PR	Public Relations
PRO	Public Relations Office
PROM	Property Manager
PUS	Permanent Under Secretary
POWER	Provision and Use of Work Equipment Regulations 1998
PXR	Post Exercise Report

QD QRA	Quantity Distance
RIDDOR	Quantitative Risk Assessment
	Reporting of Injuries, Diseases and Dangerous Occurrences
RPC	Regulations 1995
RPE	Regional Prime Contractor
RVP	Respiratory Protective Equipment
	Rendezvous Point
SAC	Special Area of Conservation
SEPA	Scottish Environment Protection Agency
SESO	Senior Emergency Services Officer
SETL	Site Estates Team Leader
SHEF	Safety, Health, Environment and Fire
SMS	Safety Management System
SNH	Scottish Natural Heritage
S of S	Secretary of State
SPA	Special Protection Area
SQEP	Suitably Qualified Experienced Person
SR	Safety Report
SSSI	Site of Special Scientific Interest
TA	Technical Assessment
TIAD	Technical Instructions for Ammunition Depots
TLBH	Top Level Budget Holder
TOR	Terms of Reference
TTS	Top Tier Site
TU	Trade Union
UK	United Kingdom
UN	United Nations
U S of S	Under Secretary of State

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ANNEX 1E**MAJOR ACCIDENT CONTROL REGULATIONS
NOTIFICATION PROFORMA**

Title of Establishment:

Head of Establishment:

Full Postal Address:

Nominated MACR Co-ordinator:

Telephone Number:

Email Address:

Dangerous Substances:

Name or Category of Substance	Maximum Anticipated Holding	Remarks

Establishment Role and Activities:

Signature:

Name:

Appointment:

Date:

See completion notes 1-6.

Return completed proforma to:

MACR Competent Authority

Fir 3b, #4304

MOD Abbey Wood

Bristol BS34 8JH

Email: DSEA-DOSR-MACR2@mod.uk

Completion Notes

1. Title of Establishment. Full title.
2. Head of Establishment. Name and appointment of the Head of Establishment.
3. Full Postal Address. To include Post Code.
4. Nominated MACR Co-ordinator. Name, appointment and contact details of the person formally nominated as the MACR Co-ordinator.
5. Dangerous Substances. Sufficient information to identify the dangerous substances and quantities held. This should be based on the maximum anticipated holdings (**not** the amount actually held, the maximum amount possible or the maximum amount permissible).
6. Establishment Role and Activities. Give the establishment role and a short description of the establishment activities (this should be a brief overview only eg, storage, issue, receipt, inspection and repair of explosives or bulk storage and issue of fuel etc.). A description of individual hazardous installations within the establishment is not required.

ANNEX 1F

**DECLARATION OF CONFORMITY FOR MAJOR ACCIDENT
PREVENTION POLICY**

1 The following is an example of a Conformance Certificate required by a Lower Tier Site:

To: MACR Competent Authority
Fir 3b, #4304
MOD Abbey Wood South
Bristol
BS34 8JH

MAJOR ACCIDENT CONTROL REGULATIONS (MACR)

MAJOR ACCIDENT PREVENTION POLICY (MAPP) FOR

(insert establishment name)

Reference:

A. Major Accident Control Regulations - JSP 498.

1. It is confirmed that the MAPP for *(insert establishment name)* has been compiled in accordance with Reference A and that I am personally satisfied that my arrangements for preventing Major Accidents and mitigating the consequences of any that do occur are adequate.

2. Any known issues over the arrangements are shown below.

Signed:
Head of Establishment

Dated: DD/MM/YYYY

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ANNEX 1G

DECLARATION OF CONFORMITY FOR SAFETY REPORT

1 The following is an example of a Conformance Certificate required by a Top Tier Site:

To: MACR Competent Authority
Fir 3b, #4304
MOD Abbey Wood South
Bristol
BS34 8JH

MAJOR ACCIDENT CONTROL REGULATIONS (MACR)

SAFETY REPORT FOR (*insert establishment name*)

Reference:

A. Major Accident Control Regulations - JSP 498.

1. It is confirmed that the Safety Report for (*insert establishment name*) has been compiled in accordance with Reference A and that I am personally satisfied that my arrangements for preventing Major Accidents and mitigating the consequences of any that do occur are adequate.

2. Any known issues over the arrangements are shown below.

Signed:
Head of Establishment

Dated: DD/MM/YYYY

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ANNEX 1H

APPLICATION TO DETACHED UNITS AND OUTSTATIONS

TOPIC	GUIDANCE
1. Detached Unit or Outstation holds sufficient quantity of dangerous substances to qualify in its own right	If the detached unit or outstation holds sufficient quantities of dangerous substances to qualify as a MACR establishment it will normally be considered as a separate MACR establishment and a Major Accident Prevention Policy (MAPP) or Safety Report (SR) will be required.
2. Detached Unit or Outstation does not hold sufficient quantities of dangerous substances to qualify in its own right.	If the detached unit or outstation does not qualify as a MACR establishment it is discounted. Discounted detached units or outstations do not need to be considered in the parent establishments MAPP or SR. These sites do not fall within the scope of JSP 498.
3. Hazardous footprint from parent establishment and detached unit or outstation overlap	If the detached unit or outstation is a MACR establishment the two establishments should be recognised as domino sites and recorded as such with the MACR Competent Authority (CA).
4. Extended establishments and MOD controlled areas.	A MACR establishment in a large MOD controlled area that includes facilities/hazardous installations that could be considered as detached units, outstations or separate MACR establishments may, at the discretion of the MACR CA as exercised by the Assessment Manager, be deemed to be one MACR establishment. The Assessment Manger will take into account the authority over the area, command and control of the facilities, purpose of the facilities, operating and emergency procedures and any other information they deem relevant.

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CHAPTER 2

MAJOR ACCIDENT CONTROL REGULATIONS

THE MACR COMPETENT AUTHORITY

Para

- 1 Introduction
- 3 Terms of Reference and Operating Methods
- 4 Competencies
- 5 Regulation
- 6 Assessment
- 8 Advice to TLB
- 9 Audit and Review
- 10 Accident Investigation
- 11 Liaison with National CA
- 13 Liaison with Local Authorities

Annex

- 2A MACR CA Terms of Reference
- 2B MACR CA SG Competencies
- 2C MACR Committee Structure

INTRODUCTION

1 The Major Accident Control Regulations (MACR) Competent Authority (CA) is empowered by Permanent Under Secretary (PUS), through the Director Defence Safety & Environmental Authority to discharge duties under MACR in the areas of Regulation, Assessment, Inspection, Accident Investigation, and Liaison with both the National CA and Local Authorities (LA). The duties of the MACR CA are given in this Chapter. In discharging these duties the MACR CA will ensure the following:

- 1.1 Appropriate expertise on Safety, Health, Environment and Fire (SHEF) is brought to bear in the regulation of Major Accident (MA) hazards and dangerous substances.
- 1.2 Its activities are consistent, transparent, targeted and proportionate.
- 1.3 Its activities take due account of existing MOD SHEF management systems as appropriate.

2 The MACR CA will be supported in the discharge of these duties by a Support Group (SG).

TERMS OF REFERENCE AND OPERATING METHODS

3 In order to discharge these duties the MACR CA will be subject to the Terms of Reference (TOR) given in Annex 2A.

COMPETENCIES

4 The competency requirements for members of the MACR CASG are given in Annex 2B.

REGULATION

5 The MACR CA will ensure that there are arrangements in place in the MOD that will deliver, as far as is reasonably practicable, SHEF standards at least as good as those required by the Control of Major Accident Hazards Regulations 1999 (COMAH) as amended for as long as the Regulations remain in force by:

- 5.1 Producing and maintaining Major Accident Control Regulations – JSP 498.
- 5.2 Acting as the MOD focus for all MACR matters.
- 5.3 Compiling and maintaining a register of MACR establishments.
- 5.4 Maintaining a MACR Committee structure in accordance with Annex 2C.
- 5.5 Setting MOD criteria against which compliance with MACR may be assessed.

ASSESSMENT

6 The MACR CA will assess the Major Accident Prevention Policy (MAPP), the Safety Report (SR) and the On-Site Emergency Plan for MACR establishments to determine if they adequately describe establishment hazards, their associated risks and the measures in place to prevent MAs and mitigate their consequences as follows:

- 6.1 Advising each Head of Establishment (HOE) of the requirements of MACR and on the criteria that will be used to assess the adequacy of the arrangements shown in the MAPPs, SRs and On-Site Emergency Plans.
- 6.2 Assessing and endorsing establishment MAPPs, SRs and On-Site Emergency Plans.
- 6.3 Agreeing with the HOE or Top Level Budget Holder (TLBH), as appropriate, which information in the SR should be excluded from the public register.
- 6.4 Communicating the conclusions of the assessment to the respective HOE.

7 Details of the assessment criteria are given in Chapter 6.

ADVICE TO TLBH

8 The MACR CA has authority to advise the respective TLBH on the adequacy of the measures taken by the establishment for the prevention and mitigation of MAs and to highlight any serious deficiencies.

AUDIT AND REVIEW

9 The existing Departmental hierarchy of audit and inspection systems will be used, as far as possible, to monitor operational performance. However, for the purposes of Major Accident Hazards the MACR CA will introduce procedures for the following:

- 9.1 Checking the suitability, quality and rigour of such systems.
- 9.2 Ensuring that the process addresses both the performance of the MACR establishment itself and the adequacy of the established audit and inspection function.
- 9.3 Incorporating appropriate MACR related topics into the existing inspection and audit question sets used by the respective establishments, TLBH and central MOD performance monitoring processes.
- 9.4 Sampling establishment inspection and audit processes for verification purposes.
- 9.5 Identifying corrective actions needed and monitoring their implementation.
- 9.6 Evaluating the mandatory Major Emergency exercises (see Chapter 5).

ACCIDENT INVESTIGATION

10 The MACR CA will participate in investigations of MAs that occur and ensure that the appropriate remedial and preventative measures are taken by:

- 10.1 Examining information from the respective HOE pertaining to the circumstances of the accident, the dangerous substances involved, the data available for assessing the effects on human health and or the environment, the emergency measures taken and the measures envisaged to alleviate the effects of the accident and prevent recurrence.
- 10.2 Participating fully in the official Board or Committee of Inquiry into the MA. This should investigate all aspects including technical, organisational and managerial factors in accordance with the respective TLBH accident investigation procedures.
- 10.3 Making recommendations for future preventative measures together with an implementation timetable, ensuring that lessons learned are promulgated within MOD and that any necessary amendments to this JSP and changes to other MOD regulations or publications are made.

LIAISON WITH THE NATIONAL CA

11 The MACR CA will liaise with the National CA, who regulate and enforce the COMAH legislation, to discuss issues of mutual interest, and allow the following commonality of approach where appropriate:

- 11.1 Designating certain establishments or groups of establishments as being subject to domino effect.
- 11.2 Reporting MACR MAs to the National Competent Authority.

11.3 Representing a Departmental position on proposed amendments to the Directive and or the COMAH Regulations.

12 Liaison will involve the Health & Safety Executive (HSE) and the Environment Agency (EA) or Scottish Environment Protection Agency (SEPA) as appropriate.

LIAISON WITH LOCAL AUTHORITIES

13 The MACR CA will maintain liaison with the Local Government Association (LGA) for England and Wales and the Convention of Scottish Local Authorities (COSLA) with a view to the following:

13.1 Enabling arrangements to be made for the preparation of the Off-Site Emergency Plan by the respective LA.

13.2 Ensuring that lessons learned from exercises are incorporated into this JSP and other MOD documentation as appropriate.

ANNEX 2A

MACR COMPETENT AUTHORITY TERMS OF REFERENCE

Para

- 1 Background
- 2 Authority
- 3 Responsibilities
- 4 Organisational Arrangements

BACKGROUND

1 The Under Secretary of State (U S of S) has agreed that the simplest and most cost effective method of achieving the policy of the S of S in respect of the Control of Major Accident Hazards Regulations 1999 (COMAH) is for MOD to create its own Competent Authority (CA) to implement and enforce the Regulations which will be known as the Major Accident Control Regulations (MACR). The MACR CA is independent of the National CA but with similar and additional duties to impose equivalent Regulations and arrangements to enforce them. In order to achieve a consistency of approach across the Department the MOD standards and working procedures required by line management to achieve compliance with MACR will be published in JSP 498.

AUTHORITY

2 The MACR CA is authorized by Permanent Under Secretary (PUS) through the Director Defence Safety & Environment Authority (DSEA) to introduce and enforce a set of MOD standards and procedures to be known as MACR.

RESPONSIBILITIES

- 3 The MACR CA is responsible for the following:
- 3.1 Setting mandatory, Safety, Health, Environment and Fire (SHEF) standards and procedures and introducing arrangements in the MOD that will deliver, as far as is reasonably practicable performance standards at least as good as those required by the COMAH Regulations for as long as the Legislation remains in force.
 - 3.2 Assessing and endorsing establishment Major Accident Prevention Policies, Safety Reports and On-Site Emergency Plans submitted within the scope of MACR and determining whether they adequately describe establishment hazards, their associated risks and the measures in place to prevent Major Accidents (MAs) and mitigate their consequences.
 - 3.3 Advising the respective Top Level Budget Holders (TLBH) on the adequacy of the measures taken by establishments to satisfy the requirements of MACR.

- 3.4 Introducing appropriate arrangements for audit and review associated with MACR compliance.
- 3.5 Participating in MA investigations and recommending appropriate remedial and preventative measures.
- 3.6 Maintaining liaison with the National CA, who regulate and enforce COMAH, in order to harmonise and develop commonality between MACR and COMAH as appropriate and consistent with MOD operations, policies and procedures, constraints and working practices.
- 3.7 Maintaining liaison links with the Local Government Association, and the Convention of Scottish Local Authorities to enable arrangements to be made for the preparation of Off-Site Emergency Plans by the respective local authority.
- 3.8 Designating potential domino effect establishments.

ORGANISATIONAL ARRANGEMENTS

4 The MACR CA is an identified post with full executive authority outside the Chain of Command of TLBHs to ensure independence of vested interest. The MACR CA will use the following organisational and operating methodology:

- 4.1 A permanent Support Group having specific expertise in SHEF topics and experience in associated technical areas will support the MACR CA, act as the MOD focus for MACR and maintain JSP 498.
- 4.2 Appropriate expertise on SHEF is brought to bear in the regulations.
- 4.3 MACR will be developed on a best practice basis, utilising existing SHEF procedures wherever possible, and implemented in a MOD standard format for establishment documentation compilation and assessment.
- 4.4 Duties under MACR are co-ordinated, consistent, transparent, targeted and proportionate.
- 4.5 An appeals procedure to safeguard the establishments TLBH interests, in assessment and endorsement of safety documentation.
- 4.6 Arrangements will be maintained with the National CA to deal with the designation of domino effect establishments and the reporting of MAs.
- 4.7 Notification and assessment records will be retained for a minimum of 10 years.

ANNEX 2B

MACR COMPETENT AUTHORITY SUPPORT GROUP COMPETENCIES

- 1 Introduction
- 2 Familiarity
- 3 Assessment and Inspection Requirements
- 4 Expertise and Experience
- 5 Qualifications

INTRODUCTION

1 The Major Accident Control Regulations (MACR) Competent Authority (CA) Support Group (SG) will be required to have appropriate core and functional competencies, to give them an overall knowledge and understanding of the following:

- 1.1 Safety, Health, Environment and Fire (SHEF) management.
- 1.2 Specialist knowledge on Dangerous Substances (e.g. Fuels, Explosives, LOX and LPG in particular).
- 1.3 Security relating to the dangerous substances
- 1.4 Infrastructure of hazardous installations

FAMILIARITY

2 The MACR CA SG will need to be familiar with the following:

- 2.1 Their duties and functional working methods.
- 2.2 Information handling (electronic and manual).
- 2.3 Committee structure and meeting formalities.
- 2.4 Communications and working relationships within and between MOD organizations.
- 2.5 Current Health and Safety and Environmental civil legislative requirements, guidance and references.
- 2.6 MOD SHEF policies and procedures.
- 2.7 MOD security policy.
- 2.8 The format and content of JSP 498.
- 2.9 Major Accident Prevention Policy (MAPP), Safety Report (SR) and On-Site Emergency Plan processes and assessment criteria.
- 2.10 Thorough understanding of the COMAH Assessment Manual
- 2.11 Organisational context of establishments within MOD.
- 2.12 Relationships with the Health & Safety Executive, the Environment Agency, the Scottish Environment Protection Agency, Local Authorities and Emergency Services.
- 2.13 Auditing techniques and tools.
- 2.14 Accident investigation techniques.

ASSESSMENT AND INSPECTION REQUIREMENTS

3 In the Assessment and Inspection roles, the MACR CA SG additionally require the following:

- 3.1 Awareness of the purpose of a MAPP, SR and On-Site Emergency Plan assessment and the relationship between assessment and audit of establishment systems.
- 3.2 Analytical skills.
- 3.3 Leadership skills.
- 3.4 Ability to plan and effectively manage the assessment and inspection tasks.
- 3.5 Ability to make rapid, proportional responses if serious deficiencies are identified in the establishment under review.
- 3.6 Ability to ensure a consistent approach.

EXPERTISE AND EXPERIENCE

- 4 The MACR CA SG will need expertise and experience in one or more of the following specialist technical areas:
 - 4.1 Explosives engineering and explosives safety in storage, handling and processing.
 - 4.2 Fuels and flammable liquids engineering and safety in storage and handling.
 - 4.3 Other Dangerous Goods classes 2, 4, 5, 6, 8, and 9 safety in storage and handling.
 - 4.4 SHEF (including Risk Assessment methods and techniques, the Safety Management System and Environmental Management System).
 - 4.5 Emergency planning.
 - 4.6 Specialised structures and installation design.

QUALIFICATIONS

- 5 Each team member will have a minimum of;
 - 5.1 Nationally recognised Audit qualification (Environmental Auditing issued via CIEMA, ROSPA QSA Auditor or equivalents)
 - 5.2 H&S NEBOSH General Certificate or NEBOSH National Certificate in Environmental Management or IEMA Associate Certificate in Environmental Management or equivalents
 - 5.3 IOSH Certificate in Accident/Loss Investigation and Evidence Gathering
 - 5.4 Exercising Emergency Plans (Emergency Planning College Course)

ANNEX 2C

MACR COMMITTEE STRUCTURE

Para
 1 Introduction
 2 Committee Terms of Reference

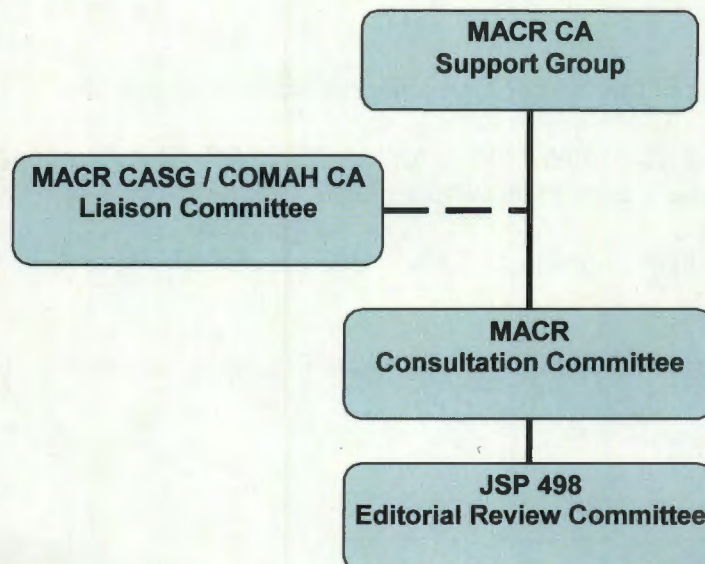
INTRODUCTION

1 The MACR Committee Structure follows the same committee principles as all DOSR Policy areas amended as required for the unique characteristics of the MACR process. The MACR CA is bound by the Secretary of States Policy Statement to ensure that JSP 498 meets the Safety and Environmental requirements of COMAH (which in turn are constrained to implement Seveso III). MACR mirrors COMAH Regulations with the effect that COMAH National Competent Authority Major Accident Hazard Policy is adopted unless the MACR CA introduces variations in order to take account of established MOD procedures and the Defence Imperative. JSP 498 policy will be drafted by the MACR CASG and the proposals reviewed via the JSP 498 Editorial Committee. The proposals will then be subject to consultation with MACR Stakeholders at the MACR Consultation Committee before being finalised by the JSP 498 Editorial Review Committee chaired by MACR CA. Notification of changes will be by DOSR Safety Notice or by re-issue of JSP 498.

COMMITTEE TERMS OF REFERENCE

2 The terms of reference for the MACR committees are shown below:

Table 1: MACR Committee Structure



MAJOR ACCIDENT CONTROL REGULATIONS (MACR) CONSULTATION COMMITTEE

TERMS OF REFERENCE AND COMPOSITION

PURPOSE

1 To consider MOD regulations and standards for control of major accident hazards, and provide feedback on the implementation of the regulations within the respective TLB areas to the MACR CA.

SCOPE

2 The MACR consultation committee is to review the implementation JSP 498 requirements taking into account any developments in EU Directive Seveso III and Control of Major Accident Hazards Regulations 1999 which may require new or revised safety and environmental standards and regulations. They will highlight any issues to the MACR Competent Authority Support Group (MACR CASG).

The following are standing agenda items:

- a. HSE Enforcement Actions / HSE Inspection observations. (MACR related)
- b. MACR Improvement Notices.
- c. Major Accidents or near misses.
- d. Top 5 prevalent Non Compliances.
- e. Legislation updates.
- f. JSP 498 Updates.
- g. Issues to be referred to Stake Holder Committees.
- h. Actions arising from Stake Holder Committee's.

TASKS

3 The tasks of the MACR Consultation Committee are to:

- a. Act as a review forum for MACR CASG policy proposals requiring endorsement prior to inclusion in JSP 498.
- b. Consider policy and standards for control of major accident hazards
- c. Establish Editorial Review Committee for the review and maintenance of JSP 498.

- d. Monitor trends in non compliance.
- e. Establish Working Groups as necessary to address specific topics requiring detailed research and reporting and to make appropriate recommendations to the Consultation Committee.

MEMBERSHIP AND ATTENDANCE

4 The committee officers are as follows:

- a. Chairman – Defence Safety & Environment Authority – MACR Competent Authority.
- b. Secretary – MACR1/MACR2.

5 Membership of the Committee comprises the representatives of TLB duty holders responsible for safety and environment within their respective Services/MOD Agencies. The following officers are permanent members:

- a. DSEA DOSR TL (MACR CA) (Chairman).
- b. Secretary MACR1/MACR2
- c. DSEA DOSR Asst TL EST
- d. CESO (RAF)
- e. CESO (DE&S)
- f. CESO (Army)
- g. CESO (JFC)
- h. CESO (RN)
- i. CESO (DIO)
- j. F&G Safety Regulator
- k. DM – P&R TL
- l. RAF RLO Representative

6 Members may, with the approval of the Chairman, arrange for the attendance of additional representatives or observers from organisations with a legitimate interest at MACR Consultation Committee meetings.

7 The Chairman is responsible for seeing that all interested parties within the relevant departments of MOD and visiting forces establishments in the UK are adequately represented on the committee and the minutes should reflect the current membership noting the introduction of any new members and the reasons for their inclusion.

REPORTING COMMITTEES AND FORUMS

8 The Chairman is to report on MACR Committee matters and activity at OME Safety & Environment Stakeholder Committee (OSASC) / Fuels & Gases Stakeholder Committee (F&GSC).

9 The JSP 498 Editorial Review Committee provides draft proposals to the MACR consultation committee, and is to submit a written report to the Chairman MACR Consultation Committee, via the Secretary MACR Consultation Committee, at least 2 weeks in advance of the meeting.

FREQUENCY OF MEETINGS

10 The committee will normally meet once a year in March, or more frequently if required by the Chairman. Minutes are to be issued to all members of the Committee whether they attend or not. Requests for copies of minutes by Other Government Departments or outside agencies are to be passed to Secretary MACR Consultation Committee for consideration.

JSP 498 EDITORIAL REVIEW COMMITTEE

TERMS OF REFERENCE AND COMPOSITION

PURPOSE

1 To review and maintain currency of the Major Accident Control Regulations.

SCOPE

2 The Editorial Review Committee standing agenda items are:

- a. JSP 498 Review Action Plan
- b. Review of Chapter drafts
- c. JSP 498 issues:
 - (i) Structure
 - (ii) Terminology
 - (iii) Distribution
 - (iv) Application
 - (v) Compliance
- d. Legislation – changes / interpretation / application
- e. Items for inclusion in MACR Consultation Committee Report

3 Other agenda items can be added by the Chairman as required.

TASKS

4 The tasks of the JSP 498 Editorial Review Committee include:

- a. Consider the detail of relevant legislation, associated codes of practice and MOD policy and prepare, as required, draft policy proposals for consideration.
- b. Review draft chapters provided by MACR CASG.
- c. Consult with the other DSEA DOSR Committees to ensure that amendments to JSP 498 are fully consistent and reflect the requirements of other DSEA DOSR publications.
- d. Produce an Annual Review Action Plan.

MEMBERSHIP AND ATTENDANCE

5 The committee officers are as follows:

- a. Chairman – DSEA DOSR TL (MACR CA)
- b. Secretary – MACR1/MACR2

6 Membership of the committee comprises the MOD Subject Matter Experts (SMEs) for MACR. The following officers are permanent members:

- a. MACR CA (Chairman)
- b. DSEA DOSR Asst TL EST
- c. DSEA DOSR MACR1
- d. DSEA DOSR MACR2

FREQUENCY OF MEETINGS

7 The committee will meet as required to support the annual review action plan.

MACR CASG / COMAH CA LIAISON COMMITTEE

TERMS OF REFERENCE AND COMPOSITION

PURPOSE

1 To provide a forum for discussion between the MOD's Competent Authority for the Control of Major Accident Hazards Regulations and the National Competent Authority under COMAH 1999.

SCOPE

2 The following are standing agenda items:

- a. Changes to Seveso II / III b.
Changes to UK Legislation
- c. MACR Qualified sites Sitrep
- d. MOD Issues & news
- e. COMAH Issues & news
- f. Major Accidents and near misses

3 Other agenda items can be added by the Chairman as required.

TASKS

4 The tasks of the Liaison Committee include:

- a. providing feed back on implementation of EU and UK legislation.
- b. providing feedback on implementation of Secretary of State for Defence policy for MACR.
- c. provide, where appropriate, trend analysis on non-compliance issues.
- d. discussing matters of mutual interest relating to the control of major accident hazards.
- e. discussing interpretation of COMAH guidance.

MEMBERSHIP AND ATTENDANCE

5 The committee officers are as follows:

- a. Chairman – MACR CA
- b. Secretary – MACR1/MACR2

6 Membership of the committee comprises the representatives of the MACR CASG, the Health & Safety Executive, Environment Agency and Scottish Environmental Protection Agency. The following officers are permanent members:

- a. DSEA DOSR MACR1.
- b. DSEA DOSR MACR2.
- c. HSE – HID COMAH Focal Point.
- d. EA – COMAH Focal Point.
- e. SEPA – COMAH Focal Point

CHAPTER 3

MAJOR ACCIDENT CONTROL REGULATIONS

MAJOR ACCIDENT PREVENTION POLICY

Para

- 1 Introduction
- 2 Statement of Commitment
- 3 Qualification
- 6 Safety Management System
- 7 Prevention of Major Accidents and Mitigation of Consequences
- 8 Information to be included
- 9 Roles and Responsibilities
- 10 Training
- 11 Major Accident Risk Management
- 13 Domino Effects
- 20 Assessment of Risk and Prevention Methods
- 21 Major Accident Scenario's
- 25 Health And Safety Risk Assessment
- 27 Environmental Risk Assessment
- 32 Operational Control
- 35 Management of Change
- 36 Emergency Plans
- 37 Monitoring Performance
- 39 Audit and Review

Annex

- 3A Potential Major Accident Scenario's

INTRODUCTION

1 Each Head of Establishment (HOE) has delegated responsibility under the Secretary of State (S of S) policy on the Management of Safety and Environment Protection in the MOD (JSP 375 Volume 1 Chapter 3 refers), for the prevention of Major Accidents (MAs) and limitation of the consequences to human health and or the environment of any that do occur. This responsibility is exercised through the production and maintenance of an establishment Major Accident Prevention Policy (MAPP). Once completed the MAPP (and for Top Tier Sites Safety Report) is the establishments living documented Major Accident Safety Case. The MAPP/SR is living as it acts as a signpost to other policies, procedures and requirements that in their totality comprise the MACR Safety Case. Its purpose is to demonstrate that major accident hazards and possible major accident scenarios have been identified and that the necessary measures have been taken to prevent such accidents and to limit the consequences for human health and the environment. It should demonstrate that adequate safety and reliability have been taken into account in the design, construction, operation and maintenance of any installation, storage facility, equipment and infrastructure connected to its operation which are linked to major accident hazards inside the establishment. It demonstrates that internal emergency plans have

been drawn up and that appropriate information has been supplied to enable external emergency plans to be drawn up (TTS only).

STATEMENT OF COMMITMENT

2 The HOE is required to demonstrate commitment to the prevention of major accidents and the mitigation of any which do occur. This would normally be achieved by the following methods:

- 2.1 Including an appropriate statement in the establishment Organisation and Arrangements Statement.
- 2.2 Incorporating an appropriate section detailing the arrangements in establishment documentation.

QUALIFICATION

3 If an establishment holds, or anticipates holding, quantities of dangerous substances, equal to or greater than the threshold quantities given in Chapter 1 Annex 1A then the establishment will qualify as one of the following:

- 3.1 Lower Tier Site (LTS) - Equal to or greater than the lower threshold but less than the higher threshold.
- 3.2 Top Tier Site (TTS) - Equal to or greater than the higher threshold.

4 If the establishment qualifies as an LTS, a MAPP must be produced as a stand-alone document. This is achieved by populating the Major Accident Control Regulations (MACR) MAPP Template (see Chapter 9) which is issued to every qualifying LTS establishment by the MACR CASG.

5 If the establishment qualifies as a TTS, a Safety Report (SR) must be prepared which will incorporate a MAPP. This will be achieved by populating the MACR SR TTS Template (see Chapter 10) which is issued to every TTS by the MACR CASG.

SAFETY MANAGEMENT SYSTEM

6 A Safety Management System (SMS) should already be in place to comply with JSP 375 Volume 1. In order to comply with MACR the SMS must show that the MA hazards posed by activities on the establishment have been formally identified, documented and controlled. The system should follow the guide given in the Health and Safety Executive (HSE) publication Successful Health and Safety Management - HS(G)65 (see Fig 1).

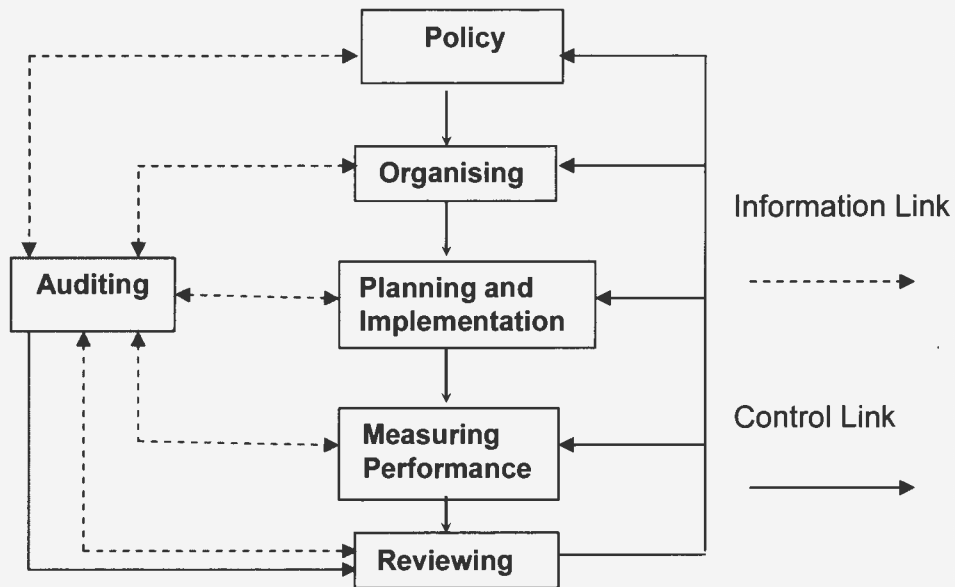


Fig 1 Safety Management System Guide

PREVENTION OF MAJOR ACCIDENTS AND MITIGATION OF CONSEQUENCES

7 The MAPP, when completed, should show, across all levels of management, that there is total commitment to the prevention of MAs and the mitigation of consequences of any that might occur. This is achieved by applying the following principles:

- 7.1 Prevention:
- 7.2 Identifying Hazards.
- 7.3 Evaluating Risks.
- 7.4 Implementing Controls.
- 7.5 Identifying Residual Risks.
- 7.6 Assessing Potential Harm (to people and or the environment).
- 7.7 Monitoring and Review.
- 7.8 Mitigation of consequences:
- 7.9 Foreseeing MAs.
- 7.10 Evaluating Consequences.
- 7.11 Implementing Emergency Plans.

INFORMATION TO BE INCLUDED

8 The MAPP is to include the following:

8.1 Establishment Activities. A description, in generic terms, of the major activities on the establishment that could give rise to MAs. (The definition of an MA is given in Chapter 1 Annex 1C).

8.2 Holdings. Details of the type and maximum anticipated holdings of dangerous substances held. Typically this should consider anticipated holdings for a forward planning 5 year period, where known changes are due to take place.

8.3 MACR CA Specific Substances. Details of the presence of a number of specific dangerous substances that, in the view of the MACR CA, have a particular sensitivity as far as public relations are concerned. The information is for MACR CA use only.

8.4 Personnel at Risk. The maximum number of personnel at the establishment. Show the proportions of service and civilian staff and the likelihood of contractors and visitors being on the establishment. It must also include the possibility of members of the public being in areas, on or near the establishment where they could be affected by an MA.

8.5 Environment Information. A general description of the environment at the establishment and its immediate vicinity.

ROLES AND RESPONSIBILITIES

9 It is a requirement of the MAPP to describe the roles, responsibilities and relationships of the principal personnel involved in the establishments SMS and Environmental Management System (EMS), in respect to MAs. This should include:

9.1 Appointments (not names) with phone and fax details.

9.2 Contractor staff, if they have involvement at any level.

9.3 The training required for each of the appointments, confirmation of delivery and formal recording.

TRAINING

10 All personnel who have roles and responsibilities for the control of MA hazards will require appropriate training in order to ensure they are competent to discharge their duties. An assessment should be made of the roles/responsibilities and appropriate training identified. A record must be made of this assessment. The requirements will vary from simple in-house familiarisation training to professional qualifications. It is a HOE responsibility to ensure that only competent personnel are appointed although guidance is given in specialist JSP's for many roles eg information on the training requirements for staff involved with fuels and lubricants is provided in JSP 317.

MAJOR ACCIDENT RISK MANAGEMENT

11 The MA Risk Assessment process must consider the implications of all MA hazards together with the possible consequences to persons and the environment. The overall aim is to ensure that all necessary control measures have been put in place.

12 Historically SMS have preceded EMS in implementation within MOD. Under MACR, however, the consequences of an MA to the people and to the environment are given equal weight and the Risk Assessments must reflect this.

DOMINO EFFECTS

13 As part of the MA Risk Assessment process, the HOE must consider the possibility of another MACR or Control of Major Accident Hazards (COMAH) establishment being sufficiently close as to be a domino establishment. A domino establishment is defined as one where the likelihood or consequences of an MA may be increased on one establishment because of the proximity and dangerous substances held on another.

14 In order to eliminate this possibility each HOE is to formally liaise with the respective Local Authority (LA) (or Authorities, if multiple Authorities are involved) to identify potential domino establishments. The LA Emergency Planning Officer (EPO) provides the focus within the community for carrying out local authority civil protection responsibilities in close conjunction with the emergency services, local authority departments and industrial and commercial organizations. The EPO is therefore best placed to ascertain the possibility of a domino effect between MACR establishments and any others within the local area.

15 The EPO should be requested to advise if the establishment falls within the statutory Consultation Distance assigned to a COMAH establishment. The Consultation Distance under the COMAH legislation is usually the same as the Public Information Zone (PIZ), but may be different. For explosives the PIZ is calculated by using 2 times Inhabited Building Distance (see JSP 482 MOD Explosives Regulations Part 2 for a detailed explanation) for individual potential explosion sites (PES's). For petroleum products 1000m from bulk fuel tanks (see Chapter 4). Use para 8 of annex 4A. The PIZ is in effect the hazardous footprint of the establishment.

16 If a potential interaction is confirmed, the MACR CA should be advised of the potential domino effect. The MACR CA will then contact the National CA to ensure their domino effects register is updated.

17 The COMAH establishment is required to exchange information with the domino site in order that:

17.1 Proper account is taken of the nature and extent of the overall hazard in their MAPP or SR and On-Site Emergency Plans.

17.2 Co-operation with other establishments in connection with Off-Site Emergency Plans (TTS only) and provision of information to the public is effective.

18 MOD has agreed with the National CA to co-operate with any adjacent COMAH establishments in order to comply fully with the requirements of paragraph 17.

19 When HOEs of MACR establishments receive information from a COMAH establishment, they should:

19.1 Ensure they have taken all measures necessary to limit the consequences, for their own establishment, of accidents that occur on the COMAH establishment.

19.2 Evaluate the likelihood of on-site escalation as a result of consequent incidents.

ASSESSMENT OF RISK AND PREVENTION METHODS

20 For each of the MA hazards identified in the Site Hazard Survey, the HOE must assess the degree of risk and the existing control measures (including emergency plans) that are in place to prevent an MA. The process must identify the credible initiating events, addressing causes or events both internal and external to the

establishment. An assessment of the extent and severity of the consequences must be made.

MAJOR ACCIDENT SCENARIOS

21 An MA scenario is the set of circumstances in which an event could occur which has the potential to lead to an MA. The identification process of MA scenarios must consider all dangerous substances on the establishment and not only consider those dangerous substances where the maximum anticipated holdings exceed the threshold quantities. The MA scenario should be developed without consideration of the existing control measures.

22 The involvement of any of the inventory of dangerous substances in each MA scenario should be considered according to the substance, the quantity held and using the following published information:

- 22.1 Physical and chemical behaviour in the MA environment eg, fire.
- 22.2 Potential immediate and delayed harm to people and or the environment due to the substance or its products in the MA environment.

23 A number of potential MA scenarios are given in Annex 3A. Whilst the examples may not be relevant to every establishment they should be considered, discounted or further developed as appropriate. It is likely that each establishment will identify alternative hazards that are unique to their location and therefore are not covered by the examples.

24 The On-Site Emergency Plan (see Chapter 5) and Off-Site Emergency Plan (see Chapter 8 - TTS only) must make provision for the clean up and restoration of the environment after an MA. The remedial measures should be proportional to the amount of harm caused by the incident and the likely level of continuing harm to people and or the environment.

HEALTH AND SAFETY RISK ASSESSMENT

25 A Site Hazard Survey and associated Risk Assessments should have already been carried out in order to comply with JSP 375 Volume 2. In order to comply with MACR the Site Hazard Survey and associated Risk Assessments should be reviewed to ensure that all MA hazards have been identified and taken into account. The principles explained in JSP 375 are meant to cover all significant hazards. Identification of MA hazards within the survey is vital to the assessment process and will be required in order to obtain MACR CA endorsement.

26 The number of personnel identified as being at risk must relate to the maximum number of personnel at risk in each Hazardous Installation broken down into Service (Military), Civilian (MOD Employees) and Others (Contractors, members of the public on or off-site, dependants etc.). Short term additions of people for up to 24 hours may be ignored. It must include the possibility of members of the public being in areas, on or near the Hazardous Installation where they could be affected by an MA.

ENVIRONMENTAL RISK ASSESSMENT

27 Each establishment requires an Environmental Risk Assessment (ERA) to be carried out as part of the evaluation of overall risk. The ERA will be one element within the EMS for the establishment. The full requirements for the EMS will be covered by JSP 418 and the elements shown here are only in relation to MAs. Note

that general ERA'S required by JSP 418 may be used to support the ERA required by MACR but on their own will not contain sufficiently detailed information. The ERA should be undertaken by a competent team, using either MOD personnel or a consultant authorized by DIO. The ERA is a live document and must be reviewed in the event of significant change or at least annually and updated as required. It should be subject to a complete re-issue at a maximum period of 5 years.

28 The purpose of the ERA is to

28.1 Demonstrate via a detailed document that potential major accidents to the environment from the establishment have been adequately considered. Where the consequences of an accident involving a hazard (bulk fuel tank, facility, munitions, etc.) are thought to fall just below those of a major accident, the hazard must be included in the ERA to demonstrate that all potential major accident scenarios have been assessed.

28.2 Detail "source-pathway-receptor". Describe for 28.1 above any substance that may be released, the route/pathway the substance would take, the mitigation measures in place and the receptor/s if the mitigation measures should fail. This must include the consequences of any foreseeable emergency action e.g. fire fighting water run off, fire fighting foam, digging an interceptor ditch, etc. The description must be of sufficient detail that during an incident someone without specialist knowledge is able to ascertain from the relevant section of the ERA what might happen; where contamination might go, any mitigation measures in place, why they might fail, what would happen if the mitigation measures failed, the environmental receptor/s it could impact and the risks involved. With this information those involved in an emergency will be enabled to make informed decisions.

29 Each facility (bulk fuel tank, explosives storehouse, etc.) must have its own description and assessment of risk. If two facilities are identical then the design description may be generic, however their physical condition, immediate environment, aspect and pathway-receptor routes are unlikely to be the same. For each facility the risk to the environment must be noted along with an evaluation of the risk of a major accident to the environment (Chap 1, 5 -6.5). This is to highlight that a "low risk to the environment" is different to a "low risk of a major accident" (the equivalent to a high risk to the environment).

30 The format for the ERA is given in Chapter 7. In order for there to be a **RISK**, the following three requirements must be in place:

30.1 Source. The source is the potential pollutant or contaminant.

30.2 Pathway. The pathway is a means by which a receptor could be exposed to, or affected by, the source eg, ground, water, air, ditch, drain, etc.

30.3 Receptor. The receptor is that which is contaminated or suffers harm from the pollutant. This may be a human being, other living organisms, ecological systems, surface or sub-surface water and natural or man made structures.

31 Further guidance on the procedures for carrying out an ERA are shown in Chapter 7

OPERATIONAL CONTROL

32 Having identified the MA hazards inherent in the operations carried out at the establishment and evaluated the risks posed by them; controls necessary for safe operation must be developed.

33 The controls form the basis of safe operations. They will include documented systems of working procedures and instructions compiled by the equipment manufacturer or supplier etc. and incorporate the experiences of line management operators. Typically, within MOD they will include Joint Service Publications (JSP's).

34 Review and revision of the controls must be documented within the SMS.

MANAGEMENT OF CHANGE

35 The HOE should instigate procedures for identifying changes that might alter the identification of hazard or assessment of risk associated with the potential for MAs in the following:

35.1 Installation:

- (a) Plant.
- (b) Materials.
- (c) Equipment.
- (d) Design.
- (e) Maintenance.
- (f) External Circumstance.

35.2 Process:

- (a) Staffing Levels and Training.
- (b) Staff Turnover.
- (c) Processes and Process Variables.
- (d) Procedures.
- (e) Software.
- (f) Contractorisation / Partnering of tasks or facilities

35.3 Storage:

- (a) Design.
- (b) Procedures.

EMERGENCY PLANS

36 Using the information obtained relating to potential MAs, plans should be made for responding to identified emergencies. These plans must meet the principles of emergency planning given in Chapter 5.

MONITORING PERFORMANCE

37 The SMS should describe how the establishment maintains procedures to ensure that safety performance can be monitored and compared with the safety objectives defined in the MAPP.

38 The HOE should implement the following:

38.1 Procedures for assessing compliance with objectives set.

38.2 The procedures for reporting accidents and near misses are contained in JSP 498 Chapter 1 and 5, JSP 375 Volume 2 Leaflet 14 and specialist JSP's such as JSP 317 for Fuels incidents and JSP 482 for explosives incidents.

38.3 Procedures for follow up and review.

AUDIT AND REVIEW

39 The establishment should have, as an integral part of the SMS, a suitable method in place for assessing all the elements of the MAPP. This must ensure that the systems and practices adopted are appropriate and that they are maintained and implemented properly.

40 The MAPP is to be regularly reviewed and, if necessary, revised by the establishment every five years and also in the event of significant change(s). Normally significant change will occur as a result of detailed pre-planning and the procedures given in Chapter 1 Paragraph 12.1 will apply. However, it is acknowledged that significant change could occur with very little notice or no notice at all, in which case the procedure given in Chapter 1 Paragraph 12.2 will apply.

41 A significant change will be one where the alteration to the safety management system might have significant repercussions on the ability of the establishment to prevent or limit the consequences of a major accident. Examples of the types of changes, which are likely to be significant, include:

41.1 Proposals to introduce of a new dangerous substance (particularly if that substance requires different emergency procedures to those currently in place;

41.2 Proposals to introduce new activities associated with dangerous substances;

41.3 Proposals to significantly increase the number of people within the establishment boundary;

41.4 Proposals for significant re-organisation of the management structure, or changes to the MAPP or safety management system;

41.5 Proposal involving delayering or reducing staff to a significant extent;

41.6 A decision to adopt multi-skilling in relation to the operation or maintenance of the establishment;

41.7 Proposals to significantly increase the amount of contracting and;

41.8 A take-over or other significant change to the overall management of the organisation.

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ANNEX 3A

POTENTIAL MAJOR ACCIDENT SCENARIOS

Para

- 1 Introduction
- 3 Event
- 4 Consequence
- 5 Post Incident Response

INTRODUCTION

1 Heads of Establishments must consider what set of circumstances could lead to a Major Accident (MA). These may be natural or as a result of the activities of man and may be accidental or deliberate. The following general scenarios are offered as having the potential to develop into an MA. The list is not comprehensive and each establishment may be able to identify additional, more relevant scenarios:

- 1.1 Aircraft crash.
- 1.2 Subversive activity.
- 1.3 Vehicle accident.
- 1.4 Fuel pipeline leak.

Catastrophic containment failure.

Factors leading to a breakdown in the Safety Management System.

Natural disasters eg, earthquake, flood, storm, etc.

2 The information given in Table 1 is intended to provide a method of systematically developing the initial MA scenario. The topics shown cover examples of the main generic aspects that should be taken into account if applicable to a particular MA scenario. Each of the headings is explained in more detail subsequently.

Table 1 - MAJOR ACCIDENT DEVELOPMENT

Event (a)	Consequence (b)	Response (c)
Vehicle accident. Fuel spill. Fire. Detonation or blast. Chemical decomposition. Other Dangerous Goods.	Contamination of earth, water, flora or fauna. Firewater run off. Blast or fragment damage. Danger area. Casualties on or off-site. Downwind hazard. Domino effect.	Decontaminate area. Inform establishment staff and Public Information Zone (PIZ) (Top Tier Sites (TTS) only) on cessation. Review On-Site Emergency Plan and Off-Site Emergency Plan (TTS only). Assess effect on wildlife. Assess effect on built and natural environment. Seek expert advice.

EVENT

- 3 The events of an MA fall into the following categories:
- 3.1 Vehicle Accident. This includes road vehicles, Mechanical Handling Equipment, rail engines or wagons and aircraft incidents within the perimeter of the establishment.
 - 3.2 Fuel Spill. Any incident that involves a significant leak of fuel causing damage to the environment. This may be caused by a catastrophic failure of a fuel tank, an object impacting with a Bulk Fuel Installation or an underground pipe leak etc.
 - 3.3 Fire. However initiated eg, electrical fault, lightning strike, electrostatic discharge, terrorist incident or grass fire etc.
 - 3.4 Detonation or Blast. Detonation or blast effect caused by either fuel or explosives incidents.
 - 3.5 Chemical Decomposition. Changes in chemical composition that result in or form an unplanned reaction.
 - 3.6 Other Dangerous Goods. All Dangerous Goods held by the establishment that could become involved in an MA, regardless of whether they are dangerous substances that qualified the establishment under the Major Accident Control Regulations.

CONSEQUENCE

- 4 The consequences of an MA fall into the following categories:
- 4.1 Contamination of Earth, Water, Flora or Fauna. Take account of waterways, lakes, coastal waters or ground water. The likely effect on local flora and fauna, wildlife and designated conservation areas such as Sites of Special Scientific Interest (SSSI).
 - 4.2 Firewater Run Off. Consider potential contamination to the local environment by firewater run off. Mitigation measures would normally be identified in the Environmental Risk Assessment and include measures such as fuel interceptors, kerbs, drain interceptors and sandbags etc. The ability to deal with heavy metal contaminated sludge should also be considered.
 - 4.3 Blast and Fragment Damage. Incident involving a dangerous substance that causes blast or fragmentation damage to the built or natural environment including, property, flora and fauna or wildlife whether surface or sub-surface (including marine life) or injury or death to people.
 - 4.4 Danger Area. The extent of the danger area imposed must be assessed in the light of the immediate situation and may be increased as the incident progresses. This is to take account of potential danger's e.g. of a toxic smoke plume.
 - 4.5 Casualties On or Off-Site. Implement the On-Site Emergency Plan to deal with immediate medical emergencies and ensure it dovetails with the Off-Site Emergency Plan (TTS only) as appropriate.

4.6 Downwind Hazard. A system for determining wind speed and direction is essential when identifying the effect of an incident on the local community. This becomes more important if the hazardous substance indicates a high probability of airborne contamination eg, Depleted Uranium stocks, lachrymatory munitions etc.

4.7 Domino Effect. Assess the potential domino effect to other hazardous installations in relation to the current incident.

POST INCIDENT RESPONSE

5 The responses to an MA fall into the following categories:

5.1 Decontaminate Area. The On-Site Emergency Plan should include the immediate actions to begin environmental clean up and provide a list (or diagram) showing the precise location of all decontamination equipment. This could include small scale spill kits as shown in Tier 1 Oil Response Plans or drain interceptors for firewater run off. The initial effort should concentrate on stabilising and containing the situation. Activation of dormant enabling contracts to address fuel contamination would then be initiated.

5.2 Inform PIZ (TTS only) and Establishment Staff on Cessation. Once the incident has been contained and it no longer poses a risk to the establishment or the local community the message must be conveyed by the Police or the method described in the Emergency Instruction Leaflet (TTS only). This could be a message on the local radio station, Police vehicle tannoy system or the sounding of an alarm etc.

5.3 Review On-Site Emergency Plan and Off-Site (TTS only) Emergency Plan. To confirm that communication facilities were adequate (telephone, portable radio etc), pre-planned access routes were identified and usable, evacuation and mustering of personnel was satisfactory, first aid facilities were available and sufficient and the interface arrangements between the On-Site and Off-Site (TTS only) Emergency Plans were effective, etc. Evidence of the review is to be retained for audit purposes.

5.4 Assess Effect on Wildlife. To be assessed during the clean up phase. Advice of Defence Infrastructure Organisation (DIO), English Nature, Scottish Natural Heritage, Local Authority (LA) and local conservation charities and groups as applicable, will be necessary to address conservation issues.

5.5 Assess Effect on Built and Natural Environment. Consult with the Environment Agency, DIO, English Heritage, Scottish Environment Protection Agency, LA and local environment groups as applicable, to determine the extent of damage and actions to be taken to recover the situation.

5.6 Seek Expert Advice. To determine the long term effects of fuel or heavy metal contamination on the surrounding area and to obtain remediation advice. Taking due cognisance of the views of the statutory bodies.

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CHAPTER 4

MAJOR ACCIDENT CONTROL REGULATIONS

SAFETY REPORT

Para

- 1 Introduction
- 3 Description of Establishment
- 7 Description of Dangerous Substances
- 9 Description of Installation
- 13 Information for the Local Authority
- 16 Provision of Information to the Public
- 18 Alerting the Public

Annex

- 4A Provision of Information to the Public

Appendix

- 4A1 Information and Emergency Instructions for Public Information Zone
- 4A2 Emergency Instruction Leaflet for Explosives and Fuel Risk
- 4A3 Emergency Instruction Leaflet for Fuel Risk
- 4A4 Emergency Instruction Leaflet for Explosives Risk

INTRODUCTION

1 Each Head of Establishment (HOE) of an Upper Tier Site is required to produce a Safety Report (SR). The key requirement of the SR is a demonstration that all measures necessary to prevent Major Accidents (MAs) and to limit the consequences to human health and or the environment of any that occur have been taken.

2 The demonstration should show the following:

2.1 A Major Accident Prevention Policy and Safety Management System (SMS) for implementing it are in place.

2.2 All MA hazards have been identified.

2.3 Measures necessary to prevent MAs and limit their consequences have been taken.

2.4 Adequate safety and reliability have been incorporated into the design, construction, operation and maintenance of installations linked to the identified MA hazards.

2.5 An On-Site Emergency Plan has been drawn up.

2.6 Information has been supplied to the Local Authority (LA) for them to draw up an Off-Site Emergency Plan.

DESCRIPTION OF ESTABLISHMENT

3 The SR is to include a comprehensive description of the establishment and its surroundings and should include:

3.1 Description of the establishment and its environment including the location, relationship to nearby towns or significant features, meteorological, geographical, hydrographic condition and, if necessary, its history.

3.2 Identification of installations and other activities of the establishment that could present an MA hazard.

3.3 Description of areas where an MA may occur.

4 The description of the establishment and installations should be in sufficient detail to enable the MACR Competent Authority (MACR CA) to have a clear picture of its purpose, location, activities, inherent hazards and technical equipment for safe operation.

5 Maps of adequate scale should be provided which show the establishment and surrounding land use within an area dependent on the possible impact of MAs. Both the land use eg, industry, agriculture, urban developments, environmentally sensitive locations etc. and the locations of significant features eg, hospitals, schools, other industrial sites, airports, harbours, water abstraction points etc. should be clearly indicated.

6 The layout of the establishment as a whole and its relevant installations should be clearly shown on adequately scaled diagrams or maps and any sections of the establishment with particular importance in respect of MAs should be repeated at a larger scale. Installations and other features of the establishment including the following should be identified:

6.1 Main storage facilities.

6.2 Process installations.

6.3 Other locations of relevant dangerous substances and their quantities.

6.4 Relevant equipment (including vessels and pipes).

6.5 Utilities and services.

6.6 Means of access and egress for installations within the establishment and for the establishment. This should indicate normal and emergency routes.

6.7 Control rooms, offices and other occupied buildings such as workshops and canteens that could be vulnerable in an MA.

DESCRIPTION OF DANGEROUS SUBSTANCES

7 Evidence of the establishment method for identifying the inventory of dangerous substances must be given. This can be achieved by utilising the existing establishment stock accounting system that highlights items incorporating dangerous substances.

8 This information must be linked to the MA risk assessment process so that potential Safety, Health, Environment and Fire risks from the dangerous

substances or their products in the event of an MA are properly considered. This should be done by determination of the location and vulnerability of the dangerous substance relative to the location of each potential MA.

DESCRIPTION OF INSTALLATION

9 A description should be given of the installations on the establishment that have MA potential. Overall the purpose is to show that the SMS measures described earlier in the SR have been executed. It should describe the process that is being undertaken at the installation in sufficient detail to allow an understanding of the process itself and the hazards it could generate. It should also identify the maximum anticipated quantity of each of the named dangerous substances held.

10 For each installation there should be a description of the purpose, location and function of equipment that is involved in MA prevention or mitigation and the measures taken to prevent foreseeable failures that could lead to an MA.

11 The information should be sufficiently detailed to demonstrate that the steps necessary to prevent an MA or limit its consequences have been taken. There should be information on items of plant (if relevant to MA hazards) such as pressure vessels, pipework and on-site pipelines, utilities, drainage, monitoring and detecting systems and fire fighting arrangements. All variations to normal operating conditions should be considered eg, maintenance, shutdown, decommissioning etc.

12 Information for establishments that have more than one installation having MA potential may be provided as core information for the whole establishment, only identifying any differences at specific locations or in operating conditions.

INFORMATION FOR THE LOCAL AUTHORITY

13 Information provided to the LA should be sufficient to allow the Off-Site Emergency Plan to be developed (see Chapter 8). It is acceptable to make this information generic providing it is made clear that more detail is held by the establishment and that the On-Site Emergency Plan will deliver this information to the emergency services in the event of an MA.

14 The emergency services will need to be aware in advance of all specific hazards in order to ensure the correct response eg, if a chemical hazard is present and full de-contamination suits must be worn then it is vital that the emergency services are aware of that fact.

15 There is no intention to provide sufficiently detailed information that would allow an accurate assessment to be made of the military capability of the establishment eg, number or type of weapons and their disposition. This is clearly sensitive information that will not be disclosed on the grounds of national security. Any concerns on the exact level of detail should be referred to the Area Security Officer and or the MACR CA.

PROVISION OF INFORMATION TO THE PUBLIC

16 The HOE is responsible for the following:

16.1 Dealing with enquiries from members of the public who request information on establishment hazards, MA consequences, MA mitigation and environment issues pertaining to the establishment.

16.2 Providing information to people in the Public Information Zone (PIZ) about the establishment MA hazards, mitigation measures, alarm systems and personal precautions to be taken by the public in the event of an incident (see Annex 4A).

16.3 Providing sufficient information to the LA to allow it to formulate an Off-Site Emergency Plan.

17 The procedures governing the provision of information to the public and the PIZ are given in Annex 4A.

ALERTING THE PUBLIC

18 The risk assessment process enables establishment's to quantify the hazard(s) posed by each hazardous installation should an accident occur. Using this information an assessment must be made of the most suitable method to alert those people in the PIZ who could be immediately affected by an accident should one occur. Dependant on the hazard the warning of all the people in the PIZ may be required or the warning could be restricted to just a small section. Typical methods may include:

18.1 A Warning Siren

18.2 Telephone Calls to nominated individuals

18.3 Telephone calls to organisations (schools, hospitals, sports centres etc)

18.4 Tannoy System

18.5 Signage (transient people)

19 The aim is to ensure all members of the public who could be at risk are warned immediately in order to allow them to put into practice the actions advised by the information leaflets issued in accordance with Annex 4A.

20 The methods should be targeted in accordance with the anticipated risk. For example an explosive accident, the use of a warning siren may be required to allow a wide spread alert to be issued.

21 Note: for a pollution incident it may be better to have an emergency telephone contact list and advisory notice in place to inform the emergency services, plus down-stream water abstractors and the Environment Agency (or SEPA) of the type of problem and the actions taken to date. See also Chapter 5 para 18.

ANNEX 4A

PROVISION OF INFORMATION TO THE PUBLIC

Para

- 1 Introduction
- 2 Timescales for the Provision of Information
- 3 Grounds for Refusal
- 4 Confidentiality
- 5 Charging
- 7 Unreasonable Effort or Excessive Costs
- 8 Information for the Public Information Zone
- 11 Supply of Information
- 12 Method of Supply
- 15 Review

INTRODUCTION

1 The Head of Establishment (HOE) must provide a certain level of information in accordance with MOD procedures if the emergency plans required by the Major Accident Control Regulations (MACR) are to be implemented effectively. This information must be provided in accordance with the procedures given in this Annex.

TIMESCALE FOR THE PROVISION OF INFORMATION

2 All requests for information must receive a written response as soon as possible. The current MOD policy on access to government information is that a response should be given within 20 working days and this period will be applied in respect of MACR. If extensive work is necessary before the establishment is in a position to release a response, a written explanation detailing the circumstances should be issued within the 20 day timescale. In any case the final response is to be issued within two months.

GROUND FOR REFUSAL

3 The presumption is that information should be provided unless there is a compelling and substantive reason to withhold it. Requests may be refused if they are manifestly unreasonable, if the question is too general or if the information is held for any judicial or legislative function.

CONFIDENTIALITY

4 The MOD also has the discretion to refuse to provide information on the grounds of confidentiality if it affects international relations, national defence, security, commercial confidentiality or if it relates to legal (or similar) proceedings. Where any doubt exists regarding the release of information guidance should be sought from the MACR Competent Authority (MACR CA).

CHARGING

5 The MOD policy on freedom of access to environmental information provides discretionary powers for the recovery of costs, provided that any charge does not exceed the costs reasonably attributable to the supply of information. The following charging policy will apply to MACR related enquiries:

5.1 No charge to be raised for the first four hours spent on a request.

5.2 A charge of £15 may be raised for every extra hour (or part hour) spent preparing the response.

6 The enquirer should be informed if charges are to be levied, at which time they should be asked to confirm that they wish to proceed with the process. The latest MOD Defence Council Instruction (DIN) should be read in conjunction with this JSP to confirm current MOD policy on this matter.

UNREASONABLE EFFORT OR EXCESSIVE COSTS

7 The HOE is to ensure that there is no misuse of the grounds for refusal. There will be occasions however when a judgement is required as to whether unreasonable effort would be needed to answer a question. This may be unreasonable in terms of time spent or likely costs associated with an in-depth question. Where doubt exists the MACR CA should be consulted.

INFORMATION FOR THE PUBLIC INFORMATION ZONE

8 The area around an establishment in which information must be disseminated is determined by the MACR CA and is known as the Public Information Zone (PIZ). The PIZ encompasses those who could be immediately affected by a MA. The information given to them details the actions to take on being alerted to an incident. The PIZ for establishments holding explosives is deemed to be the purple line on the Safeguarding Map. The PIZ for petroleum installations extends to 1000 metres radius from the bulk fuel tank. Tank capacities of less than 1000 litres may be ignored for the purpose of determining the PIZ. The PIZ for LPG tanks extends to 200 metres from the tank. The PIZ for LOX extends to 100 metres from the tank (it is considered unlikely that the public will be within this distance). For an establishment with a number of potential explosion sites (PES's) and/or a number of fuel tanks the PIZ will be the total area covered by a number of overlapping arcs or discrete zones.

9 The zones created by explosives and fuels are considered to be dominant and therefore zones have not been set for other types of dangerous goods. It is possible for the MACR CA to apply a reduced PIZ distance based on a more detailed assessment of the local circumstances. If significant difficulties are envisaged by the establishment in utilising the standard PIZ criteria then a request to review the PIZ should be notified to the Assessment Manager. The PIZ is set on the basis that people outside it are **not at significant immediate risk** from a Major Accident (MA), although it is accepted that they could be later if the incident escalates.

10 Information must be made available to persons who live or work in the PIZ and to those whose presence can be reasonably predicted to be within the

PIZ at the time an MA might occur. These would include establishment personnel, contractors, transient workers, Shop Keepers, married quarters, schools, establishment visitors, open days, fete attendees, car boot sales, sport gatherings etc. It is the responsibility of the HOE to determine which of the following method(s) to utilise for disseminating this information to people at risk:

- 10.1 On-Site and Contractor Personnel:
 - 10.1.1 Health and Safety brief.
 - 10.1.2 Information sheet.
 - 10.1.3 Brochure.
 - 10.1.4 Permit to Work procedure.
 - 10.1.5 Visitor arrival brief.
- 10.2 Open Days:
 - 10.2.1 Visual displays at access points.
 - 10.2.2 Information handout.
 - 10.2.3 Video brief.
 - 10.2.4 Verbal brief.
- 10.3 Off-Site Personnel:
 - 10.3.1 Establishment letter.
 - 10.3.2 Brochure.
 - 10.3.3 Emergency Instruction Leaflet.

SUPPLY OF INFORMATION

- 11 The following is a guide on the information for supply to the PIZ:
- 11.1 Provide the name of the establishment and postal address.
 - 11.2 Outline the principle activity of the establishment in lay terms and identify those substances that may lead to an MA such as explosives and fuels. It is reiterated that there is no need to disclose detailed information on the type or quantity of munitions or fuels held or their specific location within the establishment.
 - 11.3 Provide details of the assessed nature, type and scale of potential MA and the effect on the local population and the environment should be described.
 - 11.4 Give a general description of the arrangements to control the risks and the likelihood of an accident occurring. This will help in the understanding of the activity.
 - 11.5 Provide information on how the PIZ will be informed in the event of an MA. This will need to be agreed with the Local Authority (LA) and the emergency services. It may take the form of dedicated establishment sirens, telephone auto diallers, individual telephone calls, police cars utilising loud hailers etc. If the incident is only likely to affect a particular sector of the PIZ then the alerting mechanism should be tailored to just that sector where it is feasible to do so therefore avoiding unduly alarming people in the remainder of the PIZ.
 - 11.6 Advise how the PIZ will be updated on the developing situation eg, Police Tannoy or specifying TV and local radio stations etc to tune into for further advice.

11.7 Outline the actions that the people within the PIZ must take in the event of an MA. This must be both practical, easy to follow and include advice such as where to shelter, whether to open or close windows and how to avoid exposure etc.

11.8 Include reference to the Off-Site Emergency Plan, making it clear that the LA (insert LA name) has produced it. Emphasise the importance of co-operating with the LA and the emergency services in the event of an MA.

11.9 Provide an office hours contact telephone number to deal with queries from the public.

METHOD OF SUPPLY

12 The most successful way of disseminating the statutory information to the public is by utilising a mail shot to all premises. The mail shot (information pack) should include a letter and an Emergency Instruction Leaflet, copies of which would need to be lodged with the LA. The information must be establishment specific, written in straightforward, simple terms and avoid complicated technical expressions. Remember it is important to get this information across to children as well as adults therefore highlight key items and use illustrations where possible. Consultation with the LA will help ensure that best use is made of local knowledge and expertise when communicating externally.

13 A guide to the letter covering information and emergency instructions for the PIZ is given in Appendix 4A1. Examples of Emergency Instruction Leaflets that focus on establishments with different hazards eg, fuels, explosives or a combination of both are given in Appendixes 4A2 to 4A4. All queries regarding the content of these examples should be referred to the MACR CA. Where possible, leaflets should be produced using durable, plastic coated card. The information letter should encourage the recipient to display the leaflet along with other emergency instructions in the home or workplace.

14 Establishments are to liaise with the LA when preparing information for the PIZ, to ensure that the Off-Site Emergency Plan reflects the detail given to local premises.

REVIEW

15 The establishment is required to review this information at least every three years and reissue every five years even if no significant change has occurred. This will cater for changes in the population and ensure people who have moved to the area are properly informed. Additionally the establishment shall revise the information in the event of a modification to the Safety Report that affects the PIZ.

APPENDIX 4A1

INFORMATION AND EMERGENCY INSTRUCTIONS FOR PUBLIC INFORMATION ZONE

INTRODUCTION

1. The following is an example of the contents of a typical mail shot to the Public Information Zone (PIZ) which will need modifying by each establishment to reflect their specific situation:

Dear Neighbour,

I am writing to you about safety at "*insert establishment name*". We qualify as a Top Tier Site under Major Accident Control Regulations and some years ago you will have previously received a letter from my predecessor enclosing an Emergency Instruction leaflet. In accordance with the Regulations I am re-issuing the advice leaflet.

In common with many Ministry of Defence establishments and to support national defence operations, "*insert establishment name*" stores some substances that are classified as hazardous, namely explosives. We employ teams of trained professionals who are experienced in handling these substances. The installations where hazardous substances are stored and handled are licensed under strict International, National and internal standards and our activities are regulated by independent authorities. Rigorous inspections and frequent audits ensure that our safety standards are not only maintained but continuously reviewed and improved.

Under the Regulations our internal emergency plans have been embedded in the plans made by the Local Authorities. These include the County and District Council, Emergency Services (Police, Fire, Ambulance), Health Agencies, Utilities (Water, Electricity, Gas), and Environment Agency.

You should not be alarmed by the contents of the leaflet, the operations at "*insert establishment name*" have not changed, the hazards have not increased and the risk of a major accident is no greater now than when the Regulations were first introduced.

The enclosed leaflet outlines the warnings that will be given and the actions to take in the event of an emergency. Please keep this leaflet in a safe place and, if you should move, leave it for the new occupant. Should you have any concerns regarding the operations at this establishment please do not hesitate to write to me.

Commanding Officer / Head of Establishment

Enclosure:

1. Emergency Instruction Leaflet Risk: Explosives/Fuels.

APPENDIX 4A2

EMERGENCY INSTRUCTION LEAFLET FOR EXPLOSIVES AND FUEL FIRE RISK

INTRODUCTION

1. The following is an example of the content of an Emergency Instruction Leaflet relating to an establishment with an explosives and fuel fire risk:

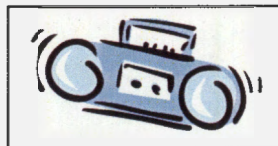
Insert Establishment Name and date of issue

Emergency Instruction Leaflet Risk: Explosives and Fuel Fire

If you hear the warning: (Insert measures eg, sounding of alarm, telephone message, Police car tannoy etc.)



1. Go immediately into a house or building.
2. Close external doors, turn off ventilation systems.
3. Close all windows and curtains.
4. Close all internal doors and go to a room facing away from (enter establishment name).
5. Tune your radio to your local radio station (eg, FM 102.2 MHz The Bear) which will be used to broadcast information or instructions.



6. Remain indoors until you receive instructions from the Police.



7. **Do not** use the telephone to contact the establishment to ensure lines are free for the emergency services.
8. Please co-operate fully with the instructions given by the emergency services.

2. The following is an example of the type of information that should appear on the reverse of the Emergency Instruction Leaflet:

**Ministry of Defence
Major Accident Control Regulations**

This leaflet is produced in accordance with the above regulations to advise you what to do in the unlikely event of a major accident occurring within the establishment that could affect you.

Please read this carefully and follow the instructions given overleaf if the warning is implemented (will vary for each establishment therefore amend accordingly).

Householders are advised to ensure that all occupants understand the instructions. Responsible persons in business or community premises should also be familiar with the actions required to enable them to instruct occupants in the event of a major accident.

This leaflet should be kept in an accessible place and passed on to subsequent occupiers. It should be prominently displayed in business or community premises. Additional copies may be obtained from the Local Authority (provide address in full or other arrangements as applicable).

APPENDIX 4A3

EMERGENCY INSTRUCTION LEAFLET FOR FUEL FIRE RISK

INTRODUCTION

- 1 The following is an example of the content of an Emergency Instruction Leaflet relating to an establishment with a fuel fire risk:

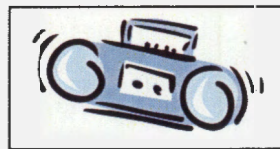
Insert Establishment Name and date of issue

Emergency Instruction Leaflet Risk: Fuel Fire

If you hear the warning: (Insert measures eg, sounding of alarm, telephone message, Police car tannoy etc.)



1. Go immediately into a house or building.
2. Close external doors, turn off ventilation systems.
3. Close all windows.
4. Go to a room facing away from (enter establishment name).
5. Tune your radio to your local radio station (eg, FM 102.2 MHz The Bear) which will be used to broadcast information or instructions.



6. Remain indoors until you receive instructions from the Police.



7. **Do not** use the telephone to contact the establishment to ensure lines are free for the emergency services.
8. Please co-operate fully with the instructions given by the emergency services.

- 2 The following is an example of the type of information that should appear on the reverse of the Emergency Instruction Leaflet:

**Ministry of Defence
Major Accident Control Regulations**

This leaflet is produced in accordance with the above regulations to advise you what to do in the unlikely event of a major accident within the establishment that could affect you.

Please read this carefully and follow the instructions given overleaf if the warning is implemented (will vary for each establishment therefore amend accordingly).

Householders are advised to ensure that all occupants understand the instructions. Responsible persons in business or community premises should also be familiar with the actions required to enable them to instruct occupants in the event of a major accident.

This leaflet should be kept in an accessible place and passed on to subsequent occupiers. It should be prominently displayed in business or community premises. Additional copies may be obtained from the Local Authority (provide address in full or other arrangements as applicable).

APPENDIX 4A4

EMERGENCY INSTRUCTION LEAFLET FOR EXPLOSIVES RISK

INTRODUCTION

- 1 The following is an example of the content of an Emergency Instruction Leaflet relating to an establishment with an explosives risk:

Insert Establishment Name and date of issue

Emergency Instruction Leaflet Risk: Explosives

If you hear the warning: (Insert measures eg, sounding of alarm, telephone message, Police car tannoy etc.)



1. Go immediately into a house or building.
2. Close external doors and turn off ventilation systems.
3. Open all windows and at the same time close curtains.
4. Close all internal doors and go to a room facing away from (enter establishment name).
5. Tune your radio to your local radio station (eg, FM 102.2 MHz The Bear) which will be used to broadcast information or instructions.



6. Remain indoors until you receive instructions from the Police.



7. **Do not** use the telephone to contact the establishment to ensure lines are free for the emergency services.
8. Please co-operate fully with the instructions given by the emergency services.

- 2 The following is an example of the type of information that should appear on the reverse of an Emergency Instruction Leaflet:

**Ministry of Defence
Major Accident Control Regulations**

This leaflet is produced in accordance with the above regulations to advise you what to do in the unlikely event of a major accident within the establishment that could affect you.

Please read this carefully and follow the instructions given overleaf if the warning is implemented (will vary for each establishment therefore amend accordingly).

Householders are advised to ensure that all occupants understand the instructions. Responsible persons in business or community premises should also be familiar with the actions required to enable them to instruct occupants in the event of a major accident.

This leaflet should be kept in an accessible place and passed on to subsequent occupiers. It should be prominently displayed in business or community premises. Additional copies may be obtained from the Local Authority (provide address in full or other arrangement if applicable).

CHAPTER 5
MAJOR ACCIDENT CONTROL REGULATIONS
ON-SITE EMERGENCY PLAN

Para

- 1 Introduction
- 4 Objectives
- 5 Responsibilities
- 8 Resources
- 13 Emergency Control Centre
- 16 Activation
- 19 External Communications
- 22 Response to an Accident Situation
- 25 Immediate Response
- 26 Initial Actions
- 27 Evaluation of Incident
- 28 Mustering and Search and Rescue
- 29 Evacuation
- 30 Use of Mitigation Measures
- 31 Recovery Actions
- 32 Remediation
- 34 Liaison with Emergency Services
- 36 Integration of Command and Control
- 40 Information Management
- 42 Health Hazards
- 44 Training Requirements
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- 53 Equipment Readiness
- 55 Public Relations
- 60 Media Briefings
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Annex

- 5A Responsibilities of the Establishment Main Controller
- 5B Responsibilities of the Establishment Incident Controller
- 5C Minimum Information and Plans to be held in ECC
- 5D Details to be notified to the Emergency Services
- 5E Information Management
- 5F Incident Reporting Proforma
- 5G Suitably Qualified Experienced People Requirements

INTRODUCTION

1 The On-Site Emergency Plan specifies the response to an emergency by those people working on or visiting the establishment. In the case of Top Tier Sites (TTS) it is complemented by an Off-Site Emergency Plan prepared by the Local Authority (LA). In order to ensure correct working of the complete emergency response it is important that the On-Site Emergency Plan and the Off-Site Emergency Plan have a seamless interface and all aspects are properly dovetailed together.

2 The On-Site Emergency Plan does not have to be a stand-alone document and can draw information or procedures from existing establishment documentation. It is also acceptable to utilise existing documentation and enhance it in order to meet the requirements of the Major Accident Control Regulations (MACR). Establishments will already have many documents and procedures in place covering a wide range of potential accident scenarios. Where appropriate such documentation may be fully utilised in demonstrating how the establishment meets the requirements of MACR. The On-Site Emergency Plan should be complementary to the emergency plans required to meet the provisions of Integrated Contingency Planning (ICP).

3 The On-Site Emergency Plan should be the subject of consultation with the establishment employees. This may be done through the normal Trade Union (TU) consultation procedures or the military Chain of Command as appropriate.

OBJECTIVES

4 The On-Site Emergency Plan has the following four objectives:

4.1 Containing and controlling incidents to minimise the effects and limit damage to human health and or the environment.

4.2 Implementing the measures necessary to protect human health and or the environment from the effects of Major Accidents (MAs).

4.3 Communicating the necessary information to the public, LA and the emergency services.

4.4 Providing for the remediation of the environment should an MA occur.

RESPONSIBILITIES

5 There is a minimum requirement to provide information on the responsibilities for the following:

5.1 The Establishment Main Controller.

5.2 The Establishment Incident Controller.

5.3 The Person responsible for liaising with the LA.

6 Details should be provided of the responsibilities of any other individual who has a significant role to undertake within the On-Site Emergency Plan.

7 The Establishment Main Controller has overall responsibility for directing operations from the Emergency Control Centre (ECC). During working hours this responsibility is normally discharged by the Head of Establishment (HOE) or nominated deputy. The Establishment Incident Controller operates at the forward control point and provides the interface between the ECC and the incident. Initially he may be required to carry out the duties of the Establishment Main Controller until the latter arrives at the ECC. Terms of Reference detailing the responsibilities and actions the individual is expected to undertake should be provided for all significant positions. Examples of typical responsibilities for the Establishment Main Controller and the Establishment Incident Controller are at Annexes 5A and 5B respectively. It is essential that Suitably Qualified Experienced Persons (SQEP) are available to undertake the duties of the Establishment Main Controller and Establishment Incident Controller. Arrangements must be made to ensure cover for these roles are available 24 hours a day. Guidance on meeting SQEP requirements is shown in Annex 5G.

RESOURCES

8 Arrangements should show how the timescales for staffing key positions are to be met, including details of on call or standby arrangements. The back-up arrangements to be used in the event of first choice personnel not being available should be included.

9 The type and location of safety equipment that is to be used in the event of an incident should be identified. This will include fire fighting equipment and systems, damage control equipment and Personal Protective Equipment (PPE).

10 It is not possible to be prescriptive in respect to the range of equipment required. An appropriate assessment should be made as part of the evaluation of risk process. The broad manpower requirements available to contain an incident should be detailed, including the arrangements for augmentation from off-site where necessary and feasible.

11 Details of availability of MOD resources external to the establishment will be contained in the establishments Integrated Contingency Plan and should cover the possibility of the loss of utilities. Appropriate cross-reference should be included in the On-Site Emergency Plan.

12 Details of additional resources that could be made available via enabling contracts or from the LA should be shown. These should have been identified as a result of the Risk Assessment process and it is important to link the resource with the identified need.

EMERGENCY CONTROL CENTRE

13 Adequate control of any major incident requires the use of dedicated facilities where command and control can be exercised. This is normally referred to as the ECC, which may form part of an existing facility (such as a guardroom). It will contain information, communication systems and other facilities, which allow an incident to be managed and any consequences minimised. For larger incidents it may be necessary to utilise more than one

ECC. If this is done then the division of responsibility and tasking must be made clear to all participants.

14 The minimum information and plans to be held in the ECC are given in Annex 5C. As this is the minimum requirement it should be expanded as dictated by the Risk Assessment process.

15 At least one alternate ECC should be identified in the event the incident puts the prime ECC at risk. In the event of an incident it is essential that an adequate record be kept of all events, decisions and actions taken. The record may be written or electronically recorded and should be a part of the establishments permanent records.

ACTIVATION

16 Activation of the emergency plans is a two stage process, as follows:

16.1 Stage One - Activation of the On-Site Emergency Plan. This is initiated by internal warning systems whether automatic or manual and can be activated by anybody on the establishment in accordance with standard procedures. Calling of the emergency services should be an integral part of the internal warning system. At any time during an incident where it is thought that those in the PIZ may be immediately affected the PIZ alert must be initiated.

16.2 Stage Two - Activation of the Off-Site Emergency Plan (TTS only). The decision to move from Stage One to Stage Two is made between the Establishment Main Controller and the Senior Emergency Services Officer (SESO). This alerts the LA and other interested parties that an MA has occurred, or is about to occur. At this stage the Off-Site Emergency Plan will be implemented along with the additional resources it deploys.

17 The information to be provided to the emergency services for the initial warning stage should, as a minimum, cover the items given in Annex 5D. Arrangements should be made for additional information to be passed to the emergency services and the LA as the incident progresses. This may be through the 999 system or by direct contact with the Police Emergency Control Room (normally initiated by the Police to the ECC). Once the emergency services are present at the ECC, the SESO will become the main point of contact.

18 The Establishment Main Controller will need to ensure that the initial warnings are issued as soon as it appears that the incident could escalate beyond the control of the establishment. The warnings may be issued by a variety of methods depending upon the type of hazard and those likely to be affected. For example, a pollution incident is likely to concentrate upon immediate notification to down-stream water abstractors and the Environment Agency (or SEPA). An imminent explosion on the other hand may require a more wide spread alert to be initiated, eg via a warning siren. The Establishment Main Controller will monitor the incident and advise on any further actions deemed necessary for the Public Information Zone (PIZ) (TTS only) and beyond. If the incident escalates to the extent that evacuation of the surrounding area is necessary, or likely to be necessary, this information is to be passed to the SESO. Arrangements for the passage of this information to

the local population should be laid down in the Off-Site Emergency Plan (TTS only).

EXTERNAL COMMUNICATIONS

19 Good communications are integral to any effective control system. British Telecom (BT) is able to respond quickly to the needs of an emergency situation provided the requirements are known in advance. BT has a local 24 hour control centre which can be accessed via an emergency linkline number - 01345-555999. This control centre will mobilise the resources required including an Incident Manager if needed.

20 The national Emergency Communications Network (ECN) is a robust network that links directly a number of government departments, Emergency Services and LAs. Arrangements can be made to link other authorities through the public telephone network. The ECN facility will ensure that urgent telephone contact can continue.

21 Mobile phones are increasingly being integrated into the emergency response systems; however the mobile phone system is vulnerable to disruption and overload in the event of a serious incident. Cellular Radio Network Providers (CRNP) have a control programme that they have agreed to implement in the event of a serious incident – Mobile Privileged Access Scheme (MTPAS). The scheme allows priority use to specific cellular phones (MTPAS requires a special SIM card to be installed in the mobile phone). The system is activated under the authority of the Civil Police and members of the scheme require specific mobile phones to be registered. MTPAS is only available to Category 2 and 2 Responders (as defined in the Civil Contingencies Act 2004) and partner organisations which directly support them at the scene of an incident. The scheme is managed by the Telecommunications Sub Group in the Local Resilience Area. Contact details can be obtained via the Emergency Planning Officer in the Local Council. Registration of a limited number of cellular phones for use in an emergency is recommended.

RESPONSE TO AN ACCIDENT SITUATION

22 The intended strategy for dealing with the MA scenarios should be identified in the Risk Assessments. Actions to be taken should be grouped where feasible to simplify the range of response required.

23 The degree of detail required in the emergency plan should be sufficient to cover any feasible event. This may, in some instances, be an explanation of broad principles to be applied or a step by step guide.

24 The mitigation measures will be dictated by the Risk Assessment and more detailed actions are to be expected for the more predictable events. It is however important to ensure that any guidance produced is flexible and can be adapted as an incident progresses. The actions to be taken to control each credible event are as follows:

- 24.1 Immediate response (give warning).
- 24.2 Initial actions (first aid fire fighting).
- 24.3 Evaluation of incident.

- 24.4 Mustering and Search and Rescue.
- 24.5 Evacuation.
- 24.6 Use of mitigation measures.
- 24.7 Recovery actions.
- 24.8 Remediation.

IMMEDIATE RESPONSE

- 25 The immediate response to an incident should be to raise the alarm.

INITIAL ACTIONS

- 26 Initial actions should be easily understood and displayed. Examples would be to attack a fire with first aid fire fighting equipment (where it is safe to do so) or to stop pumping in the event of a fuel spillage etc.

EVALUATION OF INCIDENT

- 27 The incidents should be evaluated to determine which of the pre-planned mitigation measures would be best suited. This may include activation of the appropriate alerting system.

MUSTERING AND SEARCH AND RESCUE

- 28 Details should be shown of the mustering arrangements. Whilst adjustment can be made for the complexity or size of the establishment, mustering should normally be completed within 30 minutes. It is not necessary to muster the complete establishment if arrangements are in place to restrict access to the area that is affected by an incident. The system should include the principles for the search and rescue of people who are not accounted for on completion of mustering eg, forwarding details to the emergency services along with an assessment of the risk involved in entering particular areas that are affected by the incident.

EVACUATION

- 29 Evacuation will normally be a three stage process:

29.1 Stage One. The evacuation of non-essential personnel from within the establishment boundary to a safe location. The decision to evacuate non-essential staff rests with the Establishment Main Controller. It is feasible that only partial evacuation will be required as some staff may already be at a safe location and movement could expose them to additional risk.

29.2 Stage Two. Off-site - the evacuation, as a precautionary measure, of members of the public from an area which has the potential to be affected by the consequences of an MA. The procedures should detail what actions are expected of the local population and how they are to be achieved. This is likely to include evacuation arrangements with the aid of the Police, etc. Any interfaces with outside agencies should be cross-referred to the Off-Site

Emergency Plan (TTS only). The decision to evacuate members of the public rests with the SESO.

29.3 Stage Three. The evacuation of essential staff still within the boundary in the event that the mitigation measures are not effective and a full scale emergency is inevitable. The decision to evacuate rests with the SESO advised by the Establishment Main Controller.

USE OF MITIGATION MEASURES

30 Pre-planned mitigation measures should be implemented as early as possible in order to minimise the consequences of any incident. The Establishment Main Controller should review the effectiveness of the mitigation measures and be prepared to adapt them or respond innovatively should they prove ineffective.

RECOVERY ACTIONS

31 Initially the recovery actions should be aimed at ensuring that any consequences of an incident are kept to a minimum. There may be a delay before the long term recovery actions can be implemented. The short term actions should be sufficient to ensure that the situation is stabilised and any delay does not result in further harm.

REMEDICATION

32 Remediation should be part of the medium and long term recovery plans based on the Risk Assessment process, which will have highlighted the possible consequences of an MA. Appropriate plans should be drawn up to allow the recovery of the local environment. The tasks required will be dependent upon the hazards identified and the nature of the local environment and should address, for example, the following:

- 32.1 Direct blast or debris damage.
- 32.2 Plume dispersion and deposition.
- 32.3 Firewater run off.
- 32.4 Oil or chemical spillage arrangements, removal or treatment of contaminated soil or water.
- 32.5 Restricting foodstuffs (including those grown at home).
- 32.6 Restricting access to the area.
- 32.7 Restocking watercourses, lakes, woods etc.
- 32.8 Remediation of surface and groundwater supplies.
- 32.9 Removal of dead animals, fish etc.
- 32.10 Neutralisation and disposal of chemical contaminants.
- 32.11 Re-introduction of species.

33 Specific actions may be required should any environmentally sensitive sites such as Sites of Special Scientific Interest (SSSI) be within the potentially

affected area. Such actions should be agreed with local and national conservation groups and the Environment Agency (EA) or Scottish Environment Protection Agency (SEPA).

LIAISON WITH EMERGENCY SERVICES

34 The emergency services should arrive at an agreed Rendezvous Point (RVP) that will normally be close to the ECC. This may vary depending on prevailing wind direction for nominated safe approach route. They will then be briefed on the following:

- 34.1 Current situation and action in progress, covering fire fighting and casualty state.
- 34.2 Operational constraints, evacuation routes and safe areas.
- 34.3 Explosive and toxic hazards.
- 34.4 Any other hazards.

35 The responsibilities of the agencies involved in an MA are contained in various items of legislation and in summary are:

35.1 Police. The Police co-ordinate all activities of those responding to and around the scene, which must, unless a disaster has been caused by severe weather or other natural phenomena, be preserved to provide evidence for subsequent enquiries and possible criminal proceedings. Where practicable the Police establish cordons to facilitate the work of the other emergency services in the saving of life, the protection of the public and the care of survivors. They oversee any criminal investigation. They also facilitate Inquiries carried out by the responsible accident investigation body, such as the Health & Safety Executive (HSE), Military Aircraft Accident Investigation Branch, Air Accident Investigation Branch or a Service Board of Inquiry convened under Armed Forces (Service Inquires) Regulations 2008. The Police process casualty information and have responsibility for identifying and arranging for the removal of the dead. In this task they act on behalf of HM Coroner or Procurator Fiscal who has the legal responsibility for investigating the cause and circumstances of deaths arising from a disaster.

35.2 Fire and Rescue Service. The Fire and Rescue Service is responsible for the Health and Safety of the personnel of all agencies working within the inner cordon and will liaise with the police about who should be allowed access, to ensure they are properly equipped, adequately trained and briefed. Their first concern is to rescue people trapped in a fire, wreckage or debris. They assist the Ambulance Service with casualty handling and the Police with the recovery of bodies. In the event of an incident that is, or is suspected to be, as a result of terrorist activity then control of activities within the cordon will remain with the Police.

35.3 Ambulance Service. The Ambulance Service is responsible for co-ordinating the on-site National Health Service (NHS) response and for determining the hospital(s) to which injured persons should be taken. The Ambulance Service seeks to save life and limb through effective emergency treatment at the scene. They will determine the priority for release of

trapped casualties in conjunction with the Fire and Rescue Service, and arrange transport of the injured, in order of priority, to the receiving hospitals.

INTEGRATION OF COMMAND AND CONTROL

36 The SESO would normally operate through a focal control point and it is envisaged that this would be co-located within the ECC and provisions for this should be made in the layout of the ECC.

37 The Police have primacy in the event of an MA. The HOE will retain command of all establishment resources throughout the operation. Co-ordination and control of fire fighting and rescue in the initial phase is the responsibility of the establishment. The Senior Officer from the LA Fire and Rescue Service will assume control of the fire and rescue operation once briefed. An Ambulance Service Officer will control the deployment of Ambulance Service resources, liaising with the Senior Police Officer and the Senior Fire Officer on the casualty state and recovery process.

38 The principles by which command and control are exercised have been agreed and adopted by all emergency services. Full details of arrangements can be found on the UK Resilience Website run by the Cabinet Office. The management of the response can be divided into the following three levels:

38.1 Operational (Bronze).

38.2 Tactical (Silver).

38.3 Strategic (Gold).

39 The need to implement one or more of these levels will depend on the nature of the incident, but normally incidents will be handled at the operational (bronze) level, only moving on to the tactical (silver) or strategic (gold) levels should that prove necessary. The On-Site Emergency Plan is an example of operational (bronze) arrangements. The tactical (silver) level should be covered by the Off-Site Emergency Plan whilst the strategic (gold) level is the sole responsibility of the LA.

INFORMATION MANAGEMENT

40 Effective management of the information coming into the ECC is vital to understanding the issues and implications of an incident. Information should be recorded as it is received. Ideally this should be via dedicated logbooks (whilst electronic logs are acceptable a manual log is preferable). The logbook will be a prime source of evidence and will be required for any subsequent inquiry. To aid situational awareness significant information from the logbook should be displayed within the ECC. An example Information Board is shown at Annex 5E.

41 The Incident Commander in the ECC (this will be the MOD Establishment Main Controller in the early stages of an incident prior to a Senior Emergency Services Officer (SESO) arriving at the site) should instigate regular update sessions to ensure all information coming into the ECC has been captured. This should then lead on to a Strategy Meeting where the implications of the event to date can be considered and a Strategy Plan developed for managing the incident. This decision making process is vital to the effective

management of an incident and the decisions should be recorded. An example Agenda for a Strategy Meeting is shown at Annex E.

HEALTH HAZARDS

42 In developing the public health aspects of the On-Site Emergency Plan, establishments need to consult with their local Health Authority. The essential response actions placed on Health Authorities are as follows:

42.1 Evaluating the risk to the health of the public in the light of the available toxicological data on any chemicals released the results of biological and environmental sampling and the receipt of specialist advice and support.

42.2 Advising on the measures needed to limit or prevent further exposure to any substances released in any MA.

43 The majority of the measures will be agreed as a part of the Off-Site Emergency Plan (TTS only). However the following aspects are appropriate to the On-Site Emergency Plan:

43.1 Requirement for a Medical Incident Officer.

43.2 Use of establishment facilities and medical staff.

43.3 Notification of specialist requirements such as chemical protective suits.

43.4 Information database on dangerous substances on the establishment.

43.5 Pre-positioning of medical stores.

43.6 Agreement of casualty reception areas.

43.7 Mortuary arrangements.

43.8 Decontamination procedures.

TRAINING REQUIREMENTS

44 Arrangements should be made to provide general awareness training of the emergency procedures for all people present on the establishment. This training should include contractors working on the establishment as their actions may have the potential to cause an incident and they will therefore be at the centre of an incident.

45 Training should be carried out with the emergency services on a regular basis. The training should concentrate on verifying effectiveness of interface arrangements, command and control arrangements and familiarity with the establishment and its equipment.

46 The minimum level of training must include the requirements given in Table 5.1. It is expected that each establishment will have identified additional key posts that will require training. A list of posts identified as having a role to undertake within the emergency response organisation and the relevant training must be maintained. A record of the training undertaken for all occupiers of the identified posts is to be made and kept for a minimum of 3 years. The record of

training should include confirmation of competence of the individual or used to identify additional training requirements in order that individuals can operate effectively in their designated role.

Table 5.1 TRAINING REQUIREMENTS

Serial (a)	Role (b)	Training (c)	Frequency (d)
1	Establishment Main Controller	a. Minimum of table top exercise b. Live exercise	Yearly Yearly
2	Establishment Incident Controller	a. Minimum of table top exercise b. Live exercise	Yearly Yearly
3	ECC staff	a. Communications exercise b. ECC exercise	Yearly Yearly
4	Ministry of Defence Police (MDP)/MOD Guard Service (MGS)/Military Provost Guard Service (MPGS)	Communications exercise	Yearly
5	Emergency Services Note: co-operation can be requested but emergency services are not obliged to attend training.	a. Familiarisation visit b. Live exercise (on-site)	Yearly Three Yearly
6	All Establishment personnel	Familiarisation	On joining

EXERCISE ARRANGEMENTS

47 Exercising of the On-Site Emergency Plan should be undertaken on a regular basis. A forward exercise plan is to be prepared covering a 3 year period. A copy of the plan should be forwarded to the MACR CA SG to assist in developing the exercise inspection programme. For any exercises which involve the Local Authorities suggested exercise dates are likely to be required via the Local Resilience Forum at least 12 months in advance to enable them to fit MOD's requirements into their overall exercise programme. The HOE has the ultimate responsibility for ensuring the arrangements to minimise the effects of an MA are adequate. Details of the type and frequency of exercises are given in Table 5.2. Use of a table top exercise is recommended for those situations when there has been a large turnover of key staff and therefore a number of people need to gain an understanding of the emergency response principles and procedures. They are also useful to consider the emergency response requirements across a wide range of scenarios or for an extended period of time which is impracticable to test in a live exercise. Combined exercises may also be of use where a relatively small live play exercise tests immediate

response arrangements which is then followed by a tabletop to consider the follow on actions across a number of hours or even days.

Table 5.2 EXERCISE TYPE AND FREQUENCY – LTS & TTS

Serial (a)	Type (b)	Frequency (c)
1	Table Top	Recommended Yearly (see para 46)
2	Communications	Recommended Six Monthly
3	Live (internal only)	Mandatory Yearly (can be combined with exercise requirement at serial 4)
4	Live (multi-agency exercise in conjunction with emergency services and Local Authorities)	Mandatory Three Yearly

48 Serial 4 is a requirement for both TTS and LTS. For TTS, there is an additional requirement to co-operate with the Local Authorities in order to enable them to test their off-site plan. A joint exercise of the On-Site and Off-Site Emergency Plans enables all interfaces to be tested. The Local Authority may wish to test the Council Emergency Plans, setting up rest centres, arranging catering facilities for the emergency services for an extended incident, setting up their technical information cells and local media arrangements. The extent to which the off-site plan is tested is solely the responsibility of the Local Authority.

49 The overall exercising regime for LTS and TTS should aim to ensure that the following aspects are covered:

49.1 Activating the On-Site Emergency Plan. Initial response of establishment including the sounding of alarms, local evacuation and alerting emergency services.

49.2 Mobilising Establishment Personnel. Mobilising establishment personnel identified in the emergency plan as having a role to play in the event of an emergency.

49.3 Activating the ECC. The ECC is where the response to the emergency can be directed and co-ordinated as required by the emergency plan, within a suitable timeframe. Consideration should also be given to the possible need for an alternative ECC should the designated ECC become untenable.

49.4 Testing the Flow of Information into and out of the ECC. The flow of information into and out of the ECC will require demonstration that communication systems used by participating organisations can be received promptly and accurately. This will ensure that those in the ECC have access to an up to date picture of the emergency and the current response upon which to base their decision making.

49.5 Testing the Flow of Information within the ECC. The flow of information within the ECC will require demonstration that information received is exchanged and disseminated to all parties with a role to play and in a format that can be understood and assimilated. Additionally all decisions made within the ECC must be forwarded to relevant participants.

49.6 Decision Making Process. Decision making involves demonstrating that advice is provided by all participating organisations to allow rational decisions to be made, which can then be implemented.

49.7 Command and Control Arrangements. Command and control arrangements will require demonstration that there are clear and effective lines of responsibility and that the participating organisations work together in a coherent and effective manner.

49.8 Emergency Equipment. Emergency equipment involves demonstrating that the equipment identified as having a role to play in the response to an emergency, is fully operational with maintenance and testing procedures in place, and that identified personnel are competent to operate it.

49.9 Public Relations Arrangements. Public relations arrangements involves the need to demonstrate how information on the emergency and current response can be passed to all participating organisations and appropriate media. This may require preparing briefs for the media or providing a media briefing centre.

49.10 Activating the Off-Site Emergency Plan (TTS only). Activating the Off-Site Emergency Plan will require demonstration that there are effective interface arrangements in place to enable integration of command and control in a multi-agency setting.

50 The HOE is to inform the MACR Competent Authority (CA) of the dates of the mandatory 3 yearly exercises as a representative will attend it.

51 Each exercise should be recorded and records kept for a minimum of three years. In order to obtain maximum benefit from each exercise an exercise plan should be produced which covers the following:

51.1 Specific objectives for the exercise. This may be as simple as testing particular elements of the emergency plan such as the evacuation arrangements or testing how the emergency plans cope with a particular type of incident and should identify the exercise objectives in discussion with all the agencies involved.

51.2 Performance criteria for each objective. These should be agreed in advance and where possible should be quantitative eg, full muster of staff completed within 30 minutes of the alarm.

51.3 Realistic scenario for the exercise. This should be based on one of the MA scenarios identified. The off-site agencies may have particular requirements that they would like to exercise that will not be readily apparent to establishment staff. In order to generate maximum benefit the exercise scenario should be agreed with the establishment and off-site agencies.

51.4 Key events timeline for the exercise. Artificial compression of the timeline may be necessary in order to exercise all elements of the plan. However any compression will introduce exercise artificiality and should be kept to a minimum. All staff should be made aware of any intentions to compress the timeline.

51.5 Directing Staff for the exercise. These should be identified and separate from those people undertaking their emergency response function. It is advantageous to have observers at various locations on the establishment to provide feedback on the responses that occur to the exercise action.

52 There should be an immediate post exercise debrief ("hot debrief") followed by a written report. Any lessons learnt as a result of these exercises should be utilised to update the On-Site Emergency Plan. The exercise record should be kept for a minimum of 3 years. A copy of the mandatory three yearly exercise report should be sent to the MACR CA.

EQUIPMENT READINESS

53 Regular inspection and testing is essential if equipment is to be kept in a state of readiness. Each establishment should already have in place an appropriate maintenance methodology as part of their Safety Management System (SMS). The SMS should cover scheduled maintenance, records of statutory tests, safe systems of work including permits to work and arrangements for repair in the event of breakdown. The maintenance system should ensure that any equipment provided for use in an emergency situation can perform correctly.

54 Emergency equipment must be adequately protected from the effects of weather. Protection arrangements should ensure that the effectiveness of the equipment is not diminished as a result of bad weather conditions eg, frost protection for equipment stored out of doors.

PUBLIC RELATIONS

55 Any major incident in an MOD establishment will result in significant media interest. Reporters; photographers and TV camera crews are to be expected. The arrangements for advising the media and the local inhabitants of an MA and for advising the local public on actions to be taken are the responsibility of the Police.

56 The On Site emergency plan should explain the internal Public Relations (PR) procedures that go towards supporting the Civil Police arrangements. These include laying out the responsibilities of the establishment and the MOD PR Office (PRO) systems. It is important that information is provided in a coherent manner and in such a way that the PR effort does not distract from the effective control of the incident.

57 The primary PR objective will be to reassure the public (through the media) that they are safe, that the incident is being dealt with in a professional manner and to advise what action they should or should not take. The key to this is in supplying early, accurate information. The local MOD PRO should

therefore be consulted and agreed procedures detailed in the On-Site Emergency Plan.

58 For a major incident it is likely that the media arrangements will be dictated by a County Emergency Plan under the Civil Contingencies Act. MoD will therefore need to ensure its internal arrangements are capable of interfacing effectively with those arrangements. Once a major incident has been declared the emergency services will be under pressure to provide an immediate statement. At the earliest opportunity a media cell lead by the Civil Police attached to Strategic command will issue a holding statement.

59 Civil Police press staff will contact their counterparts in the other responding organisations so that all agencies can participate in the media cell.

MEDIA BRIEFINGS

60 The focus for briefings by responding organisations should be as follows:

- 60.1 The nature of the incident
- 60.2 Overview of the emergency response
- 60.3 The number of casualties
- 60.4 How the emergency services coped/are coping
- 60.5 Any criminal investigations (except incidents on the railway)
- 60.6 Casualty bureau telephone number (if issued)
- 60.7 Local disruption (past and continuing)
- 60.8 Praise for local people who may have assisted in rescue operations
- 60.9 The rescue operation
- 60.10 How many people were trapped and in what circumstances
- 60.11 The level of response in terms of appliances and staff
- 60.12 What equipment was needed to free people?
- 60.13 Where relevant, specific information relating to flooding, fires or chemical incidents
- 60.14 Details about potential public inquiries
- 60.15 How other responding agencies are coping
- 60.16 Aid to the community
- 60.17 Number of staff involved in the clear up
- 60.18 Preparations for the recovery of the community

MEDIA CENTRE

61 If the incident is likely to attract a significant media presence for days, weeks, or even longer, press officers should consider whether it would be beneficial to establish a media centre near the scene. Such a centre gives journalists a base to operate from, shelter from the elements and (ideally) toilet

and refreshment facilities. The advantages to the emergency services include improved communications and speedy organisation of briefings and interviews.

62 If a suitable facility cannot be established at the establishment then Local authorities keep lists of available buildings in their areas and will assist in identifying a suitable venue such as a school, church hall or community centre, preferably with a large outdoor area where heavy equipment such as outside broadcasting units can be parked.

MEDIA – INITIAL MACR REQUIREMENTS

63 For a major accident the Civil Police exercise primacy including press liaison. The Civil Police will normally deploy a Press Officer to the establishment or press facility. The MACR qualified establishments need to identify individuals to act as the MOD point of contact for the Civil Police Press Officer. Ideally this is a MOD Press Officer. Alternatively this is someone with an understanding of the MOD Press system and who can help exchange information on a two way basis between the Police and MOD Press Officers. Any press releases can therefore be agreed jointly within a short but realistic timescale. It is important to note that MOD can't stop information being given out by the Police and as they take control as the Silver Commander they will be aware of all the information established during these early stages

64 Depending on how long an incident goes on for it may be necessary to support the Press Liaison post for an extended period. It is important to ensure that an agreed message is given out and that the same message is then provided to the wider MoD press system so anyone from the press coming in to say Main Building will get the correct response.

65 An initial holding brief should have been pre-prepared. This is very simple and states little more than an incident has occurred, the matter is being addressed in conjunction with the emergency services and more information will be provided in due course.

66 Each establishment should also have a prepared information pack ready to hand out to the press which explains the role of the establishment, possibly some history and which can be used as filler material by the press. Such information packs (probably only a couple of sides of A4) would have been cleared for use as required by the relevant MOD Press Officer.

INCIDENT REPORTING ARRANGEMENTS

67 Each establishment will have a reporting system based on their parent organisation requirements which should include the following appropriate authority;

67.1 HSE under the requirements of the Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995 (RIDDOR).

67.2 EA or SEPA under the requirements of the Environmental Protection Act 1990 (as amended).

68 Additionally establishments should notify the MACR CA of an incident (as defined in Chapter 1) by email within 24 hours using the MA incident report form

given in Annex 5F. This initial report on the incident is required in order to formally notify the National CA. Notification to the National CA will be undertaken by the MACR CA. Any further reports would be subject to specific requirements which would be advised on a case by case basis by the MACR CA.

REVIEW

69 Formal review of the On-Site Emergency Plan must be carried out at least on a three yearly basis and in the event of a significant change to establishment operations.

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ANNEX 5A

RESPONSIBILITIES OF THE ESTABLISHMENT MAIN CONTROLLER

- 1 Take responsibility for overall control from the Establishment Incident Controller.
- 2 Be the principal point of contact for the Senior Emergency Services Officer (SESO).
- 3 Provide technical advice and support to the emergency services.
- 4 Review and assess developments as appropriate, to help predict the most likely outcome of an incident.
- 5 Ensure cordon and access control measures are implemented.
- 6 Activate elements of the On-Site Emergency Plans as appropriate.
- 7 Formally activate the Off-Site Emergency Plan (Upper Tier Sites).
- 8 Ensure key personnel have been mobilised.
- 9 Ensure that all staff are accounted for.
- 10 Ensure that casualties are receiving adequate attention and, if appropriate, arrange for additional medical assistance.
- 11 Liaise with external agencies to provide advice on possible effects on areas outside the establishment – Police, Fire, Ambulance, Coastguard, Environment Agency or Scottish Environment Protection Agency, Health and Safety Executive, Water Board, Meteorological Office and the Health Authority.
- 12 Direct the shutting down of plant and evacuation of buildings and the establishment in conjunction with SESO.
- 13 Update MOD Senior Staff on the situation as appropriate.
- 14 Provide Public Relations (PR) input to the MOD PR Office (PRO) and the media (via SESO).
- 15 Provide for welfare needs of establishment personnel, eg provision of breaks, food and drink and relief in the event of a prolonged incident.
- 16 Ensure that full consideration is given to the preservation of evidence.
- 17 Ensure adequate recording of events and actions.
- 18 Authorize stand down and all clear at end of incident.

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ANNEX 5B

RESPONSIBILITIES OF THE ESTABLISHMENT INCIDENT CONTROLLER

- 1 Must be easily identifiable as the focal point for control of an incident.
- 2 Ensure emergency services have been notified of an incident.
- 3 Take charge of incident until arrival of specialist response personnel,(eg fire fighting pending arrival of Defence Fire Service (DFS) or Local Authority (LA) Fire and Rescue Service) after which he will advise the Senior Fire Service Officer of any particular risks or hazards, communications restrictions and safe distance or area in case evacuation becomes necessary.
- 4 Determine the locations of the Forward Control Point as follows:
 - 4.1 In the event of a major incident the Emergency Control Centre (ECC) will be activated. Utilising the information available from state boards, hazard maps etc. the most appropriate location of the Forward Control Point will be determined. Reliefs or stand-ins for officers absent are to be nominated.
 - 4.2 The Establishment Main Controller (normally Head of Establishment) will inform the Ministry of Defence Police, MOD Guard Service or Military Provost Guard Service of the location of the Forward Control Point.
 - 4.3 Dependent upon the exact location of the incident, the Establishment Incident Controller will confirm the position of the Forward Control Point to the ECC or advise that it is moving to a new position with an indication of the new location. On arrival at the new location, report the precise position of the revised Forward Control Point to the ECC.
- 5 Establish a Forward Control Point. Establish radio transmitter communication and, where practicable, a telephone link with the ECC.
- 6 Maintain continuous link by radio transmitter and telephone (if available) with the ECC throughout the emergency. Provide details of incident, risks and hazards. Advise control or mitigation measures underway and provide details of any casualties and assistance required.
- 7 Arrange evacuation to safe muster area of all establishment personnel not involved in control measures. Shut down plant as deemed necessary.
- 8 Advise the ECC of any risk of an explosion if incident involves explosives. If there is a danger of explosion, a **Take Cover** warning must be communicated to everyone who could be affected.
- 9 Provide specialist advice as required to the emergency services from knowledge of the environment of the establishment and the potential reactions of the dangerous substances involved in the incident.
- 10 As soon as conditions allow, pass the **All Clear** signal.
- 11 Summon additional key personnel and resources as required.

- 12 Ensure the safe use of radio communications considering the following:
 - 12.1 Use of radios in some hazardous areas may generate an additional hazard due to the potential to initiate a dangerous event. Safe distances are to be evaluated and notified to the emergency services.
 - 12.2 Any operating restrictions should be kept to a minimum in order not to interfere with the effective communications of the agencies responding to the incident.
- 13 Authorize confined spaces clearance if emergency shutdown of valves is required.

ANNEX 5C

MINIMUM INFORMATION AND PLANS TO BE HELD IN EMERGENCY CONTROL CENTRE

- 1 Plans of the establishment showing buildings, roads, hydrant systems, emergency water tanks, electrical power lines, gas pipes, etc.
- 2 Plan of the establishment showing the location of any dangerous substances.
- 3 Map of the surrounding area with establishment boundaries and safeguarding lines shown.
- 4 Map showing any environmentally sensitive areas such as Sites of Special Scientific Interest (SSSI).
- 5 Map showing the water and drainage system.
- 6 General assembly points.
- 7 List of fire guides.
- 8 Fire Orders.
- 9 Security Orders.
- 10 Integrated Contingency Plan.
- 11 List of security sensitive and restricted access installations.
- 12 Access arrangements for establishment keys.
- 13 Technical information manuals as required.
- 14 Environmental Risk Assessment for establishment.
- 15 Location and inventory of emergency equipment.
- 16 List of first aid trained personnel.
- 17 List of key personnel and contact details.
- 18 Internal and external telephone directories.
- 19 Local Authority Civil Emergency Plan (the Off-Site Emergency Plan) if applicable.
- 20 Status boards, fax machine, stationery, etc.
- 21 For establishments holding explosives, the following additional information by Net Explosive Quantity (NEQ), Hazard Classification Code (HCC) and Hazard Division Sign (HDS) should be held:
 - 21.1 Contents of explosives storehouses.
 - 21.2 Contents of explosives processing buildings.
 - 21.3 Contents of marshalling and stabling areas (road and rail).
 - 21.4 Contents of vessels at berths, jetties and trots.

22 For establishments with Bulk Fuel Installations (BFIs), the following additional information should be held:

- 22.1 Contents of tank farm.
- 22.2 Contents of stabling areas.
- 22.3 Pipeline and valve layout diagram.
- 22.4 Spillage Orders.
- 22.5 Disposition of foam stocks.
- 22.6 Manning and contents of ships berthed alongside.

23 For establishments with buildings containing chemical hazards, the following additional information should be held:

- 23.1 Types and quantity of chemicals held.

24 For establishments with airfields, the following additional information should be held:

- 24.1 Forward firing weapon arcs.

ANNEX 5D

DETAILS TO BE NOTIFIED TO THE EMERGENCY SERVICES

The Emergency Services have a standard list of the information they would ideally like to have available to them, which is in use throughout the country. In order to match the Emergency Services standard operating principles it is considered sensible for MACR establishments to follow the same procedure. The information is structured using the numonic CHALET. An explanation of CHALET is shown below.

CHALET - NUMONIC

- C asualties:** Approximate numbers of ALL casualties,
What symptoms are present?
What percentage (approximately) are deceased, or seriously injured, or have minor injuries?
- H azards:** Is there any cloud of gas, electricity wires or lines, fire present, debris from any explosion, or any other potential hazards? What dangerous substances are involved or could become involved; UN Hazard class and or UN serial number if known; Information on quantities involved – NEC for explosives
Recommended safe distances
Are there any environmental hazards, such as bodies of water or potential pollution?
If a transport incident, are there any Hazchem markings visible?
- A ccess Routes:** Is the initial access route safe? Are likely access routes congested and what resources will potentially be needed to maintain clear access and egress routes?
Is it necessary to remove parked vehicles?
What egress routes are available, particularly for the removal of casualties, is it necessary to set up 'Red (priority) Routes'?
- L ocation:** Is the actual location of the incident known, if so what is the actual location (to include a Grid Reference)? Have the casualties come from a particular location?
How large is the area affected, does it contain residential properties, vulnerable persons (e.g. elderly persons), or shops and offices, are there any venues with large numbers of people nearby?

- E vacuation:** Will evacuation of people be required, if so approximate numbers, where will they be evacuated from, is there an identified safe route to use, where will they be taken to? Are the facilities available to receive them; or is shelter a more viable option?
- T ype of Incident:** Can the type of incident be identified and are there any early indications whether the incident may be a deliberate release, i.e. an act of terrorism?
What resources might be needed to deal with this incident, and which agencies and services are required?
- S tart the Log:** It is essential that a log is commenced as soon as possible to record the decisions and actions taken.

ANNEX 5E

ECC INFORMATION MANAGEMENT

- 1 Situational Awareness
- 2 Strategy Meeting Agenda

SITUATIONAL AWARENESS

1 Effective management of information is critical to ensuring adequate control of a Major Accident. The ECC should have significant items of information on display (either electronically or manually via a white board or paper chart). An example of a situational awareness display is shown at page 3 of this annex. Establishments should adapt this layout to suit their own individual circumstances.

STRATEGY MEETING AGENDA

2 A Strategy Meeting may be called by the MOD Silver Commander (the Establishment Main Controller) at the early stages of a Major Accident prior to the arrival of the external emergency services. The members of the Strategy team at this point will therefore be MOD/Military personnel/contractors. Although the standard agenda is aimed at a multi agency meeting the majority of the headings will still be relevant. Following a standard protocol will also ensure there is an effective transfer of control to the Police Incident Officer.

3 The Police Incident Officer will call an initial meeting of the ECC Silver co-ordinating group (multi agency) at the earliest reasonable opportunity once they have been briefed on the incident by the MOD Silver Commander (The periodicity of future meetings should be arranged at this first meeting).

4 The agenda should, as far as practicable, be restricted to items that concern three or more of the relevant services, as matters concerning only two services can usually be resolved by direct two-way liaison. Items such as safety, situation reports, priorities and future developments must be on the agenda each time. At incidents concerned with fire, the danger of fire or involving rescue, the DFRMO/LAFRS will advise the Silver group on matters of safety.

5 Whilst the FRS will give professional advice, overall responsibility for health and safety rests with each emergency service and responding agency. The group should also consider the advice and expertise that is available from each member organisation including the establishment and the MOD Silver Commander. As well as expertise in the establishment affected the MOD Silver Commander can also access MOD's corporate expertise, particularly valuable in the areas of explosives and fuels safety.

6 Each service should briefly describe the situation as it affects its own operations and, if necessary, mention the matters for which it needs assistance or co-operation.

7 To create a cohesive joint strategy it is essential to set priorities. This will indicate how to deploy the resources available most effectively and efficiently. Each service will have objectives to meet within their own area of responsibility. It is important to establish which of these should have priority at the particular stage the incident has reached. In that way, inter-service difficulties may be avoided and each may concentrate on the actions that contribute most to the success of the operation.

8 A note of decisions taken must be kept of all meetings of the Silver co-ordinating group. Individual members of the group are likely to make their own notes of meetings. This will provide an overall perspective for decisions and priorities. All notes will be treated evidence and are likely to be required for any subsequent enquiry.

9 The Silver co-ordinating group should consider in advance what may happen and what must be done in later phases of the operation.

10 Subsequent meetings will be needed with frequency dependant on the circumstances. Once a more stabilised situation is reached this frequency will usually decrease.

11 A sample Agenda is shown on page 4 of this Annex.

Silver Command Team MOD Incident Commander – Police Silver Commander – Fire & Rescue Service Commander – Medical Incident Officer –		Location of Incident(s) –	STRATEGIC AIMS PRESERVE LIFE REDUCE / PREVENT PROPERTY DAMAGE RESTORE NORMALITY
Wind speed and direction –		Incident Description: Hazards at scene –	
RAD HAZ Restrictions	YES / NO	Incident start time -	Casualties' Number Type P1 (T1) P2 (T2) P3 (T3) P1 Hold (T4) Dead
Cordons required / set up	Distance	ICP Location(s) –	
EOD: Called On Site		Ingress / egress routes –	Note: do not display names
Current Issues:'	Target timescale to resolve	Assets deployed to scene	Hazards extending Off Site: E.g. – smoke plume
		Assets held in reserve	External Agencies notified
			Personnel Mustered: Yes / No
		Priorities:	Personnel Missing:
		1	Evacuation: is it required ? Timescales to evacuate Safe Route Safe destination Transportation requirements
		2	
		3	

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URGENT MATTERS/DECISIONS – are there any pressing matters which need an immediate decision to mitigate the effects of the incident to:

PRESERVE LIFE
REDUCE / PREVENT PROPERTY DAMAGE
RESTORE NORMALITY

ACTIONS/UPDATES – Incident Commander's should provide update on situation as he/she understands it at that time

SITREP FROM AGENCIES – go round the room to gather latest information from all the responding agencies. Some of this may duplicate info this will either confirm it or could raise concerns over accuracy (often the case with casualty names and numbers).

TACTICAL PLAN (OPERATIONAL PLAN IN MOD TERMINOLOGY) – develop tactical plan on who is doing what and when. Particularly important to ensure understanding on what is being done at Bronze level and what is being done at Silver level.

ISSUES

INJURED/DECEASED – establish how many people are injured and what action is required to save lives. Which hospitals are they being sent to? Are there any deaths if so bodies should be left in situ for crime scene work – police will appoint a senior investigating officer (SIO).

HAZARDS – what are the hazards now and what could be generated. What implications are there eg evacuation distances, protective equipment, monitoring equipment required? Timescales to respond.

SCENES – how many scenes are there? Has fire & rescue service implemented sector control? Do we need additional incident officers and cordons?

INVESTIGATION – what investigation level and which investigating bodies are involved eg Police (SIO), MAAIB, LAIT, EA, HSE etc

COMMUNITY – What actions are required to aid the local community – shelter (rest centres), vulnerable populations, children, pets, food. Timescales to achieve. Who can assist, normally arranged through Local Authority – Voluntary Sector eg WRVS, Red Cross, St Johns Ambulance etc

FRIENDS & RELATIVES – what arrangement are there for friends and family. Do you need to separate friends and family of survivors from those with deceased? Is there an appropriate facility. How will it be manned – Clergy?

AGENDA ~~MAJOR ACCIDENT - STRATEGY MEETING~~
RESOURCES – what additional resources are required – additional fire tenders, police to man cordons maybe military staff for cordons? Lighting for hours of darkness. Will incident be prolonged may need to consider shift pattern. Weather could affect shift patterns eg cold or rain

MEDIA – are initial holding statements ready. Liaison with police press officer. Link into MOD press system. Where will the press facility be? Who staff's it. Who will provide press briefings? How are they authorised for release? Police have primacy for press.

ESTABLISHMENT OPERATIONS – what is effect on establishment operations? can some continue should some elements be cancelled?
Would it be best to send people home or will you need them now or later.

STAFF WELFARE – what arrangements need to be made to look after the responders – food drink shelter from weather? Staff rotation. Do vehicles need refuelling? Can we refuel civil emergency vehicles?

URGENT MATTERS/DECISIONS

PRESERVE LIFE
REDUCE / PREVENT PROPERTY DAMAGE
RESTORE NORMALITY

ACTIONS/UPDATES

SITREP FROM AGENCIES

TACTICAL PLAN (OPERATIONAL PLAN IN MOD TERMINLOGY)

ISSUES

INJURED/DECEASED

HAZARDS

SCENES

INVESTIGATION

COMMUNITY

FRIENDS & RELATIVES

RESOURCES

MEDIA

ESTABLISHMENT OPERATIONS

STAFF WELFARE

MAJOR ACCIDENT – STRATEGY MEETING

AGENDA

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ANNEX 5F MAJOR ACCIDENT INCIDENT REPORT

To: MACR Competent Authority Fir 3b, #4304 MOD Abbey Wood Bristol BS34 8JH Fax No: (9352) 32952 Civil 01179132952 Email: dsea-dosr-macr1@mod.uk : dsea-dosr-macr2@mod.uk	From:
Date of Incident:	Time of Incident:
Location of Incident:	Substances involved: Quantities (tonnes):
Description of the circumstances of the incident:	
Description of the immediate effects on persons and the environment:	
Description of the emergency measures taken:	
Further information as necessary:	
Signature:	Name:
Contact Details:	Appointment: Date: --/--/----

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ANNEX 5G

SUITABLY QUALIFIED EXPERIENCED PEOPLE (SQEP) REQUIREMENTS

- 1 It is the responsibility of the Head of Establishment (HOE) to ensure that the numbers of personnel, with the appropriate expertise and training (SQEP), required to undertake identified emergency response roles have been determined and can be assembled within the necessary response time.
- 2 The SQEP requirements can be divided into 2 broad areas; underpinning knowledge and skills. The guidance shown below is based on requirements for the Establishment Main Controller (EMC) and Establishment Incident Controller (EIC) roles and should be adapted appropriately with respect to other emergency response roles.
- 3 Underpinning knowledge:
 - 3.1 Knowledge of site, physical layout and local fire arrangements;
 - 3.2 Understanding of safety health and environmental significant risks both on the site and in the surrounding area;
 - 3.3 Clear understanding of roles and responsibilities of internal emergency responders;
 - 3.4 Clear understanding of roles and responsibilities of external (Local Authority) emergency responders;
 - 3.5 Understanding of hazards on the site and the reactions of holdings of dangerous substances in accident conditions (information on detailed specific reactions may be provided by a specialist advisor but the EMC and EIC require sufficient knowledge to appreciate the implications of the specialist advice);
 - 3.6 Understanding of risk management and assessments;
 - 3.7 Understanding of accident investigation requirements (interfaces with investigatory bodies and the requirements for preservation of evidence).
- 4 Skills:
 - 4.1 Decision making (e.g. ability to decide between options for carrying out the task and deciding on the best option i.e. can they make the right decision on what is the best response to an emergency situation);
 - 4.2 Communicating safety critical information (e.g. can they communicate effectively the significant implications of a potentially hazardous situation);
 - 4.3 Ability to manage a team (Command and Control);
 - 4.4 Assessing risks and priorities;
 - 4.5 Ability to work effectively with other Agencies (particularly Civil Police and Local Authority Fire & Rescue Services);

- 4.6 Recognising the need for other specialist skills (e.g. does the individual monitor their own abilities and call for assistance if they need more specialist knowledge);
- 4.7 Ability to delegate Authority to Act.

CHAPTER 6

MAJOR ACCIDENT CONTROL REGULATIONS

ASSESSMENT, INSPECTION AND AUDIT

Para

- 1 Introduction
- 3 Assessment Process
- 9 Assessment Criteria
- 10 Organisation For Assessment
- 13 Assessment Process
- 19 Disputes And Appeals
- 20 Inspection
- 23 Audit
- 25 Liaison with Other Regulators

Annex

- 6A Synopsis of Common Safety, Health, Environment and Fire Procedures
- 6B Major Accident Prevention Policy Assessment Criteria
- 6C Safety Report Assessment Criteria
- 6D On-Site Emergency Plan Assessment Criteria
- 6E Inspection Criteria

Appendix

- 6A1 Synopsis on Performance Monitoring of Safety Management Systems
- 6A2 Synopsis on Hazard Identification and Risk Assessment Principles
- 6A3 Synopsis on MOD Environmental Policy
- 6A4 Synopsis on the Control of Contractors
- 6A5 Synopsis on MOD Fire Policy
- 6A6 Synopsis on Defence Security
- 6A7 Synopsis on Construction and Maintenance
- 6A8 Synopsis on MOD Explosives Regulations
- 6A9 Synopsis on Storage and Handling of Fuels and Lubricants

INTRODUCTION

1 The Major Accident Control Regulations (MACR) Competent Authority Support Group (CASG) will assess and endorse the Major Accident Prevention Policy (MAPP) that sets the policy, the Safety Report (SR) that demonstrates the policy is in effect and the On-Site Emergency Plan that specifies the response to an emergency, submitted by each establishment.

2 Assessments will be conducted on a 5 yearly basis in line with the Seveso III requirements. Assessments will usually be conducted on a 5 yearly basis. Assessments will be programmed approximately 6 months prior to the

end of the current MACR Certification period for establishments to allow for any minor issues to be addressed before MACR Certification expires. MACR CA may reduce the Assessment periodicity for establishments where a number of factors indicate that the standard 5 yearly basis does not meet the aims of MACR. These factors may include but are not limited to: Significant change; staff changeover frequency where many posts are rotated on short timescale or en block; MACR compliance history. In these cases Assessments and mandated Major Exercise Inspections (see Chapter 5) will be aligned. This will usually be to the 3 year period to allow both processes to be carried out during a single visit. Where a reduction in periodicity is being considered the Establishment and the relevant Senior Duty Holder will be consulted on the intentions. Following such consultation the periodicity to be applied will be ratified by the MACR CA and any changes notified to interested parties.

ASSESSMENT PROCESS

3 All activities at MOD establishments holding or processing dangerous substances are prescribed by basic Safety, Health, Environment and Fire (SHEF) documentation such as, The MOD Health and Safety Handbook - JSP 375, The MOD Environment Manual - JSP 418 and The MOD Explosives Regulations - JSP 482, etc.

4 In order to avoid the need for each establishment to justify individually the principles embodied in the relevant JSPs, the MACR CASG assessment process will initially determine that key elements from them adequately reflect the requirements of MACR. Synopses of the respective documents are at Annex 6A. They will be used by establishments as the basis of their submission to the MACR CASG. If the establishment has formal agreement to deviate from the provisions of a particular JSP the Assessment Process will need to review the alternative arrangements to verify that they meet the MACR criteria.

5 The MACR CASG will review the MAPP, SR and On-Site Emergency Plan and assess whether the documentation fully represents the Major Accident (MA) potential from establishment operations and adequately describes the preventative and mitigatory measures in place.

6 Each MAPP, SR and On-Site Emergency Plan must be reviewed in the event of significant change to the MA potential of the establishment activities and revised by the establishment at least every five years.

7 The conclusions of the assessment will be communicated to the Head of Establishment (HOE) on completion and recommendations for endorsement will be confirmed, in writing, by the MACR CASG within three months.

8 Endorsement by the MACR CA is a formal recognition that the arrangements in place at a particular establishment meet the requirements of MACR.

ASSESSMENT CRITERIA

9 The MACR CASG will assess the documentation to determine whether the required demonstrations have been made. The criteria used by the MACR CASG in the conduct of the assessments have been developed to enable common standards to be applied throughout all the qualifying establishments

and are given in Annexes 6B to 6D. These criteria represent the key elements of the standards required and enable a critical evaluation to be carried out. This will allow the MACR CASG to assess that MACR policy; procedure and practice are applied and implemented at the establishment. Establishments may wish to utilise the criteria to undertake a self-assessment prior to submitting reports for formal assessment.

ORGANISATION FOR ASSESSMENT

10 An Assessment Manager (AM) will be appointed for each establishment. The AM will be a MACR CA SG member who will manage the assessment process and bring the conclusions of the assessment together.

11 The AM will be supported by a team, the members of which will have the appropriate spread of competencies. The team will comprise Assessors who will provide specialist input on a range of aspects including, explosives process safety, fuel storage, structural or engineering safety and maintenance. They will have sufficient knowledge of, or experience in, Risk and Predictive Assessment in SHEF matters to enable them to assess establishment methods for hazard identification, consequence and risk analysis. They will also be able to confirm that all credible potential MA scenarios have been considered.

12 An Assessment Team will be assigned for each assessment.

ASSESSMENT PROCEDURE

13 The assessment procedure will be as follows:

13.1 Pre-Planning. The AM will identify and estimate the expertise, resources and timescale required within which the assessment is to be completed. He will inform the HOE of the estimate and request the necessary facilities to be made available for the team.

13.2 Assessment Plan. The MACR CA SG will prepare an assessment plan, the estimated time allocated for the assessment, and any priorities or deadlines that should be considered.

13.3 Assessment. The AM and the team will carry out an assessment of the MAPP, SR and On-Site Emergency Plan against established standards and criteria, collecting and assessing any additional information as required. The assessment will primarily be conducted at the establishment and will include briefings to the HOE and staff as appropriate.

13.4 Assessment Conclusions. The AM will discuss the assessment conclusions with the HOE and any relevant staff and provide an assessment report which formally documents the assessment conclusions.

13.5 If the assessment fully meets the requirement of MACR the AM will recommend endorsement to the MACR CA and upon his acceptance of the recommendation the establishment will be issued a MACR Certificate. The certificate will be valid for a period of 5 years from the date of the assessment.

14 Improvement Notice. If, after the assessment visit, there are non-conformities outstanding, the establishment will be issued with a MACR

Improvement Notice. The establishment must produce a timed and targeted action plan to address the non-conformities detailed in the Improvement Notice (including Assessment Report). MACR Improvement Notices are the equivalent of a COMAH Improvement Notice which ensures we maintain parity between the MACR and COMAH systems. The action plan will be monitored by the Assessment Manager and each non-conformity closed once satisfactory assurance has been confirmed. This would normally be obtained by provision of adequate written evidence provided by the establishment. Alternatively the Assessment Manager may decide to re-visit the establishment and re-assess the areas of non-conformance.

15 It is expected that actions plans will normally be completed within a 12 month period. If the action plan lasts in excess of 6 months the Assessment Manager will arrange a further visit to review outstanding issues. Should the Assessment Manager conclude that a further site visit would be of no benefit due to the nature of the outstanding issues he will advise the MACR CA of his conclusions and obtain authority not to progress a 6 monthly re-visit.

16 Endorsement. Once adequate evidence has been reviewed and the non conformities closed by the AM a recommendation for endorsement will be made to the MACR CA and upon his acceptance of the recommendation the establishment will be issued a MACR Certificate. The certificate will be valid for a period of 5 years from the date of the assessment. It should be noted that the start date for the 5 year period is the date of the assessment visit. Therefore if the non conformities are not resolved for a period of months the end date of the certificate will reflect the remaining length of the 5 year period.

17 Non-Endorsement. If the MACR CA has been unable to endorse the submission he will advise the Senior Duty Holder on continuance of those operations at the establishment outside of the MACR safety case. He will also agree an action plan with the HOE, which he considers would enable him to endorse the documents following an updated submission.

18 The assessment will be conducted by the AM on behalf of the MACR CA in a proactive manner. Consultation with the HOE will be maintained throughout the assessment so that points of clarification may be addressed as they arise. This will help the Assessment Team to reach its conclusions in a timely and informed manner. However, it is important that the assessment is carried out on the basis of the information made available by each establishment and that the HOE acknowledges full ownership of the MAPP or SR and the descriptions of their risks.

DISPUTES AND APPEALS

19 The following procedures will apply to resolve disputes:

19.1 Following receipt of the Assessment Conclusions, the HOE may raise issues of dispute with the AM.

19.2 In the event that the HOE and the AM cannot reach agreement, the HOE may ask to take his views forward to the MACR CA.

19.3 In the event that the MACR CA dispute procedure cannot resolve the matter the HOE may arrange for the Operational Duty Holder to state his case formally to the Director DSEA.

19.4 In the event that this hearing fails to resolve the matter, the Director DSEA and Operational Duty Holder will formally notify Permanent Under Secretary (PUS) and the Senior Duty Holder concerned, so that they may jointly agree a solution.

INSPECTION

20 Each qualified establishment will be subject to an inspection from the MACR CA SG in the period between the five yearly assessments. In order to take due account of the various SHEF audits and specialist inspections undertaken across MOD, the inspection will concentrate on observing the major exercises which is an element not normally covered by other audits or inspections. The inspection will also look at the way in which the MACR requirements have been embedded into standard operating procedures. The Topics, Pass Criteria, Guidance and Verification Methods for the inspection are given in Annex 6E.

21 Preference will be given to observing the mandatory three yearly exercise. However in order to provide flexibility for the MACR CA SG it is acceptable to inspect the mandatory yearly exercise instead (see Chapter 5 Table 5.2). Each establishment is required to forward details of their programme of mandatory exercises to the MACR CA SG once the dates have been decided.

22 If the evidence from the Inspection raises significant concerns over the establishments continued compliance with JSP 498 the Assessment Manager may raise an Improvement Notice or withdraw the Current Certificate depending on the severity of the non compliances. Withdrawal of Certification will then trigger a full re-assessment. This re-assessment should be undertaken as soon as feasible but within a 6 month period.

AUDIT

23 Arrangements that monitor establishment MACR performance are incorporated into the hierarchy of existing Centre, TLBH and HLBH audits. Question sets designed to achieve this have been agreed with the respective audit authorities and will feature in the individual audits carried out.

24 The MACR CA will need to be satisfied that the audit process is effectively carried out, that the areas of weakness or non-compliance with MACR are identified and that the necessary corrective measures are put in hand. To enable this, the MACR CA will take due account of the appropriate Centre or TLBH audits.

LIAISON WITH OTHER REGULATORS

25 The subject matter expertise of the MOD's internal regulators such as Inspectors of Explosives, Fuels & Gases Safety Regulators or SHEF Auditors is a valuable resource and the MACR procedures make full use of other regulators

reports to inform both the assessment and inspection processes. Where there are issues of mutual interest a collaborative approach will be used to progress a solution.

ANNEX 6A

SYNOPSIS OF COMMON SAFETY, HEALTH, ENVIRONMENT AND FIRE PROCEDURES

Para

- 1 Introduction
- 2 Rules and Regulations
- 5 Synopses

INTRODUCTION

1 Although each MOD establishment is unique, almost all activities carried out are replicated in some way on many locations.

RULES AND REGULATIONS

2 The rules and regulations that govern the conduct of operations are contained in various JSPs and the modus operandi employed to satisfy a particular requirement is common across the MOD. Permanent overseas bases must also consider host nation agreements and local best practices, and operate to the more stringent level consistent with any extant formal agreement.

3 Some of the JSPs directly reflect or even quote the requirements of law. Others transpose legal requirements into MOD instructions and terminology to make them more easily understood and assimilated by MOD staff.

4 In Major Accident Control Regulations (MACR) compliance terms i.e. when compiling MACR documentation, many establishments will need to quote from other JSPs as evidence of the standards against which performance is gauged.

SYNOPSIS

5 To aid this process the synopses given in Appendices 6A1 to 6A9 have been produced. They represent the most commonly used principles of operations in Safety, Health, Environment and Fire terms and provide a generic benchmark that establishments within scope of MACR may use as a basis on which to build their Major Accident Prevention Policy or Safety Report.

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APPENDIX 6A1

SYNOPSIS ON PERFORMANCE MONITORING OF SAFETY MANAGEMENT SYSTEM

Para

- 1 Source Documentation
- 2 Introduction
- 3 Monitoring Arrangements
- 6 Assurance

SOURCE DOCUMENTATION

- 1 The following documents have been used when compiling this synopsis:
 - 1.1 JSP 375 – MOD Health & Safety Handbook.
 - 1.2 Health and Safety Guide 65 – Successful Health and Safety Management.

INTRODUCTION

2 MOD Health and Safety Management is promulgated in JSP 375 which is based on the principles contained in the Health & Safety Executive document at paragraph 1.2. This provides the framework of an MOD wide Safety Management System (SMS) and details the principles that each individual establishment must follow in order to effectively discharge the Health and Safety (H&S) responsibilities of the Secretary of State for Defence.

MONITORING ARRANGEMENTS

3 Line management at each level requires assurance that its H&S responsibilities are being discharged both adequately and cost effectively. This is generally achieved by each line manager setting up arrangements to monitor H&S at Work performance within his area. The result is a tiered structure of monitoring which starts at the working level with a regular programme of safety checks by first line supervisors. These checks should be supported by general safety monitoring carried out on behalf of the Head of Establishment by the designated Safety Advisor.

4 At higher level, Commands will monitor H&S performance at units and establishments in the course of periodic inspections. Finally the Defence Safety & Environment Authority (DSEA) will carry out audits of H&S organisation and procedures throughout MOD.

5 Duplication of effort should not arise, since at each level, monitoring or audit should be carried out with a different viewpoint ranging from the highly technical first line inspection to the very general assessment of H&S management, organisation and effectiveness by DSEA.

ASSURANCE

6 The monitoring system provides a comprehensive multi-level review of the MOD SMS. Each level of audit is carried out by appropriately trained personnel who can therefore bring a degree of H&S expertise (qualification and experience) to the review. Each level generates a formal report the results of which are used to feedback into the SMS to enable lessons learnt to be incorporated. The higher level audits also provide an opportunity to spread best practice and to identify trends.

APPENDIX 6A2

SYNOPSIS ON HAZARD IDENTIFICATION AND RISK ASSESSMENT PRINCIPLES

Para

- 1 Source Documentation
- 2 Introduction
- 5 Competent Persons
- 7 Methodology
- 8 Assurance

SOURCE DOCUMENTATION

1 The following document has been used when compiling this synopsis:

- 1.1 JSP 375 – MOD Health & Safety Handbook.

INTRODUCTION

2 In accordance with the Management of Health and Safety at Work Regulations 1999 (MHSWR), details of which are set out in JSP 375, the MOD is required to identify hazards and assess the risks to the Health & Safety of their employees and any others who may be affected by their activities.

3 All establishments will have procedures for identifying all hazardous areas under their control, which will cover Major Accidents (MAs).

4 There is a specific requirement to identify any activities under their control such as, open days, displays and festivals, etc. which might result in MA risks to the general public **beyond those created by normal working conditions**.

COMPETENT PERSONS

5 The regulations require assessments to be carried out by trained competent persons.

6 When carrying out risk assessments in other work areas the assessor involves the local manager in the assessment process, to take account of their detailed knowledge of the task, its hazards and related controls.

METHODOLOGY

7 When carrying out a Hazard Survey and associated Risk Assessments the following are to be taken into account:

- 7.1 Number and type of installations.
- 7.2 Construction standards.
- 7.3 Quantity and type of dangerous substances held.
- 7.4 Protection measures.
- 7.5 Location within the establishment.

- 7.6 Effects on other areas in the vicinity.
- 7.7 Environmental considerations.
- 7.8 Number of people at risk (both internal and external to the area).
- 7.9 Blast overpressure.
- 7.10 Prevailing weather conditions (smoke plume direction etc.).
- 7.11 Debris.
- 7.12 Firewater run off.
- 7.13 Domino effects on surrounding buildings.
- 7.14 Maintenance regimes.
- 7.15 The possible environmental effects, land or water contamination etc.

ASSURANCE

8 This ensures that all hazards at the establishment have been identified and the risks posed evaluated by a competent person. The evaluation is formally recorded.

9 Hazard Surveys and Risk Assessments are reviewed if any significant changes are made to activities on the establishment. A master register of all Hazard Surveys and Risk Assessments is maintained by the establishment and reviewed annually.

10 The establishments conduct an annual review of the risk assessment systems, which is undertaken by an Auditor independent of the Risk Assessor.

APPENDIX 6A3

SYNOPSIS ON MOD ENVIRONMENTAL POLICY

Para

1	Source Documentation
2	Introduction
5	Responsibility
10	Environmental Management System
12	Environmental Policy
15	Environmental Aspects
20	Assessing Environmental Significance
24	Environmental Risk Assessment
25	Environmental Committee
26	Emergency Preparedness and Response
29	Pollution Legislation
30	Pollution Control
33	MACR & DSEAR
34	Assurance
39	Non Conformance; Corrective and Preventative Action
40	Management Review

SOURCE DOCUMENTATION

- 1 The following documents have been used when compiling this synopsis:
 - 1.1 The Secretary of State (S of S) policy statement - The Management of Safety and Environmental Protection in the Ministry of Defence.
 - 1.2 JSP 418 Volume 2 - MOD Environment Manual.
 - 1.3 JSP 498 – Major Accident Control Regulations (MACR).

INTRODUCTION

- 2 The S of S Policy Statement for the management of safety and environmental protection expresses the MOD commitment to the protection of the environment, by avoiding harm or nuisance, whilst maintaining operational effectiveness in accordance with the governments overall environment policy.
- 3 The MOD will comply with environmental legislation without recall to Crown Exemption where afforded, unless under exceptional circumstances.
- 4 MOD EMS Policy requires that all MOD sites are covered by an EMS based on the ISO 14001 standard. EMSs should be proportional to the risks associated with the size of the site, and the types of activities undertaken by the site.

RESPONSIBILITY

5 The principal instrument across MOD for discharging the responsibilities for the development and interpretation of Policy towards the environment is the Defence Environment and Safety Committee (DESC).

6 Integrated environmental management requires that all aspects of an organisations impact on the environment should be considered. In the MOD responsibility for that rests with the appropriate Top Level Budget Holder (TLBH) and implementation is discharged through the Chain of Command to the Heads of Establishment.

7 The Commanding Officer (CO), Head of Establishment (HoE), and Senior Managers shall ensure that:

7.1 The site they are responsible for is operating an EMS in line with MOD policy.

7.2 The EMS is personally endorsed and periodically reviewed to ensure continual improvement by them.

8 Site Environmental Protection Officers (EPO)/SHEF advisors are responsible for:

8.1 Advising on application of EMS at the site in line with MOD Policy

8.2 The day to day management of the EMS

9 Line Managers must ensure that personnel responsible for implementing and managing EMSs are appropriately trained and competent.

ENVIRONMENTAL MANAGEMENT SYSTEM

10 The EMS provides a framework to examine the environmental effects of MOD activities and sets out a procedure for the information, content, review, implementation and compliance with environmental policy. The EMS is based on the principles of continuous improvement with stakeholder involvement and covers all operational areas.

11 An Environmental Management System consists of the following inter-related functions (commonly known as the "plan, do, check, review" cycle), with the end result being developing a system of continuous improvement.

11.1 **PLAN: Planning.** Planning establishes the overall direction for environmental programmes. It provides the framework for establishing policy goals, for setting objectives and targets, as well as identifying the sites environmental aspects and impacts and their legal responsibilities.

11.2 **DO: Implementation and Operation.** 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 components.

- 11.3 **CHECK: Checking and corrective action.** 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.
- 11.4 **REVIEW: The Management review** assesses 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.

ENVIRONMENTAL POLICY

12 The environmental aims and policies of a site and its declared obligations are expressed in a policy statement and a site organisation and arrangements (O&A) statement. Statements must be maintained; they shall be revised when circumstances change and, in any case, are 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 MOD through its policy has committed to implementing EMSs based on ISO14001.

13 The O&A statement is a 'statement of the intentions and principles of action of the site regarding its environmental aspects'. It refers to the Secretary of State's Policy Statement and also reflects local considerations and priorities. It includes a commitment to comply with all environmental legislation, with MOD and TLB policy, and to continual improvement in environmental performance.

14 Where appropriate, the O&A statement includes:

- 14.1 A brief description of the site.
- 14.2 Significant aspects and what will be done to manage them.
- 14.3 Personal commitments of the Commanding Officer/Head of Establishment (OIC/HOE).
- 14.4 A basis for setting environmental objectives based on significance which are realistically achievable.
- 14.5 Brief statement of the role of the site's environmental personnel.
- 14.6 A commitment to maintaining close liaison with regulatory bodies.
- 14.7 A commitment to communicating throughout all levels of the site and to be available to the public.
- 14.8 Regular review and co-ordination with other management policies.
- 14.9 Commitment to applying the precautionary principle and to adopt best practice.

ENVIRONMENTAL ASPECTS

15 It is a requirement of the MOD EMS that for each of the site's activities the environmental aspects are recorded in a common format. The assessment

and documenting of the aspects is a basis for identifying controls and improvement programmes.

16 Aspects are the element of a sites activities, products and services that can interact with the environment; within this there are Direct Aspects which are those the establishment has control over such as emissions to air, land or water and Indirect Aspects which are those the establishment can have an influence over, but no direct control such as contractor activities and supply chains

17 The results of an assessment process, which prioritises these aspects into significant environmental aspects, are to be recorded in the environmental aspects and impacts register.

18 The significant environmental aspects and impacts register provides the basis for:

- 18.1 Setting objectives and targets and establish internal performance indicators (PIs) designed to measure and control environmental aspects.
- 18.2 Establishing a management programme to support the EMS objectives.
- 18.3 Reviewing and monitoring improvements.
- 18.4 Revalidating the site's O&A statement.
- 18.5 It may also be used to help identify which aspects are relevant to a MACR scenario and therefore require a more detailed evaluation in accordance with JSP 498.

19 The sites environmental aspects and impacts register is reviewed periodically to ensure that it is still relevant and appropriate. Records of superseded or amended environmental aspects are maintained.

ASSESSING ENVIRONMENTAL SIGNIFICANCE

20 This process is a simple risk assessment. It describes how to identify and evaluate environmental significance for each of the site's aspects. It is intended to determine the site's compliance with environmental law, MOD policy and instructions and good management practices. The method is semi-quantitative and takes account of the local and global environmental impacts. This process has five stages:

- 20.1 Identification of activities.
- 20.2 Identification of aspects.
- 20.3 Assessment of significance.
- 20.4 Evaluation of priority.
- 20.5 Documentation, management and review.

21 Identifying environmental activities - The site will have identified all the activities that occur or arise within the scope of the EMS and captured each activity on the aspects and impacts register

22 Identifying environmental aspects - 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".

- 22.1 Normal operation; Aspects generated by activities that take place during day-to-day operation.
- 22.2 Abnormal operation; Additional or more significant environmental aspects may occur under certain circumstances, for example closure of a boiler house while maintenance work is carried out.
- 22.3 Accident or emergency; Scenarios associated with credible incidents not otherwise covered in the normal or planned routines will also add to the number and nature of potential aspects. Examples may include the aspects of flood, storm, spillage, explosion and malicious damage or the containment of fire fighting runoff water in the event of a fire.

23 Initially significance will be determined using the decision tree at Figure 2. Wherever insufficient information is available the aspect will be recorded as significant.

IS THERE A PATHWAY FOR THE ASPECT TO REACH A RECEPTOR IN THE LOCAL ENVIRONMENT?	YES →	SIGNIFICANT: EVALUATE PRIORITY
▼		
IS THE ASPECT SUBJECT TO MOD ENVIRONMENTAL POLICY, POLLUTION PREVENTION GUIDANCE OR BEST PRACTICE?	YES →	
▼		
IS THE ASPECT CONTROLLED BY LEGISLATION, CONSENT AUTHORISATION, LICENCE OR, IMPENDING LEGISLATION?	YES →	
▼		
IS LEGISLATION, CONSENT, AUTHORISATION OR LICENSE BEING BREACHED OR IS POLLUTION OCCURRING?	YES →	
▼		
COULD FINANCIAL LIABILITY BE INCURRED FROM THE ENVIRONMENTAL IMPACT OF THIS ASPECT?	YES →	
▼		
COULD AN INCIDENT INVOLVING THE ASPECT LEAD TO COMPLAINTS FROM LOCAL RESIDENTS, OR PUBLIC CONCERN?	YES →	
▼		
CAN MITIGATION OR CONTROL MEASURES BE IMPROVED?	YES →	
▼		
DOES STAFF REQUIRE FURTHER TRAINING TO OPERATE/MANAGE THE ASPECT ADEQUATELY?	YES →	
▼		
NO FURTHER ACTION REQUIRED UNTIL NEXT REVIEW	YES →	

FIGURE 2 IDENTIFICATION OF SIGNIFICANCE

ENVIRONMENTAL RISK ASSESSMENT

24 All MACR qualified establishments will have an Environmental Risk Assessment (ERA) carried out in accordance with JSP 498 Chapter 3 and 7.

ENVIRONMENTAL COMMITTEE

25 To implement a corporate MOD EMS, sites will have formed an environmental committee or action group, where appropriate, such a group may combine SHE responsibilities. The committee/group may comprise the following representative(s) of the relevant processes within the EMS as appropriate:

- 25.1 Senior management.
- 25.2 CO/HOE
- 25.3 EMS management representative.
- 25.4 Environmental Adviser.
- 25.5 Health and Safety Advisor.
- 25.6 Fire Officer.
- 25.7 HLB/TLB environmental protection focal point adviser as available and if appropriate.
- 25.8 Waste Manager.
- 25.9 Pollution Control Officer.
- 25.10 Conservation Officer.
- 25.11 RPC Contractor representatives on sites.
- 25.12 Representatives of main functional areas of the site.
- 25.13 Energy Manager.
- 25.14 Budget Manager.
- 25.15 SETL

EMERGENCY PREPAREDNESS AND RESPONSE

26 ISO 14001 requires a site to establish and maintain procedures to identify the potential for and respond to accidents and emergency situations, and for preventing or mitigating environmental impacts associated with them. Potential environmental incidents and abnormal operating conditions that could arise as a result of the sites activities will have been considered in producing the significant environmental aspects register. Plans and documented procedures are then established to ensure an appropriate response to such eventualities. This includes:

- 26.1 Emergency management procedures that assigns responsibilities and lists key personnel.
- 26.2 Availability of emergency services or contractors for clean ups etc.
- 26.3 Procedures for communicating both internally within the site and externally to such parties as the Regulators, the public and the media.

- 26.4 Potential environmental aspects that could have consequences beyond site boundaries.
- 26.5 Hazard information such as safety data sheets and COSHH assessments.
- 26.6 Training, monitoring and drills.
- 26.7 Procedures for controlling incidents and undertaking remediation work.
- 26.8 Internal and external responsibilities for the follow-up investigation and remediation.

27 Site Incident Response Plans are updated to include relevant environmental data and instructions. Examples of environmental operational controls include procedures dealing with spills (USRP) and Major Accident Control Regulations (MACR) safety plans.

28 Where MOD activities lead to environmental emergency incidents beyond the boundaries of the MOD estate, the civilian authorities will assume direct control. The MOD will direct or control operations only where safety or security concerns take precedence, for example to cordon off and make safe damaged munitions. The MOD role in such situations is to support the civilian emergency services with information and to provide direct assistance where requested.

POLLUTION LEGISLATION

29 Where required by legislation it is MOD policy to obtain permits, authorisations and licences and to fully comply with the terms and conditions of the permit, authorisation or licence at all times. Potential pollution risks shall be identified and appropriate management procedures, put in place to effectively minimise risk. Information on potential pollution risks and appropriate management procedures will come from a range of different sources including: permits, authorisations and licenses, environmental management systems (EMS) and sustainability appraisals and environmental assessments. The establishment EMS is used to monitor management of significant pollution risks.

POLLUTION CONTROL

30 In order to discharge their duties with regard to pollution control the Commanding Officer/Head of Establishment will:-

- 30.1 Ensure that a pollution risk assessment has been carried for all activities carried out on their site.
- 30.2 Ensure that appropriate management systems are in place to minimise pollution risks and emergency measures/procedures are in place to reduce significant risk associated with activities carried out on their site
- 30.3 Ensure that where required Environmental Permits/authorisations/licences are obtained and that the conditions are complied with.

- 30.4 Ensure that where required personnel are appropriately trained and competent and full aware of their specific role and responsibility.
- 30.5 Where significant pollution risks have been identified appoint an Environmental Protection Officer (EPO) and/or Safety, Health Environment and Fire (SHEF) Advisor to advise on management procedures and report back on effectiveness of the measures.

31 In the event of a pollution incident, or breach of consent, it is possible for an individual, CO/HoE to be held liable under criminal and/or civil law if it is deemed that he/she has acted negligently in carrying out their duties. The CO/HoE should ensure that interfaces and contractual arrangements between all parties working on their sites are co-ordinated to minimise pollution risks.

32 Environmental Protection Officers (EPOs) and/or Safety, Health Environment and Fire (SHEF) Advisors or equivalents should:

- 32.1 Ensure that potential environmental pollution risks are identified, usually as part of the site's Environmental Management System, and appropriate processes and procedures have been put in place to minimise risks.
- 32.2 Where required ensure a unit spillage response plan is in place (usually as part of the site EMS) and ensure monitoring and reporting procedures are in place.
- 32.3 Where required ensure Environmental Permits, authorisations and licences are obtained on behalf of the CO/HoE, and ensure that permits/authorisations/licences have not expired and that the conditions are complied with.

MAJOR ACCIDENT CONTROL REGULATIONS (MACR) AND DANGEROUS SUBSTANCES AND EXPLOSIVE ATMOSPHERES REGULATIONS (DSEAR)

33 For units/establishments where MACR (JSP 498) or DSEAR (JSP 375, leaflet 56) applies, more stringent arrangements will be required and appropriate JSPs should be referred to. The ERA is carried out by a competent person/team using either MOD personnel or a consultant.

ASSURANCE

34 It is a requirement of ISO 14001 (4.5.5) that "the organisation should establish an audit programme to direct the planning and conduct of audits and to identify the audits needed to meet the programme objectives. ISO 14001 does not require each audit to cover the whole system, so long as the programme ensures the whole system is audited periodically.

35 The environmental element of SHEF audits, in accordance with the MOD SHEF Audit Manual satisfies the auditing requirement of ISO 14001. The frequency and scope of the self-assessments will be documented in the EMS procedures and the whole system should be examined on a periodic cycle.

36 Audits ensure that:

- 36.1 Environmental aspects associated with organisation's activities are effectively controlled, managed and, where practicable, minimised.
- 36.2 The management of significant environmental aspects by sites is consistent with MOD EMS procedures and MOD SHE policy.
- 36.3 The organisation complies with legislation and can demonstrate continual improvement in performance.

37 Self-assessment evaluation encourages conformity with MOD policy and external regulations and standards and may reveal further opportunities to improve.

38 The establishment will have a self-assessment programme to:

- 38.1 Undertake periodic review of all significant environmental aspects. To ensure that the significance priority remains appropriate and that the information contained on the significant environmental aspects register remains current.
- 38.2 Undertake periodic reviews of each area of the site to ensure that no new significant environmental aspects have arisen.
- 38.3 Check that documented procedures and other operational and management controls are being applied effectively.
- 38.4 Check monitoring data against objectives and targets, consent limits, permits, authorisation and licence conditions where appropriate.
- 38.5 Identify continual improvement and better practices.
- 38.6 Help identify training needs amongst its employees.
- 38.7 Review the causes of environmental incidents such as spills and compliance failures and ensure that any lessons are applied across the site and the organisation as a whole.
- 38.8 Identify and communicate any major environmental priorities to senior management and to the MOD environmental focal point structure.
- 38.9 In liaison with the appropriate contract monitoring office, assess the activities of contractors to ensure that they do not put the organisation at risk of non-compliance or in breach of consents, permits, authorisations or licences.

NON CONFORMANCE; CORRECTIVE AND PREVENTATIVE ACTION

39 The results arising from any audit, self-assessment, or from any other review, incident or activity within the EMS are recorded and corrective and preventive action plans produced. Corrective action should address management concerns by:

- 39.1 Defining responsibility and authority for investigation.
- 39.2 Establishing procedures for recording non-compliance.
- 39.3 Identifying corrective and preventive actions.
- 39.4 Assigning responsibility for implementation.
- 39.5 Review.

MANAGEMENT REVIEW

40 Sites are required continually to review their EMS and to make any changes that might be necessary or beneficial. Senior management should evaluate the system for continuing suitability, adequacy and effectiveness. The review should be undertaken at intervals determined by local management (according to need but typically annually). It should address business change and the potential impact of forthcoming regulations and other requirements.

41 Management Review reflects an ongoing commitment to improve the system and the attainment of continual improvement in environmental performance. The management review culminates as a formal meeting requiring preparation of data and reports collated by the site's "management representative" or environmental adviser. The Review verifies that:

- 41.1 Audit and other recommendations have been implemented;
- 41.2 A review of the site's policy or O&A statement, has been carried out taking account of new or growing concerns, increased knowledge of EMS, legislative developments, stakeholder concerns, changes in the business and operating environment.
- 41.3 There is an audit trail from aspects to objectives and procedures and this is reflected in the policy.
- 41.4 Environmental management programmes remain effective and on time.
- 41.5 EMS documentation and records are adequate and complete.
- 41.6 The overall environmental performance is acceptable and the environmental management benefits are proportional to the effort and other priorities.
- 41.7 That the EMS meets the site's (business) needs.

42 The review meeting documents the findings, conclusions and recommendations made available to the personnel responsible for corrective or follow up action, to identify areas to develop and improve to support the overall aim of continuous improvement.

43 This ensures that all hazards at the establishment have been identified and the risks posed evaluated and formally recorded.

44 Establishment's internal inspection regime will then be audited by their TLBH CESO.

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APPENDIX 6A4

SYNOPSIS ON CONTROL OF CONTRACTORS

Para	
1	Introduction
4	Aims
6	Responsibilities
7	Operating Procedures
10	Permit To Work
14	Competency and Training
17	Emergency Response Arrangements
18	Audit and Inspection

INTRODUCTION

1 MOD establishments are required to implement measures to enable adequate control over the activities of contractors and other visiting workers, including MOD and MOD Agency employees. The principles to be followed are laid down in JSP 375 Volume 2 Leaflet 34 (The Management of Contractors and Other Visiting Workers within MOD), which is based upon BS: 8800 – Guide to Occupational Health & Safety Management Systems.

2 These Regulations apply to contractors, and their personnel, operating on the MOD estate. They also apply to MOD employees who are visiting an establishment to undertake work.

3 Outside of the UK, the standards specified in the JSP are applied unless the host nation requires a higher standard in which case that standard must be applied.

AIMS

4 The requirement under JSP 375 Volume 2 Leaflet 34 is to have an effective MOD management system that will enable co-ordination, co-operation, communication and control in its dealings with contractors and other visiting workers, to ensure hazards are controlled and risks reduced. The system (commonly known as 4 C's) is to ensure that the MOD:

- 4.1 Co-ordinates the MOD, contractors and visiting workers activities.
- 4.2 Co-operates with implementing control measures.
- 4.3 Communicates the hazards and control measures MOD have identified to reduce risk from respective or combined hazards.
- 4.4 Controls, by monitoring, work activities and procedures.

5 The MOD should also ensure that:

- 5.1 It has a management organisation in place that enables the contractor and visiting workers to achieve co-ordination, co-operation and communication with respect to their own activities.

5.2 It has a system in place which selects contractors who are competent, to comply with all the Health and Safety (H&S) aspects of their work activities.

5.3 Contract documentation clearly identifies the MOD and contractors duties for controlling H&S risks.

5.4 Only trained and competent staff undertake duties to meet this policy.

RESPONSIBILITIES

6 Heads of Establishments/Commanding Officer's (HoE/CO's) have overall responsibility for the safe operation of their establishment. They are also responsible for appointing a competent person to act on their behalf to ensure that an effective system is in place to manage the activities of contractors and visiting workers. This individual is known as the 4C's Duty Holder.

The 4C's Duty Holder;

6.1 Agrees with Line Managers the appointment of nominated individuals to undertake 4C's duties in each area of the establishment – an Area Custodian.

6.2 Agrees the locations or tasks where documented approval to start work is required (a Permit to Work).

6.3 Trains or arranges training for the Area Custodians and assists them in their roles.

6.4 Monitors compliance with the 4C's system and advises the HOE as appropriate.

6.5 Will implement and hold an Establishment Hazard Register by combining all the Area Hazard Registers.

Area Custodian's will;

6.6 Compile a master Hazard Register for their area and keep it under review.

6.7 Agree with the 4C's Duty Holder the level of information and any necessary training to be passed to contractors / visiting workers.

6.8 Supply copies of the Hazard Register to contractors / visiting workers to assist them in compiling their co-ordinated risk assessments.

6.9 In certain high risk situations agree, with the relevant Line Manager that the contractor / visiting worker can commence work (normally via a Permit to Work).

Contractors / visiting workers will;

6.10 Ensure they have considered the hazards resulting from their activities in relation to the hazards in the area of the work.

6.11 Produce a risk assessment / method of work statement.

6.12 Implement controls to reduce risk as necessary and communicated these to MOD local management.

6.13 Attend briefing sessions to ensure that they are aware of the MOD/other control measures in place for the area.

6.14 When establishment procedures indicate, obtain permission to commence work.

OPERATING PROCEDURES

7 JSP 375 Volume 2 leaflet 34 provides detailed operating procedures to ensure common standards and safe systems of work across the MOD. These procedures may be supplemented by establishment specific procedures to take into account local conditions and requirements. Establishment specific procedures are referenced in the Establishment MACR Safety Report.

8 The establishment is to be divided up into manageable areas. Each area has a nominated Area Custodian, who is a focal point for sharing H&S information. Each area will have its own Area Hazard Register which will list the significant hazards for the area both process and infrastructure, and with clear indication of the control measures to be implemented. The information required can be obtained from the risk assessments carried out by the Line Managers of the area concerned. The register will cover the following points:

8.1 Fixed Hazards. The details of the hazards associated with the structure or infrastructure will be inserted on the register by the organisation or individuals responsible for holding the relevant records or information.

8.2 Operational Hazards. The operational hazards will be added by the Area Custodian.

8.3 Information on Location of Risk Assessments. Supplementary information such as location of existing risk assessments and requirements for the operation of the permits to work system should also be included.

8.4 Transient or Occasional Visiting Workers. The Area Hazard Register contains a list of transient or occasional visiting workers to the area and indicates the nature of the induction or briefing required.

9 The Area Custodian is responsible for updating the Area Hazard Register whenever he is aware of any change of information, such as a new hazard being introduced. The register should be subject to a formal review every 12 months. Establishment internal audit systems should include a verification check that the register has been reviewed.

PERMIT TO WORK

10 Any high risk activities (as defined in BS 8800) are to be subject to special controls and permits to work. The Area Custodian will authorize commencement of work in writing. The permit will detail any control measures identified as a result of the activity risk assessment. The Area Custodian will monitor compliance with the permit by visiting the work area. The permit will need to cover:

10.1 Competence of the contractor.

- 10.2 Availability and acceptability of the establishment specific risk assessment.
 - 10.3 That a technical briefing has been given to the contractor.
 - 10.4 Written evidence (signature) that the Area Hazard Register has been sighted by the contractor or visiting worker.
 - 10.5 Local briefing given by Area Custodian.
 - 10.6 Hazards brought in by the contractor or visiting worker are acceptable and have been advised to all concerned.
- 11 When properly implemented the permit to work system should ensure that any work activity undertaken by contractors or visiting workers does not commence until the potential hazards associated with the work have been evaluated. In particular this ensures that any interaction between MOD activities and those of the contractor have been reviewed and controlled as necessary.
- 12 This is a two way process and the control measures may impact on the activity of the MOD, the contractors or both. The "As Low As Reasonably Practicable" (ALARP) principles must always be utilised and concurrent working by MOD and the contractor will not normally be acceptable. The authority to proceed will be provided in writing and cover all the control measures considered necessary.
- 13 This permit will be signed by both the MOD representative and the contractor or visiting worker, thus ensuring full knowledge of the activities to be undertaken and the safety measures to be expected. The use of the permit will be further verified by spot checks carried out by the Area Custodian which provides assurance that the conditions of the permit are being followed.

COMPETENCY AND TRAINING

- 14 The 4C's Duty Holder should attend a 4C's training seminar which covers the following points;
- 14.1 Legal background (particularly for shared workplaces – Management Of Health & Safety at Work Act, regulations 8,9,10,11 and 12)
 - 14.2 Establishing suitable Hazardous Area's.
 - 14.3 Appointment of Area Custodian's.
 - 14.4 Transient/occasional visiting workers.
 - 14.5 Hazard Registers.
 - 14.6 Contractual Issues.
 - 14.7 Works and project documentation.
 - 14.8 Monitoring and audit.
- 15 Where an assistant 4C's Duty Holder is appointed they are to be trained to the same standard as the Duty Holder.

16 Area Custodians do not require formal training in their role as an Area Custodian. However the individual needs to have sufficient experience to be able to liaise effectively between the various bodies involved, including Line Managers, contractors and visiting workers and should be chosen with that in mind. The role is primarily one of facilitating the exchange of information, communicating, and co-ordinating. Area Custodians will also have a degree of control in shared workplaces. The level of competence will depend on aspects such as;

- 16.1 The extent of hazards and risks in an area.
- 16.2 The size and complexity of the area.
- 16.3 Current arrangements for health and safety.

EMERGENCY RESPONSE ARRANGEMENTS

17 Establishment's will have developed their own emergency response plan's, taking into account local conditions and resources.

These emergency response plans should take into account all the potential hazards identified within each area.

AUDIT AND INSPECTION

18 The following audits and inspections contribute to ensuring confidence in the measures to prevent and/or mitigate accidents:

- 18.1 Spot checks carried out by the Area Custodian.
- 18.2 Independent checks of the permit to work procedures carried out by the establishments internal audit system in accordance with JSP 375 and local instructions.
- 18.3 Safety Health Environment and Fire (SHEF) Audits on Establishments - as detailed in Annex 6A1 - *Synopsis on Performance Monitoring of Safety Management System*
- 18.4 Compliance checks carried out by the MACR Competent Authority Support Group.

19 The results of audits and inspections are reported to Heads of Establishments and MOD Regulators. Reports and recommendations are reviewed by appropriate MOD managers and remedial or improvement actions taken as appropriate.

20 This system ensures that standards are subject to a continuous improvement process, regulations and procedures are maintained up to date and that the risk of an accident is acceptable and kept as low as reasonably practicable. The above are elements of the feedback loop of the MOD Safety Management System which follows the principles of HS(G) 65.

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APPENDIX 6A5 SYNOPSIS ON MOD FIRE SAFETY POLICY

Para

- 1 Introduction
- 4 Source Documentation
- 5 Responsibilities and Organisation
- 8 Assurance

INTRODUCTION

- 1 Fire can injure or kill people, damage assets (which in the MOD are not insured) and thereby affect operational capabilities, cause financial loss and possibly harm the environment. Legal requirements as well as responsibilities under duty of care demand that all personnel at MOD establishments, both those working there and visitors, be appropriately protected from fire.
- 2 It is also vital that assets, especially those which cannot be replaced swiftly and are vital to operational capabilities, are suitably protected from fire and that the potential for fire to harm the environment is minimised. The means of achieving these objectives are embraced by the term fire safety, which encompasses all the component precautions and activities that contribute towards the provision of the necessary protection.
- 3 The MOD Fire Safety Policy meets the requirements of the legislation given in paragraph 4 and sets out the principles of fire safety to be followed by all establishments throughout MOD and the guidelines for their application.

SOURCE DOCUMENTATION

- 4 The following documents were used when compiling this synopsis:
 - 4.1 JSP 426 - MOD Fire Safety Policy.
 - 4.2 Regulatory Reform (Fire Safety) Order 2005
 - 4.3 Fire Safety (Scotland) Regulations 2006
 - 4.4 Health & Safety at Work etc. Act 1974.
 - 4.5 Crown Fire Standards.

RESPONSIBILITIES AND ORGANISATION

- 5 Heads of Establishments are responsible for the efficient management of fire safety in their establishments in accordance with MOD Fire Safety Policy and are to ensure that an effective fire safety organisation is in place to protect lives and assets appropriately. The shape and size of that organisation will depend upon the nature of the establishment, which might range from a large facility with many buildings, processes and personnel through to a single building.

- 6 Each establishment is to have an appropriately trained fire officer with responsibility for oversight of and advice to management on the day-to-day upkeep of fire safety measures throughout the establishment, covering in particular:
 - 6.1 The correct functioning of the establishment fire safety organisation.
 - 6.2 The production and maintenance of establishment fire orders.
 - 6.3 Contingency planning.
 - 6.4 The education and training of staff in fire safety matters including evacuation instructions and drills.
 - 6.5 The periodic testing of emergency procedures.
 - 6.6 Liaison with the local civil fire service, other emergency agencies and nearby military establishments for emergency planning or training support purposes as required.
 - 6.7 The maintenance and testing of alarm systems, fire suppression systems and first aid fire fighting equipment and the maintenance of fire signs.
 - 6.8 Advising the establishment safety committee on fire safety matters.
 - 6.9 Liaising closely with Defence Fire Risk Management Organisation (DFRMO) to ensure that correct procedures are being followed and the right standards maintained.
 - 6.10 The monitoring of Fire Safety Management Planning procedures and Fire Safety Risk Assessments.
- 7 DFRMO are responsible for undertaking a Fire Risk Assessment on behalf of the Responsible Person (the HOE/CO) in accordance with JSP 426 Volume 2 Leaflet 4.

ASSURANCE

- 8 These regulations are based upon UK Legislation and have been developed by DFRMO who are the MOD Fire Enforcement Authority under the Regulatory Reform (Fire Safety) Order 2005/Fire Safety (Scotland) Regulations 2006.
- 9 Establishments complying with these regulations will therefore:
 - 9.1 Provide the organisation necessary to formulate fire safety policy.
 - 9.2 Provide suitable organisations, equipment and trained personnel to manage fire safety adequately.
 - 9.3 Ensure that new buildings and refurbishments are constructed in accordance with current Building Regulations, relevant British Standards and Crown Fire Standards.
 - 9.4 Ensure that appropriate measures are taken to protect personnel from the risk of fire.

- 9.5 Take appropriate measures to protect MOD assets from the risk of fire.
- 9.6 Provide audit structures to gauge the efficiency and effectiveness of all aspects of fire safety management.

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APPENDIX 6A6

SYNOPSIS ON DEFENCE SECURITY

Para

- 1 Source Documentation
- 2 Introduction
- 3 Threats to Security
- 4 Assessment
- 5 Assurance

SOURCE DOCUMENTATION

1 The following document was used when compiling this synopsis:

- 1.1 JSP 440 – The Defence Manual of Security.

INTRODUCTION

2 The Defence Manual of Security sets out the principles of security to be followed by all establishments throughout the MOD and provides guidelines and instructions for their application. This includes establishment and individual security.

THREATS TO SECURITY

3 The MOD security policy is based upon defeat of the following threats:

- 3.1 Espionage. Attempts to acquire information covertly or illegally in order to assist a foreign power.
- 3.2 Sabotage. An act falling short of a military operation, or an omission, intended to cause physical damage in order to assist a hostile foreign power or to further a subversive political aim.
- 3.3 Subversion. Action designed to weaken the military, economic or political strength of a nation by undermining the morale, loyalty or reliability of its citizens.
- 3.4 Terrorism. The unlawful use or threatened use of force or violence against individuals or property in an attempt to coerce or intimidate governments or societies to achieve political, religious or ideological objectives.
- 3.5 Non Traditional Threats. Threats to assets from a variety of sources such as investigative journalists, pressure groups, investigation agencies, criminal elements, disaffected staff, dishonest staff and computer hackers.

ASSESSMENT

4 Each establishment will have conducted a Security Risk Assessment utilising the principles within JSP 440. That assessment will then dictate the security elements that are required in order to counter the perceived threat. The security elements are detailed in JSP 440 Volume 1 and represent the professional views of the MOD security specialists.

ASSURANCE

5 The risk assessment process provides a structured methodology that will identify any significant security risk and thus enable it to be addressed. Each establishment has been allocated a security category (Categories A1, A2, B1, B2, D1 or D2), which is dependent upon its sensitivity. All Major Accident Control Regulations qualified establishments are in Categories A1, A2, B1.

6 Formal inspection of the security arrangements is carried out by the relevant single Service security organisation in accordance with JSP 440 Volume 1 Chapter 2 Annex A. This independent review of the security arrangements ensures that standards are being met and any areas for improvement are highlighted.

7 The establishment is required to generate Security Orders relevant to their particular circumstances and following the generic headings within JSP 440 Volume 1. This acts as a template to ensure all the security elements are fully covered.

8 Security awareness training is mandatory for all staff. Whereas more specialist training is provided to those people who have particular responsibilities to discharge within the security organisation.

APPENDIX 6A7

SYNOPSIS ON CONSTRUCTION AND MAINTENANCE

Para	
1	Introduction
5	Aims
7	Responsibilities
9	Regional Prime Contracting
18	Performance Measurement
20	Competence and Training
22	Audit and Inspection

INTRODUCTION

1 Defence Infrastructure Organisation (DIO) is responsible for the delivery of expert property, construction and estate management across the very diverse Estate.

2 The principle MOD regulations governing both the construction and maintenance of MOD buildings are contained in;

2.1 Practitioner Guides (PG).

2.2 JSP 375 Volume 3 - The MOD Health and Safety Handbook safety rules and procedures (SRP).

2.3 JSP 434 – Defence Construction in the Built Environment

2.4 JSP 435 – Defence Estate Management.

3 These detailed instructions help ensure MOD meets the appropriate civil building regulations. Principally;

3.1 Building Regulations 2010

3.2 Building Regulations Approved Documents.

4 More detailed guidance is provided in a range of supporting DWS specifications which are called up by the principle regulations shown above.

AIMS

5 DIO exists to ensure that the MOD manages its estate efficiently and cost effectively to support the delivery of defence capability.

6 The majority of works services is provided by a Regional Prime Contract system.

RESPONSIBILITIES

Defence Infrastructure Organisation

7 The DIO provides a single focus for management of the Defence Estate (land and buildings). Within DIO the Director General Operations has overall accountability for managing, with the Services, the maintenance and improvement of MOD land and property throughout the world. These tasks can be broken down into three main outputs:

7.1 Estate Management: Working with the Services to identify priorities for estate maintenance and delivering an estate that is fit for purpose to meet operational needs.

7.2 Projects: Delivering new or improved estate capability, ranging from new warship berthing platforms to office accommodation and new workshops. The three main procurement routes are Regional Prime Contracting, Standalone Prime Contracting and Public Private Partnerships. The choice largely depends on the value and complexity of the project.

7.3 Land Management Services: Delivering, on behalf of the department, MOD land and property disposals, capital valuations, ratings, hirings and lettings.

8 These outputs are delivered through three Regional Directorates – each supported by highly skilled staff - including estate, construction, and military specialists, together with finance, commercial and business managers:

8.1 Operations NORTH comprises Scotland and Northern Ireland, Central and Eastern England,

8.2 Operations SOUTH comprises South West and South East England, and UK Training Estate,

8.3 Operations INTERNATIONAL comprises overseas theatres, Europe and United States Forces.

REGIONAL PRIME CONTRACTING

9 To fulfil its objectives the MOD is seeking to involve industry in a much broader and collaborative way through the Public Private Partnership initiatives, 'SMART Construction', and by applying the principles of Prime Contracting.

10 Factors taken into account when selecting a Prime Contractor include

10.1 project management capability,

10.2 technical competence,

10.3 financial standing

10.4 supply chain arrangements,

10.5 safety record

11 A Prime Contract incorporates certain fundamental principles such as whole service procurement; economies of scale and collaborative working –

both parties (MOD and the Prime Contractor) must have a common interest and willingness to co-operate in order to achieve mutual goals to the highest degree.

12 Other key features include:

- 12.1 Involvement by all parties in the Prime Contract at the front end of the design process
- 12.2 A functional output-based specification rather than the traditional input-based specification
- 12.3 Fitness for purpose
- 12.4 Supply chain management and prompt payment of suppliers
- 12.5 Incentivised pricing arrangement
- 12.6 Open book accounting
- 12.7 Payment milestones based on achievable and measurable output
- 12.8 Validation of through-life costs and associated compliance period to support predictions
- 12.9 Clear allocation of risk
- 12.10 Fraud prevention and detection
- 12.11 Disputes review board

13 All the above points are inherent in a Prime Contract and distinguish it from traditional construction and maintenance contracts. Prime Contracting is the first occasion where the MOD has brought them together in an integrated procurement strategy for estate services. To maximise the benefits of collaborative working, deliver effective project management and achieve continuous education and improvement, the MOD and the Prime Contractor form a Project Team (PT). The MOD element of the PT will consist of a full-time core team, which incorporates the Project Manager now called the Project Team Leader and representatives of the customers.

14 Regional Prime Contracts (RPC) are those contracts which are primarily estate services based, e.g. grass cutting, grounds maintenance, building, decoration, building maintenance etc. That is not to say that the Regional Prime Contracts will not include works projects of either a minor nature such as extensions to facilities or new builds such as new technical facilities. There are five Regional Prime Contracts within Great Britain (excluding Northern Ireland).

15 These are geographically based and take into account such factors as the deployment of services and estate. Regional Prime Contracts will generally have a high content of Core Services (Planned Maintenance, Grounds Maintenance, Waste Disposal) and Core Works, which are those Capital projects (see below) which are included in the contract at the outset or injected at some later stage.

16 On the MOD estate generally each Regional Prime Contract has typically replaced between 10 and 20 other separate directly procured contracts which deliver the same level of services. This considerably reduces the number of contract interfaces and the management overheads associated with them.

17 The service required will specify the MOD information such as,

- 17.1 MOD mandatory standards e.g. measures related to security or specialist material handling
- 17.2 MOD guidance e.g. related to MOD equipment or operational requirements where these are different to industry standards e.g. where equipment uses unique voltages/frequencies or has unique risks
- 17.3 Functional Data Sheets which identify the function of facilities or parts thereof. This may be as simple as identifying offices or more complex in the case of technical facilities
- 17.4 Performance Standards – this is the standard required.
- 17.5 Priority – allows the MOD to tell the RPC how important the particular service is. This allows all parties to recognise the priorities for addressing work and for assigning the rectification periods
- 17.6 Rectification Periods – identify the maximum time to rectify a fault.

PERFORMANCE MEASUREMENT

18 The performance measurement system proposed by DIO for Prime Contracting involves three key components:

- 18.1 A Key Performance Indicator structure
- 18.2 A linkage to continuous improvement through the output specification and the pricing regime
- 18.3 Benchmark data to be used for decision making and cost comparison purposes

19 Performance measurement indicators might include for example:

- 19.1 Capital Works
 - (a) Milestone achievement
 - (b) Completion on time
 - (c) Time benefits from Value Engineering
- 19.2 Pre-planned maintenance
 - (a) Statutory inspections completed
 - (b) Monthly reports submitted on time
 - (c) Improvement in time aspects of performance

COMPETENCE AND TRAINING

20 In order to operate effectively the Regional Prime Contract staff are required to be competent. Their competence levels must conform to DIO requirements and are monitored as part of the contract.

21 JSP 375 Volume 3 also provides guidance on the minimum competency levels required from all persons working on the buildings and infrastructure as do the individual prime contracts. Where feasible these competencies are aligned at industrial standards, e.g. competency levels for Authorised Persons in accordance with the Electricity Act 1989.

AUDIT AND INSPECTION

Construction

22 A number of reports are produced routinely at the end of each project to assess the performance of contractors, the achievement of the stated objectives and the suitability of the end product. These reports are submitted to DIO to facilitate post project evaluation and include the Contractor Performance Report, the Project Managers Performance Report, Sponsor Completion Report and the Occupancy Review. On a selective basis DIO undertake technical audits on newly completed buildings. These audits collectively:

- 22.1 Measure achievements against objectives in terms of time, cost and quality.
- 22.2 Identify matters not addressed in the planning phase.
- 22.3 Identify problems and remedial action to improve future contracts.
- 22.4 Compare budget estimates against actual cost.
- 22.5 Evaluate the effectiveness of the risk management regime.
- 22.6 Assess the effectiveness of participants, communication, systems and interfaces.
- 22.7 Confirm the adequacy of resources.
- 22.8 Make recommendations for improvement.
- 22.9 Confirm that the end product meets the requirement.

Maintenance

23 The first level of inspection is provided by the professional oversight of his contractors by the prime contractor. An independent level of oversight is provided by a contract audit undertaken by DIO. The DIO audit verifies that;

- 23.1 Contracts and relevant specifications are adhered to.
- 23.2 Best practice is being used.
- 23.3 Problem areas are being investigated effectively.

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APPENDIX 6A8

SYNOPSIS ON MOD EXPLOSIVES REGULATIONS

Para

- 1 Source Documentation
- 2 Introduction
- 3 Legislation
- 4 Responsibility
- 5 Delegations
- 8 Competence
- 9 Licensing
- 13 Design
- 15 Infrastructure
- 17 Emergency Response
- 20 Assurance

SOURCE DOCUMENTATION

- 1 The following documents have been used when compiling this synopsis:
 - 1.1 Manufacture & Storage of Explosives Regulations 2005.
 - 1.2 JSP 482 – MOD Explosives Regulations.
 - 1.3 JSP 800 Volume 4b – Transport of Dangerous Goods by Road, Rail and Sea.
 - 1.4 JSP 800 Volume 5 – Dangerous Air Cargo Regulations.
 - 1.5 JSP 520 - UK MOD's Ordnance, Munitions and Explosives Safety and Environmental Management for the Equipment Acquisition Cycle

INTRODUCTION

2 MOD Explosives Regulations are based on UK Legislation and have been developed by specialist advisors who are independent of the Chain of Command. The regulations governing the control of explosives within MOD are contained in the documents in paragraph 1.

LEGISLATION

3 Regulation 3(5) of The Manufacture & Storage of Explosives Regulations 2005 recognises the MOD's explosives licensing regime and disapples the separation distance requirements under regulation 5 and the licensing requirements of regulations 9 to 21 from sites under the permanent or temporary control of the Ministry of Defence (MOD) operating under a licensing scheme established by the Secretary of State for Defence. MOD is required to comply with all other parts of the legislation.

RESPONSIBILITY

4 MOD is responsible for ensuring that its explosives are manufactured, classified, packaged, tested, stored, maintained, transported and disposed of with the minimum practicable risk to life, property and the environment.

DELEGATIONS

5 S of S discharges this responsibility through the Permanent Under Secretary (PUS) who in turn delegates responsibilities to Chief Inspector of Explosives (CIE) (MOD) via the Director Defence Safety & Environment Authority (D DSEA). The principle instrument for discharging these responsibilities is the Explosives Storage and Transport Committee (ESTC).

6 Additionally the D DSEA is tasked to establish MOD standards for safety & environment and to monitor compliance with the S of S requirements, providing independent assurance that these requirements are being met. This gives him responsibility for policy and standard setting and, where appropriate, regulation. He in turn delegates the responsibility for standard setting and for monitoring compliance to CIE (MOD).

7 The requirement for applying the standards and regulations is delegated through Senior Duty Holders to the Inspectors of Explosives (IE) for the three Services and DE&S. They issue standard licences for the explosives establishments in their areas of responsibility and ensure compliance through an inspection regime.

COMPETENCE

8 All individuals with significant OME safety management responsibilities and/or those claiming to be suitably qualified and experienced (e.g. safety managers/ focal points, OME Safety Advisors, Independent Safety Auditor (ISAs), SMEs and contracted staff), shall be assessed against the appropriate National Occupational Standards (NOS) for Explosives Substances and Articles (ESA). All staff working with explosives are required to be competent.

LICENSING

9 In the event of an explosives accident in storage or processing there is a hazard to MOD and civilian personnel and property. To minimise the risk, buildings containing munitions are sited at prescribed distances from each other, and from other buildings and installations inside and outside the explosives area. These distances are known as Quantity Distances (QDs) and they limit the permissible Net Explosive Quantity (NEQ) for each Hazard Division (HD) or combination of HDs that may be stored or processed in a building or site.

10 Any building or site that contains, or is intended to contain, munitions is considered to be a Potential Explosion Site (PES) and must be licensed. Any building, structure, facility or place of assembly that is hazarded by a PES is considered to be an Exposed Site (ES). All PESs are licensed by IEs or CIE if a non standard licence is required and inspected on a regular basis.

11 The QD criteria are set to deliver safe separation distances in all practical situations. If QD criteria cannot be met then the IE must seek additional information about specific risks involved in that particular situation. This is achieved by use of either a Technical Assessment (TA) or a Quantitative Risk Assessment (QRA). The results may then permit the IE to license the PES under controlled conditions. In all conditions the IE must be satisfied that the risk is at least tolerable and As Low As Reasonably Practicable (ALARP) in line with general Health and Safety guidance published by the Health and Safety Executive (HSE). The TA or QRA may only be carried out by an ESTC authorized risk assessor operating under the guidance of the Technical Advisor (Risk). The assessments are strictly controlled and subject to peer review.

12 The JSP482 regulations are produced for the guidance and instruction of all personnel, both Service personnel and MOD employed civilians (including supporting contracted staff), who are concerned with the management, storage, maintenance, inspection, processing, handling and disposal of explosives and explosives storage facilities within the MOD. It covers Explosives Legislation, Classification, Storage, Planning, Siting, Buildings, Traverses, Safety Standards, Licensing, Safeguarding, Control, Storage, Handling, Packaging, Marking, Sealing, Processing, Inspection, Bans and Constraints, Radio Frequency Hazards etc.

DESIGN

13 JSP 520 specifies the DSEA's regulations for inherent OME safety and its environmental impact across the Acquisition Cycle within the OME Safety and Environmental Management thus providing a common thread throughout the family of documents. It mandates a series of requirements, processes, inputs, outputs and independent reviews that collectively support claims of inherent OME safety. The assessment of inherent OME safety shall cover those hazards that result from the initiation of OME systems, whether intentional or unintentional, and across all stages of the Manufacture to Target or Disposal Sequence (MTDS). Whilst military explosives by their nature are inherently dangerous the use of good design choices such as safety and arming mechanisms are intended to ensure that the munitions will only reach full potential when operated in design mode (i.e. when deliberate action is taken by authorised personnel to detonate a munition). The audit trail that the JSP 520 processes generate will provide evidence of best practice in the management of Inherent OME safety for the Equipment Acquisition Cycle. The MOD policy stipulates that a robust body of safety and environmental evidence termed a Safety and Environmental Case shall support all equipment operated by or at the direction of the MOD As the Project matures, subsequent Safety & Environmental Case Report's (SECR) shall summarise the results of the formal safety and environmental assessment activities conducted by the OME PT. It shall provide compelling evidence that the OME system complies with relevant legislation and that appropriate OME safety risks are Broadly Acceptable, or Tolerable and ALARP, throughout the MTDS when operated within agreed boundaries. Existing OME Safety and Environmental Cases shall be reviewed when changes occur to the modification state; operating environment; or the role of the subject equipment, and the existing arguments justifying the safety claims reassessed. DSEA requires that all OME systems are assured for

compliance against JSP 520. Assurance of inherent OME safety shall be through the independent review of documentary evidence undertaken by an OME Safety Review Panel (OSRP). The documentary evidence collectively forms the OME Safety Submission. By presenting an OME Safety Submission to the OSRP, the OME PTL is requesting independent validation that the safety and environmental management processes being implemented by the PT demonstrably satisfy the requirements of JSP 520. The OME SECR shall provide sufficient detail to satisfy the OSRP that relevant legislation and standards are complied with, that residual risks are Broadly Acceptable or Tolerable and that any ALARP statements are comprehensive, credible, robust and proportionate.

14 The final outcome should lead to the issue of a Certificate of Safety Ordnance, Munitions and Explosives – which is a supporting declaration (based on a proportionate review) by the OSRP for the arguments and underpinning evidence presented within the OME Safety Submission, as part of the DE&S and Project Team's assurance process.

INFRASTRUCTURE

15 All PES's will have been built subject to design criteria suitable at the time of first build. Information on build standard is available via the regional prime contracts put in place by DIO or direct from DIO. Guidance on the maintenance of facilities to remain compliant with build standards is contained in JSP 498 Chapter 6 synopsis 6A7.

16 The intention behind these arrangements is to ensure that the building will react as designed in the event of an unintended explosives event.

EMERGENCY RESPONSE

17 MSER Regulation 4 and JSP 482 Chapter 15 require appropriate emergency response arrangements to be in place. The risk assessment will have identified the types of foreseeable accidents to people or the environment covered by these emergency procedures. Such events will vary depending on the nature of the workplace and the activities and substances involved. Danger from fire (whether or not it poses a risk of accidental ignition of explosives) is one example. It will also consider potential hazards, especially from smoldering explosives, which might be present even after the immediate emergency has been dealt with.

18 The procedures are written down, clearly setting out the intended strategy for dealing with these accidents including what employees and others should and should not do in an emergency. Information on the procedures is provided to all employees. The procedures set out the role and responsibilities of people nominated to implement detailed actions which cover specific emergency situations;

19 Information on the buildings where explosives are present, and the explosives involved, will have been prepared in advance and provided to the fire services in the event of a fire. Fire services will have been contacted and encouraged to undertake familiarisation visits to explosives sites. A competent

person will have been appointed to advise the fire service, in the event of an incident. Such arrangements cover both working hours and silent hours.

ASSURANCE

20 These regulations provide safe working practices. They set the standards for operation and lay down the regime for enforcement of the regulations and the requirements for independent inspection and review of the practices. Awareness of these regulations is a requirement for all staff with responsibilities for working with explosives. Knowledge of the safe working practices ensures the staff working with explosives understand the importance of the safe systems. The layered approach to management ensures that oversight is provided at a number of levels to verify the safe operation on a day to day basis.

21 The inspection regime is a multi-level review of current practices and includes the following:

- 21.1 Inspections undertaken by the Line Manager as part of the normal supervisory duties.
- 21.2 Independent inspections carried out by inspectors from the appropriate IE to provide a higher level review of the operation of the establishment. These cover actual working practices and the compliance with regulations together with the review of competence arrangements.
- 21.3 Inspections are also undertaken by CIE (MOD) Compliance Office giving a further level of independent audit.
- 21.4 With respect to design safety the OSRP provides assurance of compliance with JSP 520. The OSRP provides project independent assurance of inherent OME safety as a component of the MOD's assurance regime, through review of the OME Safety Submissions produced by PTs at key stages in the project lifecycle.

22 The Licensing procedures and their associated standards have been formulated from extensive trials and research and if applied correctly provide the necessary level of safety for any building, structure, facility or place of assembly that is hazarded by a PES.

23 Each Head of Establishment is required to ensure that the licence conditions are complied with and that the appropriate IE as the Licensing Authority is notified of any event that would compromise the licence. The IE is required to inspect each establishment and confirm that the licences are still valid. Once a licence expires or is withdrawn then the related PES can no longer store munitions.

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APPENDIX 6A9 SYNOPSIS ON STORAGE AND HANDLING OF FUELS AND LUBRICANTS – JSP 317

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1	Introduction
6	Aims
9	Responsibilities
15	Identified Major Accident Hazards
17	Design and Construction
27	Siting
28	Commissioning
29	Take-Over
31	The Certificate of Fitness For Purpose
32	Fuel Safety Assurance Assessment
37	Fuel Hazard Management
38	Maintenance
45	Operating Procedures
47	Competency and Training
48	Initial Training
49	Continuation Training
50	Refresher Training
51	Emergency Response Arrangements
53	Fire and Explosion
57	Pollution Control
58	Unit Spillage Response Plans (USRP)
59	MOD Enabling Contract
60	Exercises
61	Audit and Inspection

INTRODUCTION

1 This synopsis is primarily based on JSP 317 Joint Service Safety Regulations for the Storage and Handling of Fuels & Lubricants (5th Edition) and describes the control measures for the storage and handling of fuels and lubricants within MOD.

2 JSP 317 describes;

2.1 the potential hazards

2.2 the policy, organisation and management systems

2.3 operating procedures and emergency response arrangements relating to the storage and handling of fuels and lubricants and provides information in conjunction with that provided in the individual Establishment's Safety Report on how the measures taken will prevent foreseeable failures.

3 JSP 317 applies to the storage & handling of Fuel & Lubricant products by the MOD. The Regulations also apply to contractors, and their personnel,

operating on the MOD estate and to non-public activities such as flying clubs, etc.

4 In countries outside of the UK, the standards specified in the JSP are applied unless the host nation requires a higher standard in which case that standard must be applied.

5 The regulations contained in JSP 317 are derived from international and national legislation, international, NATO and national standards, professional Codes of Practice and Guidance Notes. References are included in the JSP and examples are in this synopsis.

AIMS

6 The aim of JSP 317 is to lay down the standards of practice to be observed within the MOD for the storage and handling of fuels & lubricants (F&L). These measures are imposed to ensure safety in the design, construction, modification, maintenance and operation of fuels facilities and to ensure that appropriate emergency response arrangements are in place.

7 JSP 317 consists of 5 main sections:

- 7.1 General
- 7.2 Health and Safety
- 7.3 Design and Construction
- 7.4 Operating Procedures
- 7.5 Pollution - Prevention and Control.

8 These sections detail the generic procedures to be used for the storage and handling of F&L within MOD. Where appropriate, procedures are supplemented by establishment specific procedures. These arrangements are designed to ensure that common standards are applied across MOD whilst taking into account local conditions.

RESPONSIBILITIES

9 JSP 317 is managed by the MOD Fuel & Gas Safety Regulator (FGSR) SO1 under the Terms of Reference for the Fuels & Gas Safety Regulator Stakeholder Committee (FGSRSC) as defined in JSP 815. Each chapter of JSP 317 has an author who takes ownership for that chapter. Any amendments are then collated and discussed at the JSP 317 Working Group before being published in the latest version.

10 The MOD Technical Authority for all works related matters for fixed petroleum installations is vested in Specialist Professional Services at Defence Infrastructure Organisation and is staffed by competent professional engineers with experience in the design and operation of fuel facilities. This organisation is responsible for developing and promulgating works standards, developing standard designs and maintenance standards, giving specialist advice and guidance to those who provide construction and maintenance services to the Defence Estate.

11 Heads of Establishment are responsible for the safe operation of fuel facilities on their establishment. Units will be required to complete an annual Fuel Safety Assurance Assessment (FSAA).

12 Regional Prime Contractors (who will be the Maintenance Management Organisation – MMO) are responsible for ensuring that construction, modification and maintenance activities are undertaken in accordance with MOD procedures. This matter is covered in the synopsis on *Construction and Maintenance*.

13 Major new construction projects will have Commercial Project Managers appointed who will have the responsibility of ensuring the relevant standards are met.

14 Authorising Engineer's Petroleum are responsible for the application and monitoring of the MOD Safety Rules and Procedures within the area for which he/she has been appointed. Duty Authorised Person's Petroleum are responsible for the practical implementation and operation of the MOD Safety Rules and Procedures for the systems and installations for which he/she is appointed.

IDENTIFIED MAJOR ACCIDENT HAZARDS

15 The hazards arising from the handling of hydrocarbon-based petroleum products are categorised as:

15.1 Fire.

15.2 Explosion.

15.3 Health.

15.4 Environmental.

16 The Hazard Identification and Risk Assessment process used by establishments is based on JSP 375 (MOD Health & Safety Handbook) and JSP 418 (MOD Environmental Manual). Further detail on these systems is contained in appendix 6A2 and 6A3.

DESIGN AND CONSTRUCTION

17 Before any permanent or semi-permanent fuel installation can be brought into operation, it will be necessary for it to be certified, commissioned and licensed. Similarly, before a fuel installation can be declared redundant, it will be necessary for it to be de-commissioned and the Licence withdrawn. JSP 317 Part 1 Chapter 2 Annex C explains the procedures to be followed in each case.

18 All tanks, pipework, gauges, structures, etc are constructed to recognized engineering standards and in accordance with the appropriate British Standard (BS) or Oil Firing Technical Association (OFTEC) Standard. Installations comply with the British Standard Code of Practice or other statutory requirements. Examples are detailed below:-

19 Pipelines and fittings are to be marked for identification purposes in accordance with British Standard 1710: Identification of Pipelines and Services, and Def Stan 05-52 Part 2: Markings for the Identification of Fuels, Lubricants

and Associated Products; this is to ensure that operators and maintainers are made aware of the hazardous parts of the facility. Proper identification will minimise the potential for errors that could lead to accidents.

20 Pipelines are to be in accordance with *PD 8010 Part 1 Pipelines on Land: General and Part 2 Pipelines on Land: Design, Construction and Installation published by BSI (equivalent to BS EN 14161)* to ensure integrity and minimize the potential for pollution incidents.

21 Vertical and horizontal tanks that are installed above ground should be constructed in accordance with DE (DIO) Functional Standards. Protected tanks are to be in accordance with standard designs as authorized by Defence Infrastructure Organisation. Tanks for other applications should be in accordance with standards cited in DE (DIO) Design and Maintenance Guide 13 for ground fuel installations. For all other applications the appropriate BS should apply. All tanks for industrial storage must be in accordance with SI 2954 Control of Pollution (Oil Storage) Regulations (England) or The Water Environment (Oil Storage) (Scotland) Regulations as relevant .

22 Aircraft refueller/road tanker hardstanding area's shall be impervious and made either from concrete or grouted macadam. Hardstanding areas shall fall to a drainage system which shall lead into a Class I full retention separator to EN 858 Installations for Separation of Light Liquids Part 1 Principles of Design, Performance and Testing. These measures are applied in order to minimize the potential for pollution incidents.

23 Separators must comply with the requirements of Environment Agency Pollution Prevention Guide (*EA PPG 7*) - Fuelling Stations: Construction and Operation, to minimize the potential for pollution incidents.

24 The Dangerous Substances and Explosives Atmospheres Regulations 2002 (DSEAR) sets minimum standards for the protection of workers from fire and explosive risks arising from dangerous substances and potentially explosive atmospheres. Where an explosive atmosphere may occur in the workplace it must be classified as either a hazardous or non hazardous place.

25 Hazardous places are classified in terms of zones on the basis of the frequency and duration of the occurrence of an explosive atmosphere.

25.1 Zone 0: A place in which an explosive atmosphere consisting of a mixture with air of dangerous substances in the form of gas, vapour or mist is present continuously or for long periods or frequently.

25.2 Zone 1: A place in which an explosive atmosphere consisting of a mixture with air of dangerous substances in the form of gas, vapour or mist is likely to occur in normal operation occasionally.

25.3 Zone 2: A place in which an explosive atmosphere consisting of a mixture with air of dangerous substances in the form of gas, vapour or mist is not likely to occur in normal operation but, if it does occur, will persist for a short period only.

26 To ensure that there are no electrical ignition sources within hazardous areas that could initiate an accident, all electrical apparatus and associated wiring, including portable lighting, is to be ATEX compliant in accordance with DSEAR. Use of the DSEAR risk assessment process to achieve zoning

combined with the use of ATEX compliant electrical apparatus reduces the potential for an explosive incident and is a fundamental part of ensuring a safe design for the facility.

SITING

27 The suitability of the proposed site should be checked in accordance with the procedures specified in JSP 317 Part 1 Chapter 2 Section 3, to ensure that any hazards associated with the proposed petroleum installation do not increase the hazards of other installations, and that other installations or equipment do not impose additional risks to the petroleum installation. The Siting board forms an important part of the safety case for any fuels installation. Where possible a FGSR representative is included on the Board. Representation from the Fuels Section on site is mandated.

COMMISSIONING

28 A permanent or semi-permanent fuel installation cannot be brought into use until the installation has been built to the agreement of the interested parties, commissioned, taken over for use and certified as fit for purpose. For Class 1 facilities the installation will also need a Licence issued by FGSR. The process is fully described in JSP 317 Part 1 Chapter 2 Section 3.

TAKE-OVER

29 Once an installation has been commissioned and is considered ready for take-over by the operator, the original Siting Board will re-convene as a Take-over Board (TB). The TB is to ensure that the installation has been constructed in accordance with its design, meeting all safety and legislative requirements, has been correctly commissioned and is in a fit and proper state for take-over by the operator. When the TB is satisfied that all conditions have been met, it is empowered to issue the appropriate Service document that will authorise take-over of the installation. This document is to be signed by all members of the TB and, in particular, is to accept control of the installation by the Operating Authority (OA).

30 As part of the take-over process, the Regional Prime Contractor is to arrange for any necessary installation-specific familiarisation training required by the Authorised Person (Petroleum), the maintainer, and the operators of the installation. An appropriate record of those personnel who have received training is to be maintained by the OA.

THE CERTIFICATE OF FITNESS FOR PURPOSE

31 This is the formal confirmation by the Project Manager, Regional Prime Contractor or standalone Prime Contractor, that the newly constructed or modified facility is fit for operation before first fill or use. The certificate must state that the installation has been constructed, or modified, in conformance with the approved design and that it is fit for its intended purpose. The certificate is issued by the MMO.

FUEL SAFETY ASSURANCE ASSESSMENT

32 The MOD Fuel and Gas Safety Regulator licenses all class 1, 2 and 3 flashpoint fuels that issue directly to vehicles, be that aviation, ground or sea. To do this they use a check sheet known as the Fuel Safety Assurance Assessment (FSAA), which condenses all relevant policy and legislation in to a coherent green/red check sheet for the inspectors. The FSAA identifies areas of High Hazard (HH) which may pose a significant safety of environmental risk. Providing no such HH are identified the installation is issued with a Certificate for Continued Operation (CCO) which is their license to operate. This is issued annually for Class 1 installations and every 3 years for Class 2 and 3 installations.

33 If a site is graded red in any of the HH areas then enforcement action may be taken. This can take the form of an Improvement Notice (IM) where the unit is given a specified timeframe in order to rectify the hazards. This will usually be appropriate for hazards that do not pose an immediate risk. For more serious non-compliances a Prohibition Notice (PN) may be issued. This would mean that should the operating authority continue to operate the installation they are operating at their own risk and the Head of Establishment (HoE) would be directly liable for any accidents/incidents. A PN will be issued at the end of an IN if the faults have not been rectified.

34 Class 2 and 3 installations are required to self assess in the intervening years between regulatory inspections by FGSR. This involves a suitably familiar person completing an FSAA and submitting it to FGSR, via their TLB. FGSR then process the self assessment, extrapolate any areas of concern, and publish the report to the Head of Establishment and the relevant TLB. All HH identified during the FSAA are also monitored on an FGSR and TLB Hazard Log and TLBs are required to provide updates on the resolution of these HH.

35 The external quality audit will follow a similar process to the FSAA but will deep dive into areas of concern and will include the requirement to review all fuel handling and quality assurance procedures. Risks and, where appropriate, mitigation methods, identified through the assurance process will be reported to Head of Establishments and FLCs in the form of a comprehensive report.

36 Upon completion of the FGSR audit all installations with class 1, 2 or 3 fuels will be issued with a Certificate for Continued Operation, provided the required standard has been met. The Certificate is valid for 12 months for Class 1 fuel and 3 years for Classes 2 and 3. PJHQ Units will be subject to the enhanced audit level irrespective of the class of fuel held.

FUEL HAZARD MANAGEMENT

37 In line with the FGSR Fuel Hazard Management System (FHMS), detailed in JSP 309, units are to establish and maintain a local hazard log. The hazard log should be filed and retained as a formal document. Inclusions in the local Hazard Log should be fuel specific. Any fuel specific hazards/risks/areas of non-compliance identified which may affect other areas should be reported to the Unit Health and Safety Officer. Inclusion should include accident sequences and accidents which could conceivably happen, not only the ones which have

been experienced. FGSR must be informed when any additions to the local Hazard Log are made. The purpose of the local Hazard Log is to provide a structured method of recording and managing activities and to eliminate or reduce the risk of the hazard to an acceptable level.

MAINTENANCE

38 The Regional Prime Contractor is responsible for arranging for a professional inspection of fuel facilities and flammable dangerous goods stores (in accordance with PG 01/12) on an annual basis and, where appropriate, renewing the Certificate of Fitness for Continued Use.

39 JSP 375 Volume 3 - Petroleum details the safe system for the organisation of modification and maintenance work on petroleum installations operated by the MoD. Further details on the principles of maintenance within MOD are contained in the synopsis at appendix 6A7.

40 JSP 375 Volume 3 Safety Rules and Procedures are prepared with due regard to the requirements and recommendations of:

40.1 General and specific legislation relevant to the health and safety hazards associated with the storage and handling of petroleum in bulk

40.2 Relevant publications of the Institute of Energy Downstream Operations Safety Committee (formerly the Institute of Petroleum)

41 JSP 375 Volume 3 mandates the appointment of Authorising Engineers to select and monitor Authorised Persons. Authorised Persons are trained and appointed as competent for the purpose of ensuring safe working practice for works on petroleum installations. Training and experience requirements are described below.

42 The Authorising Engineer Petroleum shall:

42.1 Be a Chartered Engineer

42.2 Have a minimum of five years relevant professional experience

42.3 Have completed an MOD approved Authorised Person Petroleum course and obtained a satisfactory mark

42.4 Have completed an MOD approved Authorising Engineer course

42.5 Be familiar with the different types of equipment, installations and systems in use on the MOD Estate

42.6 Become familiar with the more complex systems on the sites for which he/she is responsible

43 An Authorised Person Petroleum must be:

43.1 A trained mechanical technician, with a minimum qualification of ONC or equivalent, in an appropriate discipline

43.2 Over twenty-one years of age

43.3 Technically competent and familiar with the petroleum installation(s) for which he is authorised

43.4 Have a full knowledge of the JSP 375 Safety Rules and Procedures

44 **Permit to Work** procedures, based on, Guide to Permit to Work Systems in the Petroleum Industry issued by Health & Safety Commission and Oil Industry Advisory Committee and detailed in JSP 375 Volume 3 are used where appropriate during construction, modification and maintenance.

OPERATING PROCEDURES

45 JSP 317 Parts 3 and 4 provide detailed operating procedures to ensure common standards and safe systems of work across the MoD. These procedures may be supplemented by establishment specific procedures to take into account local conditions and requirements. Establishment specific procedures are referenced in the Establishment Safety Report.

46 The procedures are prepared by competent persons and are based on national and international standards, examples of legislation and standards are listed below:

- 46.1 Petroleum Act 1928,
- 46.2 The Energy Institute Codes of Safe Practice.
- 46.3 HS (G) 51 - The Storage of Flammable Liquids in Containers,
- 46.4 HS (G) 71 - Chemical Warehousing the Storage of Packaged Dangerous Substances,
- 46.5 HS (G) 140 - The Safe Use and Handling of Flammable Liquids,
- 46.6 BS 476 – 10 - 2009 Fire Tests on Building Materials & Structures,
- 46.7 Dangerous Substances Explosives Atmospheres Regulations 2002,
- 46.8 International Safety Guide for Oil Tankers and Terminals (ISGOTT),
- 46.9 The Dangerous Substances in Harbour Areas Regulations 1987,
- 46.10 The loading and unloading of bulk flammable liquids and gases at harbours and inland waterways.

COMPETENCY AND TRAINING

47 JSP 317 Part 2 Chapter 6 details the arrangements to ensure that only competent staff operate within fuels facilities. All licensable installations are to be run by a suitably qualified F&L Manager who has attended either DPS West Moors or RAF Halton.

INITIAL TRAINING

48 Personnel are given the appropriate level of instruction for the work that they are expected to undertake. Training is provided by a qualified instructor, as part of a formal course at recognised training establishment. To be successful students must pass tests before being certified as competent.

CONTINUATION TRAINING

49 Continuation training is given at the place of work in the normal course of duty from suitably qualified personnel. It is given to all personnel, military, civilian or contractor who are employed on petroleum duties and includes the following examples:

- 49.1 On appointment to petroleum related job.
- 49.2 Whenever a new item of petroleum equipment or procedure is introduced or when an existing equipment or procedure is modified.
- 49.3 At the discretion of line management when concern is expressed as to a person's standard of operation with respect to petroleum duties.

REFRESHER TRAINING

50 From time to time personnel will exceed the time limits on their petroleum qualifications. Refresher training is undertaken in order to re-qualify. This is in the form of a designated refresher course or simply repeating the initial training course for that particular subject. Refresher training is necessary when personnel have had a break from petroleum duties.

EMERGENCY RESPONSE ARRANGEMENTS

51 Establishment's will have developed their own emergency response plan's, taking into account local conditions and resources.

52 The likelihood of explosion, fire or pollution is minimised by good plant design and layout, sound engineering, good operating practices, proper instruction, supervision and training of personnel in both routine operations and emergency procedures.

FIRE AND EXPLOSION

53 Plant design and layout must include the provision of adequate water supplies, fire protection and fire fighting equipment, means of escape for employees and means of access for fire brigades in the event of fire.

54 To minimise the potential for, and consequences of a fire, comprehensive Fire Plans are produced for each facility based on the guidance in JSP 317 Part 2 Chapter 5 and JSP 426 – Fire Risk Assessments and related Fire Safety Management Plans.

55 Factors considered when formulating the fire plan include:

- 55.1 The nature and quantity of materials processed and stored.
- 55.2 The proximity of other process plant, storage vessels, works and public buildings and vegetation.
- 55.3 Fire Service response times.
- 55.4 Accessibility to the site for fire fighting appliances.
- 55.5 Emergency escape routes for staff.
- 55.6 Site security.

- 55.7 Liaison with DFRMO on site Fire & Rescue Services, local fire authorities, medical services and water authorities.
- 55.8 Environmental effects.
- 56 Fire plans provide details of:
 - 56.1 Fire detection and alarm systems.
 - 56.2 Water and other chemical fire fighting agents.
 - 56.3 Fire fighting equipment.
 - 56.4 Emergency plant shutdown procedures.
 - 56.5 Emergency evacuation procedure and assembly points in a safe location including, where necessary, the establishment and staffing of a fire control centre.
 - 56.6 Staff fire training.
 - 56.7 The duties of all persons nominated in the plan.
 - 56.8 Arrangements for the testing and updating of the plan.

POLLUTION CONTROL

57 JSP 317 Part 5 Chapters 1- 11 describe the policy and arrangements for the prevention and control of pollution. The chapters cover the following subjects:

- 57.1 Pollution Control Planning.
- 57.2 Pollution Risk Assessment.
- 57.3 Inland and Marine Pollution.
- 57.4 Pollution Response Absorbents and Equipment.
- 57.5 Spillage Response Plan.
- 57.6 Spillage Reporting.
- 57.7 Emergency Spillage Response Contracts within and outside UK & NI.

UNIT SPILLAGE RESPONSE PLANS (USRP)

58 All establishments holding bulk fuel are required to have oil spill response plans in place. The Risk Assessments will have identified the degree of risk on the establishment and the potential for serious consequences. The response will depend upon the potential consequences and is split into the following three tiers:

- 58.1 Tier 1. Tier 1 covers small spills where the clean up is entirely within the establishment capability.
- 58.2 Tier 2. Tier 2 covers more serious spills where the clean up requires assistance from another Service establishment or external organisation.

58.3 Tier 3. Tier 3 covers a catastrophic incident requiring major external assistance.

MOD ENABLING CONTRACT

59 MOD has an enabling contract to provide an oil spill service anywhere in UK Mainland and Northern Ireland within two hours of notification on a 24 hours per day, seven days a week basis. The contract provides experienced personnel plus oil containment and recovery equipment with appropriate delivery vehicles or vessels. The recovered product will then be disposed of by the contractor in accordance with current environmental legislation.

EXERCISES

60 For the Oil Spill Response Plan to be of value it must be familiar to those expected to use it. Oil Spill Response Plans are to be practised annually as a practical exercise for Tier 1 and 2 spillage response capability. The exercise should include the establishment of a command centre, deployment of personnel and equipment, interface with other plans and communications including those with outside agencies. Because of the degree of involvement with local agencies and executive/key players and the limited resources available, Tier 3 incidents should be exercised on an annual basis and conducted as a desk-top exercise with local agency involvement. (it may be feasible to have a Oil Spill Response Plan exercise as part of a major unit or incident response exercise such as the tri-annual MACR exercise which will include the involvement of the Local Authority and the Emergency Services).

AUDIT AND INSPECTION

61 Confidence that measures are in place to reduce risks to as low as reasonably practicable is provided by an extensive regime of inspection and audit. These measures are summarised in this synopsis and described in JSP 317, and in the synopsis on Performance Monitoring of Safety Management System.

62 The following audits and inspections contribute to ensuring confidence in the measures to prevent and/or mitigate accidents:

62.1 FGSR Inspections - as detailed above

62.2 Professional Inspection of Fuel Infrastructure and Flammable Goods Stores PG 06/12 formally known as a Task 249.

62.3 Safety Health Environment and Fire (SHEF) Audits on Establishments - as detailed in *Synopsis on Performance Monitoring of Safety Management System*

62.4 Internal inspections and audits in accordance with JSP 375, JSP 317 and local instructions.

63 The results of audits and inspections are reported to Heads of Establishments and MoD Regulators. Reports and recommendations are reviewed by appropriate MoD managers and remedial or improvement actions taken as appropriate. HoE ultimately holds the risk for the site.

64 FGSR uses these audit and inspection reports to review and revise JSP 317. Amendments are also issued by FGSR, whenever required, to reflect change in legislation or other source documents.

65 This system ensures that standards are subject to a continuous improvement process, regulations and procedures are maintained up to date and that the risk of an accident is kept as low as reasonably practicable. The above are elements of the feedback loop of the MoD Safety Management System which follows the principles of HS (G) 65.

**ANNEX 6B
MAJOR ACCIDENT PREVENTION POLICY ASSESSMENT CRITERIA**

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>1. Commitment</p> <p>The Head of Establishment (HOE) must show commitment to Major Accident Control Regulations (MACR).</p> <ul style="list-style-type: none"> • The Major Accident Prevention Policy (MAPP) contains a clear commitment to the prevention of Major Accidents (MAs) and the mitigation of consequences. • The MAPP includes information on, or reference to, the organisation and arrangements with reference to MAs. • Referenced establishment documentation is available and extant. • The Policy is known by all relevant groups on the establishment. <p>JSP 498 chapter 3 paras 1 & 2</p>	<p>Check Health and Safety, Environment or other relevant Policy Statement.</p> <p>Does the organisation and arrangements statement indicate the organisation i.e. relevant personnel or posts, and arrangements eg, reference to establishment Standing Orders, Emergency Plans, etc. for the prevention of MAs and appropriate control arrangements?</p> <p>Check the establishments Safety Management System (SMS) eg, Safety Orders, Emergency Plans etc. for relevant MACR documentation. Does such documentation demonstrate a commitment by the HOE to MACR?</p> <p>Check communication arrangements for Policy eg, staff briefings, display on notice boards, communication with establishment lodger units and permanent contractors.</p> <p>Do staff understand their responsibilities?</p>
<p>2. Establishment Activity</p> <p>Verify that the generic description of the major activities at the establishment that could give rise to an MA accurately reflects the situation at the establishment.</p> <ul style="list-style-type: none"> • The MAPP contains an adequate description of the establishment activities. <p>JSP 498 chapter 3 para 8.1</p>	<p>Check MAPP information. A general description of the main establishment activities is all that is required eg, Military Airfield, Storage and Processing of Explosives, Fuel Storage etc.</p>

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>3. Holdings of Dangerous Substances</p> <p>a. General. Confirm that there is an effective system for accounting and that this relates to the maximum anticipated holdings rather than actual, average or permitted holdings.</p> <ul style="list-style-type: none"> The establishment has effective systems for monitoring and recording the type and quantity of dangerous substances brought onto and held on the establishment. Effective systems are in place to ensure that information on the type and quantity of dangerous substances is collated and that there is a sound basis for determining maximum anticipated holdings. <p>JSP 498 chapter 3 para 8.2</p>	<p>Check MAPP and SR information; compare to establishments inventories of dangerous substances.</p> <p>Check stock records, inventories, explosives accounting systems (AMANDA, LUMAT), POL records (BFIS, ERIC) etc.</p> <p>Investigate systems for identification of type and quantity of dangerous substances present on the establishment.</p> <p>Discuss with MACR Co-ordinator or other relevant personnel methods used to determine maximum anticipated holdings across a 5 year period.</p>
<p>b. MACR Competent Authority (CA) Specific Substances. Confirm the presence of any substances that fall into the category of MACR CA specific substances.</p> <ul style="list-style-type: none"> All MACR CA specific substances have been identified and recorded on the database. <p>JSP 498 chapter 3 para 8.3</p>	<p>Check MAPP/SR information and confirm with MACR Co-ordinator.</p>

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>4. Organisation</p> <p>a. Job Descriptions (JDs). Confirm that JDs, Terms of Reference (TOR) or other relevant documents exist for all appointments identified with a role in the establishments safety system for managing major incidents.</p> <ul style="list-style-type: none"> • JDs, TOR or other relevant documentation describe the roles and responsibilities of key MACR posts. • Adequate cover is provided for these key posts. • Staff fully understand their roles, responsibilities and authority. <p>JSP 498 chapter 3 para 9</p>	<p>This will include, as a minimum, the Establishment Main Controller, Establishment Incident Controller, MACR Co-ordinator and Liaison Officer with Local Authority (LA). Also to include deputies and arrangements for 24 hour cover.</p> <p>Confirm that the roles of these positions are detailed in documented systems and procedures.</p> <p>Review documentation and information referenced in MAPP/SR eg, Policy Statements, Organisation Charts, Standing Orders, Establishment Procedures, Fire Orders etc. to identify relevant personnel.</p> <p>Check JDs etc. of referenced personnel or posts.</p> <p>Confirm that these positions have been allocated to specific individuals. Interview these staff regarding their understanding of their roles, responsibilities and authority if required.</p>
<p>b. Training Needs. Confirm that a system exists to identify the particular training requirement for each of the appointments identified in Topic 4a.</p> <ul style="list-style-type: none"> • The competency requirements for each appointment are fully defined. • Appointed staff fulfil the competency requirements or are working towards full compliance. • Nominated Deputies have an appropriate level of training and experience. • Effective systems are in place to identify the training needs of individuals. <p>JSP 498 chapter 3 para 10</p>	<p>Review systems for identifying training needs and maintaining competency levels.</p> <p>Verify by review of documentation that competencies have been defined for each key post. Assess whether the defined competencies are appropriate to the establishment hazards and risks.</p> <p>Verify by review of training records and supplemented by interview that key posts are filled by competent persons. Records should be kept for a minimum of three year.</p> <p>The competency of nominated deputies must be included in this review.</p> <p>The system for Succession Management i.e. the preparing of replacement staff for those scheduled to leave the establishment should be considered.</p>

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>4. Organisation (Continued)</p> <p>c. Control of Contractors. Verify that the establishment has effective systems for the Control of Contractors.</p> <ul style="list-style-type: none"> • Responsibilities for the management of contractors have been allocated. • Effective systems for the control of contractors are in place. <p>JSP 498 chapter 8 Appendix 8A4</p>	<p>Normally one would expect that the establishment complies with the principles laid down in JSP 375 Vol 2 Leaflet 34. If full compliance has not been achieved then acceptable alternatives must be in place to ensure adequate control of contractors. Verify that an Appointed Duty Holder and Nominated Area Custodians have been appointed. Investigate procedures for the selection of contractors, authorization of work activities, communication arrangements between contractor and establishment (in particular with respect to risk, hazards, controls etc), controls, monitoring and supervision of contractors. Verify that the procedures are implemented.</p> <p>Check that Hazard Registers have been produced and are used as a means to provide relevant information to the contractor.</p> <p>Verify that there is an effective Permit to Work system in place.</p>
<p>5. Site Hazard Survey</p> <p>a. Completion. Confirm that the establishment has completed a Site Hazard Survey.</p> <ul style="list-style-type: none"> • A Site Hazard Survey has been completed in accordance with JSP 375 Vol 2 Leaflet 23 Annex A. <p>JSP 498 chapter 3 para 25</p>	<p>Confirm that a Site Hazard Survey has been carried out in accordance with JSP 375 Vol 2 Leaflet 23 along with hazard survey sheets in respect of each identified hazardous installation.</p>
<p>b. Location of Hazardous Installation. Confirm that all the hazardous installations are covered by the Site Hazard Survey.</p> <ul style="list-style-type: none"> • Location details are clearly defined. <p>JSP 498 chapter 3 para 25</p>	<p>Confirm that geographical details of the location of the hazardous installation are adequate. This would include details such as distance to major features or other installations. The details should be sufficient to establish the boundaries of the hazardous installation.</p> <p>Check establishment maps and site plan to verify that hazardous installations are clearly identified. Grid references or colour coding are acceptable means to identify the location of hazardous installations.</p> <p>See also Safety Report Assessment Criteria Topic 1.</p>

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>5. Site Hazard Survey (Continued)</p> <p>c. Function. Confirm that there is an adequate explanation of the function of each hazardous installation.</p> <ul style="list-style-type: none"> • The function of each hazardous installation is accurately described. <p>JSP 498 chapter 7 para 9</p>	<p>Check MAPP/SR information.</p> <p>Confirm by establishment tour, discussion with Installation Manager and review of establishment information.</p> <p>Simple explanations are acceptable when terminology is normally used within MOD eg, explosives storage.</p>
<p>d. Controls. Confirm that the establishments existing controls, relevant to each hazardous installation, comply with current technical regulations.</p> <ul style="list-style-type: none"> • Control and mitigation measures are in place (see also elements of Assessment of Emergency Plan). • Technical Inspections have been completed at appropriate intervals. • Appropriate action has been taken in response to recommendations made in Technical/Specialist/Statutory Inspections. • No significant deficiencies have been reported or remain outstanding. <p>JSP 498 chapter 3 para 32</p>	<p>Obtain and review content of last Technical/Specialist/Statutory Inspection for each hazardous installation. Pay particular attention to actions taken by the establishment in response to recommendations made in Inspection Reports.</p> <p>Where appropriate, in the absence of specialist inspections, review establishment procedures, operating manuals etc. and confirm compliance, as far as is reasonably practicable, by audit in specific area.</p> <p>Examples of technical regulations and legislation:</p> <p>MOD Explosives Regulations - JSP 482.</p> <p>Regulations for the Storage and Handling of Fuels and Lubricants - JSP 317.</p> <p>Fuel Safety Assurance assessment (FSAA)</p> <p>PG 06/12 (Task 249/Task 57)</p> <p>Gas JSP 319 – Regulations for the Storage Use and Handling of Gases</p> <p>MOD Fire Safety Policy - JSP 426 (see elements of Emergency Plan Assessment for this Topic).</p> <p>Property Management - JSP 434.</p> <p>Identify the controls referenced in Safety, Health, Environment and Fire (SHEF) Risk Assessments. Verify that control and mitigation measures are in place.</p>

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>6. Health and Safety Risk Assessments</p> <p>Confirm that Risk Assessments in respect to MAs have been carried out and that they cover all hazards identified in the Site Hazard Survey.</p> <ul style="list-style-type: none"> • Risk Assessments derived from the Hazard Survey have been completed for all MA scenarios. • Risk Assessments identify all relevant control measures. • The results of Risk Assessments have been communicated to all persons at risk. <p>JSP 498 chapter 3 para 25</p>	<p>Verify that Risk Assessments have been completed for MA scenarios within each hazardous installation.</p> <p>Verify that Risk Assessments have been carried out in accordance with JSP 375 or appropriate alternative methods.</p> <p>Relate Hazard Survey to Risk Assessments.</p> <p>Verify that Risk Assessments have been properly documented, reviewed using appropriate expertise within or external to the establishment and been properly authorized.</p> <p>Verify that control measures are clearly identified.</p> <p>Verify that the results of Risk Assessments are communicated to relevant personnel both on and off the establishment.</p>
<p>7. Persons at Risk</p> <p>Confirm that the details relate to the maximum number of persons at risk from each hazardous installation.</p> <ul style="list-style-type: none"> • Information supplied in MAPP/SR correlates with information gained on the establishment. • The establishment has taken into account all persons. • Risk Assessments detail the groups and numbers of persons at risk from MAs. <p>JSP 498 chapter 3 para 29</p>	<p>Interview relevant staff to identify number of Service, MOD civilian personnel, permanent contractors, lodger units etc. Consider also visitors, works contractors, occupiers of MOD housing, barracks etc as applicable.</p> <p>Short term additions of people for up to 24 hours may be ignored. It must include the possibility of members of the public being in areas, on or near the hazardous installation where they could be affected by an MA.</p> <p>The information on the number of persons at risk should be derived from the Risk Assessments.</p>

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>8. Environmental Risk Assessment</p> <p>a. Completion. Confirm that an Environmental Risk Assessment (ERA) has been carried out in accordance with JSP 498 Chapter 3.</p> <ul style="list-style-type: none"> • A comprehensive ERA has been completed. <p>JSP 498 chapter 3 paras 30 and 31</p>	<p>Verify that processes, activities, substances with the potential to cause environmental harm have been identified (see also Topic 6 - Site Hazard Survey above). (See JSP 498 Chapter 7).and that where credible Major Accident scenarios have been identified, they are detailed and risk assessed. Verify that the ERA has been completed and authorized by personnel competent in environmental issues. Is expertise available on-site or readily available to the establishment eg, is use made of MOD or external consultants? Verify that the ERA is a living document and is up to date. Verify that the effects of emergency response action have been considered. Verify that the effects of pollutants on the receptors has been considered and for Major Accident scenarios adequately detailed.</p>
<p>b. Recommendations. Confirm that any recommendations made in the ERA have been implemented.</p> <ul style="list-style-type: none"> • An action plan for the implementation of recommendations made in the ERA is in place. • Action Plans have the backing of Senior Management. 	<p>Review any recommendations made in the ERA which have MA potential.</p> <p>Confirm that there is an effective system to identify and agree actions to be taken in response to recommendations made in the ERA.</p> <p>Confirm that there is Senior Management involvement in the prioritisation of actions and the allocation of funding.</p>
<p>9. Operational Control</p> <p>Confirm that all operations are carried out in accordance with systems defined within the SMS.</p> <ul style="list-style-type: none"> • Operational controls are fully described. • The number and competencies of staff required has been defined. • The required number of appropriately trained staff are available – taking into account sickness, leave, training etc. • Effective systems are in place to authorize non-standard operations. <p>JSP 498 chapter 3 paras 32 to 34</p>	<p>Review documentation referenced in MAPP/SR and SMS.</p> <p>Verify that management and technical controls are defined in SMS documentation.</p> <p>Verify that there is sufficient staff numbers to fill defined positions.</p> <p>Verify that staff understand the operational controls for the processes in which they are involved.</p> <p>Verify that effective controls are in place to cover non-standard operations.</p> <p>Controls should be subject to periodic review. Note. Controls may be specified by HQ organisations eg, Munitions & Explosives Processing Procedures (MEPP), Technical Instructions for Ammunition Depots (TIAD) or other procedures etc.</p>

<p style="text-align: center;">TOPIC & PASS CRITERIA</p>	<p style="text-align: center;">GUIDANCE/VERIFICATION METHOD</p>
<p>10. Management of Change</p> <p>a. Installations. Confirm that the establishments systems for managing changes to installations follow the principles laid down in Property Management - JSP 434.</p> <ul style="list-style-type: none"> • Changes to installations are properly planned and approved. • Risk Assessments are undertaken in the planning phase and on completion of the change. • All relevant documentation, maps and plans etc. are amended as required. • Interested parties are advised of any changes to the level of risk to which they are exposed. <p>JSP 498 chapter 3 para 35</p>	<p>This includes modification to existing installations, either building structure or equipment within the installation. It could also cover the addition of new equipment or plant, or changes to adjoining installations that could have an affect on the hazardous installation eg, encroachments on explosives licensed installations.</p> <p>Verify that the requirements of JSP 434 and 435 are met.</p> <p>Verify that there has been appropriate consultation with MOD Regulatory Bodies regarding changes to installations.</p> <p>Review Defence Infrastructure Organisation (DIO) Audit Reports, Health and Safety files, Construction, Design and Management (CDM) files, log books, maps and plans etc.</p>
<p>b. Process. Confirm that the establishment has a system for updating or introducing new processes.</p> <ul style="list-style-type: none"> • The introduction or modification of processes is effectively managed. • Appropriate approval has been given regarding new processes or significant changes to existing processes. • Risk Assessments have been documented or reviewed for modified or new processes. • Interested parties are advised of any changes to the level of risk to which they are exposed. <p>JSP 498 chapter 3 para 35</p>	<p>This system should cross-refer to specialist control documentation if the process is governed by technical documentation. The system should include the requirement to undertake a Risk Assessment in accordance with JSP 375 Vol 2 Leaflet 23 if the process has a potential for generating an MA hazard.</p> <p>Verify that Regulatory Bodies have been consulted and, where appropriate, given approval.</p> <p>Review associated Risk Assessments and other documentation. Verify that the risks associated with the introduction or modification of processes have been assessed.</p>

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>10. Management of Change (Continued)</p> <p>c. Storage. Confirm that the establishment has a system for updating or introducing new storage procedures.</p> <ul style="list-style-type: none"> • The introduction or modification of storage arrangements is effectively managed. • Appropriate approval has been given for the storage arrangements for dangerous substances. • Risk Assessments have been documented or reviewed for modified or new storage arrangements. • Interested parties are advised of any changes to the level of risk to which they are exposed. <p>JSP 498 chapter 3 para 35</p>	<p>This system should cross-refer to single Service documentation. It should also take account of any new legislation. The system should include the requirement to undertake a Risk Assessment.</p> <p>Confirm appropriate approval has been given for the storage arrangements on-site.</p> <p>Review Risk Assessments for storage areas.</p>

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>11. Emergency Plans</p> <ul style="list-style-type: none"> Is it establishment policy to have On-Site Emergency Plans? <p>JSP 498 chapter 3 para 36</p>	<p>Check that MAPP/SR information relates to extant On-Site Emergency Plans.</p>
<p>12. Monitoring Performance</p> <p>Confirm that effective procedures for monitoring the performance of the establishments SMS are implemented.</p> <ul style="list-style-type: none"> Management employs effective processes (active and reactive) to monitor performance and acts on deficiencies and adverse trends. The frequency, scope and personnel requirements for internal inspections are defined in the SMS. The inspection programme covers all hazardous installations. <p>JSP 498 chapter 3 paras 37 & 38</p>	<p>Does performance monitoring follow the principles laid down in JSP 375 Volume 2 Leaflet 21?</p> <p>Verify that internal inspections of the areas with MA potential are undertaken. Are inspection reports available and adequately detailed?</p> <p>Are the results of internal performance monitoring passed up the management chain? (See Topic 13 - Audit and Review).</p> <p>Are deficiencies and opportunities for improvement acted upon in a timely manner?</p> <p>Are work activities included in the performance monitoring system?</p> <p>Are Establishment Safety Committee Meetings held? Check minutes to determine attendees and content – are MA issues discussed – MACR should be a standing item on the agenda?</p> <p>Is accident and near miss data gathered and used to monitor performance?</p> <p>Are environmental incidents reported?</p>

<p style="text-align: center;">TOPIC & PASS CRITERIA</p>	<p style="text-align: center;">GUIDANCE/VERIFICATION METHOD</p>
<p>13. Audit and Review</p> <p>Confirm that the establishment has a procedure to undertake a periodic and systematic review of the MAPP and SMS.</p> <ul style="list-style-type: none"> • The SMS is periodically subjected to a formal structured audit. • The establishment is subjected to audits by external regulatory bodies at appropriate intervals. • The SMS is subject to regular review to confirm its continued effectiveness. • The MAPP is regularly reviewed and updated to reflect change. <p>JSP 498 chapter 3 paras 39 & 40</p>	<p>Verify that the hazardous installations and the SMS are subjected to formal structured audits.</p> <p>This should include audit of all areas of the establishment and the effectiveness of the SMS by establishment SHEF Advisors.</p> <p>MOD systems require external (to the establishment) agencies to undertake audits at appropriate frequencies eg, Inspector of Explosives (IE), Fuels & Gases Safety Regulator (FGSR), DIO, Defence Fire Service (DFS) Chief Environment and Safety Officer (CESO) etc. Verify that these audits are undertaken at the required frequencies and that appropriate information is passed to Senior Management.</p> <p>Does Senior Management at the establishment periodically review performance and the results of audits and assess the need for change? Is there a system for setting and reviewing performance targets?</p> <p>Identify what sources of information are used to inform management when undertaking a review of the SMS eg, internal inspections, audits by external bodies, accident statistics etc. (see also Topic 12 - Monitoring Performance above).</p> <p>Verify that opportunities for improvement are identified and implemented.</p> <p>Is Senior Management at the establishment actively involved in SHEF committees? Are actions arising actively monitored?</p> <p>Are the documents which are referenced in the MAPP eg, Establishment Standing Orders, Procedures, Work Instructions and Risk Assessments, subject to review at appropriate intervals? Check who is responsible for documentation review. Are effective documentation control systems in place?</p> <p>Is there a system for updating the MAPP?</p>

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**ANNEX 6C
SAFETY REPORT ASSESSMENT CRITERIA**

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>1. Establishment Information</p> <p>a. Establishment Location. Confirm that the location information is sufficient to establish the area that could be affected by a Major Accident (MA).</p> <ul style="list-style-type: none"> • Effective methods have been used to gather information and identify features at risk from MAs. • Salient features are clearly identified on maps and site plans and in the database information. <p>JSP 498 chapter 4 paras 3 - 6</p>	<p>This is to include information that shows the relationship to nearby towns or significant features. A map should be provided of adequate scale to show land use of surrounding area and all salient features (areas that could be at risk such as schools, sports complex etc). The map should show the layout of the establishment including all hazardous installations. More than one map may be provided if sufficient detail is not possible on a single map (include a copy of the safeguarding map if relevant).</p> <p>Check database information. Check maps eg, Ordnance Survey.</p> <p>Investigate what steps the establishment has taken to establish the presence of particularly sensitive factors (flora, fauna, water resources, people).</p> <p>Are maps marked up with all salient features?</p> <p>Check availability and information provided by establishment maps and plans giving details of hazardous installations.</p> <p>Check use of information available from the Defence Infrastructure Organisation (DIO) Datapack. (See also Major Accident Prevention Plan (MAPP) Assessment Criteria Topic 5 - Site Hazard Survey).</p>
<p>b. Establishment Topography. Confirm that the descriptions of the topography includes the significant features of the local environment eg, land type (mountainous, marsh etc), type of land use (urban, rural, agricultural), reference to types of waterways (estuary, lake etc). Includes meteorological and hydrographical conditions.</p> <ul style="list-style-type: none"> • The Establishment Topography is adequately described. <p>JSP 498 chapter 4 paras 3 - 6</p>	<p>Details regarding the local topography etc. are commonly contained in the Environmental Risk Assessment (ERA) for the establishment.</p>

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>1. Establishment Information (Continued)</p> <p>c. Location of Hazardous Installation.</p> <ul style="list-style-type: none"> • See MAPP Assessment Criteria Topic 5b – Location of Hazardous Installation. 	
<p>d. Hazard Topography. Confirm this provides a more detailed review of the topography in the local area directly affected by any MA scenario.</p> <ul style="list-style-type: none"> • The Hazard Topography is adequately described. <p>JSP 498 chapter 4 paras 5</p>	<p>Details regarding the hazardous installations and the local topography etc. are commonly contained in the establishment ERA.</p>
<p>2. Dangerous Substances Inventory</p> <p>Confirm the method by which the establishment identifies the inventory of dangerous substances held and that this information is linked to the MA Risk Assessment process.</p> <ul style="list-style-type: none"> • See MAPP Assessment Criteria Topic 3 - Holdings of Dangerous Substances. <p>JSP 498 chapter 4 para 7 & 8</p>	

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>3. Description of Installations</p> <p>a. Hazardous Installation. See MAPP Assessment Criteria Topic 5 - Site Hazard Survey and Topic 1 above.</p> <ul style="list-style-type: none"> Sufficient information is available on the hazards. <p>JSP 498 chapter 4 para 9 - 12</p>	<p>Verify that database adequately describes the installations. Simple explanations only are required eg, Explosives Storage Area (ESA) is adequate to denote an area used for the storage of explosives.</p>
<p>b. Function.</p> <ul style="list-style-type: none"> See MAPP Assessment Criteria Topic 5c – Function. 	
<p>c. Description of Process. Confirm this provides adequate information to describe the process that is being undertaken at the installation.</p> <ul style="list-style-type: none"> Appropriate documentation on processes is referenced in the Safety Report. <p>JSP 498 chapter 4 para 9</p>	<p>Establishment documentation should provide sufficient detail to allow an understanding of the process and the hazards that the process could generate. Operating methods should be included. Confirm that any operating methods are in accordance with appropriate technical regulations.</p>
<p>d. Dangerous Substances. Verify that the quantities of Dangerous Substances declared in the Safety Report, in accordance with JSP 498 Chapter 10, refer to the maximum anticipated holdings for each installation.</p> <ul style="list-style-type: none"> The sum of all the installation holdings agrees with the establishments declared maximum anticipated holdings. <p>JSP 498 chapter 4 para 7 & 8</p>	<p>See also MAPP Assessment Criteria Topic 3 - Holdings of Dangerous Substances.</p> <p>Verify that the sum of the quantities on the Description of Installation Form correlates with the quantity reported on the Establishment Holdings Form.</p>

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>4. Assessment of Risk</p> <p>a. MA Scenarios. Review the list of MA Scenarios. These must include a summary of events (either inside or outside the installation) which may play a role in triggering each of the scenarios.</p> <ul style="list-style-type: none"> • All relevant MA Scenarios have been identified. • A summary of triggering events, consequences and response actions has been included in all MA Scenarios. • Risk Assessments have been undertaken to cover all MA Scenarios. <p>JSP 498 chapter 3 para 21 – 23</p>	<p>See MAPP Assessment Criteria Topic 6 - Health and Safety Risk Assessments and Topic 8 - Environmental Risk Assessment.</p> <p>Check database information on MA scenarios. Verify that these scenarios are covered by Risk Assessments.</p> <p>Check that the scenarios include a summary of triggering events, consequences and response actions. Reference to appropriate emergency plans may be sufficient to address response actions.</p>
<p>b. Existing Controls.</p> <ul style="list-style-type: none"> • See MAPP Assessment Criteria Topic 5d - Controls and Topic 9 - Operational Control. 	
<p>5. Protection Measures</p> <p>a. Existing Controls.</p> <ul style="list-style-type: none"> • See MAPP Assessment Criteria Topic 5d - Controls and Topic 9 - Operational Controls. 	
<p>b. On-Site Emergency Plan.</p> <ul style="list-style-type: none"> • See On-Site Emergency Plan Assessment Criteria. 	<p>Confirm adequacy of On-Site Emergency Plan (see On-Site Emergency Plan Assessment Criteria Annex 8D):</p>
<p>c. Off-Site Emergency Plan. Confirm Off-Site Emergency plan dovetails with On-Site Emergency Plan.</p>	<p>Confirm dovetail of plans where an Off-Site Emergency Plan is available.</p>

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>6. Provision of Information to the Local Authority</p> <p>Confirm adequate information has been provided to the Local Authority (LA) to enable them to complete an Off-Site Emergency Plan in accordance with JSP 498 Chapter 8.</p> <ul style="list-style-type: none"> • Responsibility for liaison with the LA has been allocated. • Effective communication arrangements are in place. • The level of information required by the LA has been discussed, agreed and provided to the LA. • Systems are in place for the review and revision of this information. <p>JSP 498 chapter 4 paras 13 & 14, chapter 8 paras 7 & 8 & Annex 8A</p>	<p>Interview person allocated responsibility for liaising with LA.</p> <p>Verify that the establishment has prepared and maintained a record of the information provided to the LA, its source and how it is to be reviewed, revised and updated.</p> <p>See JSP 498 Chapter 8 for details of information required by the LA.</p> <p>It is acknowledged that LAs may be unwilling or unable to co-operate. In such cases the establishment will be judged on whether they have taken all reasonable steps to liaise with, and provide information to, the LA.</p>
<p>7. Provision of Information to the Public</p> <p>Confirm that appropriate information has been provided to people in the Public Information Zone (PIZ) in accordance with JSP 498 Chapter 4 Annex 4A.</p> <ul style="list-style-type: none"> • Responsibility for dealing with public enquiries has been allocated. • Procedures for issuing information have been documented. • The PIZ has been clearly identified, taking into account any special factors. • Information has been prepared and distributed to the PIZ. <p>JSP 498 chapter 4 para 16 & Annex 4A</p>	<p>Confirm that procedures have been produced, if appropriate, regarding the provision of information to the public. NB use of JSP 498 Chapter 4 is acceptable.</p> <p>Has an individual been allocated responsibility for dealing with requests from the public?</p> <p>Has Information been prepared in the format described in JSP 498 Annex 4A, or acceptable alternative? Check how information has been supplied or distributed.</p> <p>Have any specific requests been received from the public? Have these been dealt with satisfactorily and within required timescales (20 days)?</p> <p>Verify that the PIZ has been clearly identified eg, on suitable maps. Have significant factors been taken into account in determining the PIZ eg, other dangerous substance or particularly sensitive groups of people in the neighbourhood?</p>

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**ANNEX 6D
ON-SITE EMERGENCY PLAN ASSESSMENT CRITERIA**

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>1. Responsibilities</p> <p>Confirm functions of Key Posts have been documented. See Major Accident Prevention Policy (MAPP) Assessment Criteria Topic 4.</p> <ul style="list-style-type: none"> • See MAPP Assessment Criteria Topic 4 - Organisation. <p>JSP 498 chapter 5 paras 5 – 7 & Annexes 5A & 5B</p>	<p>Who is the Establishment Main Controller (EMC)/Establishment Incident Controller (EIC)?</p> <p>In the event of an emergency who is responsible for liaising with the Local Authority?</p> <p>Have these positions been allocated? Any other significant positions or responsibilities?</p> <p>Are Job Descriptions or Terms of Reference available?</p> <p>Have deputies been nominated to cover for absences?</p> <p>How have those in Key Posts and their deputy's competence been ascertained?</p>

2. Available Resources

a. Arrangements for Staffing. Including appropriate timescales to respond.

- The emergency response manning requirements have been defined.
- Staff are available to man the Emergency Control Centre (ECC) etc. including back-up staff to cover for absences.
- The response times for manning the ECC etc. have been defined and are achievable.
- The emergency arrangements have been developed in conjunction with the assessment of Major Accident (MA) risks.
- Suitable arrangements have been made for silent hours.

JSP 498 chapter 5 paras 8 – 12

Investigate the arrangements for manning the emergency response organisation (ECC etc.). This should include suitable back-up arrangements. An immediate establishment response is vital for the credibility of any response system. Further in-depth response should be available within a specified timescale. These arrangements must be justified as adequate in relationship to the risk at the establishment.

Confirm that manning requirements for the ECC and other key positions have been defined in establishment documentation. Investigate how individuals have been allocated duties regarding manning the ECC etc.

Interview staff to verify that they understand their duties and authority.

Check that response times have been defined. Have they been tested and found achievable? Investigate what arrangements have been made for silent hours. What arrangements have been made to recall key staff including safe route access to site and permissions to pass through cordons as required. Are the available resources appropriate to the risks? Refer to MA Risk Assessments and Environmental Risk Assessment (ERA).

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>2. Available Resources (Continued)</p> <p>b. Fire Fighting Equipment. Confirm details are readily accessible showing what fire fighting equipment is available. This can be a list or a diagram.</p> <ul style="list-style-type: none"> • Fire Safety Management Plans (FSMP) are available and indicate that equipment level is appropriate. <p>JSP 498 chapter 5 para 9</p>	<p>Verify that an inventory of Fire Fighting Equipment has been produced and is available.</p> <p>Review Fire Safety Management Plans (FSMP). Do these indicate that equipment levels are appropriate to the establishment?</p>
<p>c. Fire Fighting Roles of Establishment Personnel. Confirm details are available that show the fire fighting roles, if any, to be undertaken by establishment personnel in the event of a fire.</p> <ul style="list-style-type: none"> • Roles of Establishment Fire Service Personnel are defined. • Roles of other establishment personnel with respect to fire fighting are defined. <p>JSP 498 chapter 5 para 8</p>	<p>To include Defence Fire Service (DFS), RAF Fire Service, civilian staff, contractors etc. Job descriptions are preferred but simple statements of the roles are acceptable.</p> <p>Check establishment documentation. Does it define fire fighting roles for personnel including Establishment Fire Service, Fire Wardens, Military etc.?</p> <p>Evidence of appropriate training should be sought. (See Topic 10 - Training).</p>
<p>d. Adequate Fire Fighting Water Supply. Confirm how the water supply has been evaluated and approved as adequate. Reference should have been made to appropriate standards.</p> <ul style="list-style-type: none"> • Adequate Fire Fighting Water supplies are available. <p>JSP 498 chapter 5 para 9</p>	<p>Seek evidence that water supplies conform to JSP 426 requirements and Crown Fire Standard D3. Review FSMPs for matters relating to water supply.</p> <p>Ring main, Emergency Water Supplies (EWS) etc. must be adequately maintained. (See Topic 12 - Maintenance of Emergency Equipment).</p>

<p style="text-align: center;">TOPIC & PASS CRITERIA</p>	<p style="text-align: center;">GUIDANCE/VERIFICATION METHOD</p>
<p>2. Available Resources (Continued)</p> <p>e. Adequate Stocks of Foam Compound. Confirm that the rationale for the quantities of foam compound held justifies the stock level.</p> <ul style="list-style-type: none"> • Methods to determine quantity of foam compounds required on the establishment are sound. • Quantities of foam compounds held match the quantity deemed necessary. <p>JSP 498 chapter 5 para 9</p>	<p>How is the quantity of foam compound required calculated? Is this issue covered in FSMPs; considered in emergency plans and ERA?</p> <p>Confirm that quantity held and evaluated quantity match.</p>
<p>f. Emergency Equipment. Confirm details are provided of what emergency equipment is available on the establishment and where it is located.</p> <ul style="list-style-type: none"> • Inventories of emergency equipment are maintained. • Location details of emergency equipment are specified. • Relevant personnel are familiar with the location details. • Emergency equipment is accessible. • Emergency equipment is suitably stored. <p>JSP 498 chapter 5 para 9</p>	<p>This includes oil collection booms, cordoning equipment, barriers, emergency lighting etc. Confirm that there are arrangements to ensure the equipment will work when required eg, protection from the elements to avoid freezing up or deterioration.</p> <p>Review Technical Inspection Reports and, if necessary, inventory of emergency equipment. Cross-reference with Risk Assessments. Does equipment held relate to emergency equipment requirements specified in Risk Assessment?</p> <p>Verify that location details of emergency equipment are clearly defined and that relevant personnel know of the location.</p> <p>Verify by location visit that the equipment is accessible in the event of an emergency (ie it is not locked away with no easy access to keys).</p> <p>Verify that equipment is suitably stored and maintained. (See Topic 12 - Maintenance of Emergency Equipment).</p>

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>2. Available Resources (Continued)</p> <p>g. Arrangements for Supplementing Establishment Resources. Confirm details are provided of the arrangements for supplementing establishment resources.</p> <ul style="list-style-type: none"> • The need for support from external agencies with respect to MA prevention, mitigation or environmental remediation has been properly assessed. • The sources of support have been identified. • Effective liaison is maintained with organisations that may be called upon to provide assistance. • Where necessary, contracts have been placed. • Effective systems are in place to ensure that appropriate assistance is requested when necessary. <p>JSP 498 chapter 5 paras 10 & 11</p>	<p>This could be through the use of dormant contracts with commercial suppliers or MOD resources from other establishments. Detailed listing of equipment is not necessary; a broad indication of the type of support available is acceptable. Particularly important for environmental remediation actions.</p> <p>Check what supplementary arrangements for dealing with MAs are specified in Risk Assessments.</p> <p>Identify what contacts have been made with external agencies regarding assistance in the event of an MA. Review any contracts raised with respect to such support.</p> <p>Verify that relevant personnel are aware of the supplementary assistance available and the means to call upon this assistance.</p> <p>The names and contact details of organisations that may be called on to provide assistance are in emergency plans</p>
<p>h. Possibility of Loss of Utilities. Confirm the plan shows how the establishment will deal with a loss of power or other essential service. It will either detail back-up arrangements or justification for not providing back-up arrangements.</p> <ul style="list-style-type: none"> • Back-up arrangements to deal with loss of essential services have been fully justified. • Back-up arrangements are in place, tested and maintained. <p>JSP 498 chapter 5 para 11</p>	<p>Confirm that the means to deal with the loss of power etc. is set out in appropriate documentation.</p> <p>Investigate what back-up arrangements for power loss are in place eg, emergency generators.</p> <p>Are systems tested and maintained? (See Topic 12 – Maintenance of Emergency Equipment).</p> <p>Information on this may be contained in the establishment Business Continuity or Contingency Plan (JSP 503 - Business Continuity refers).</p>

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>2. Available Resources (Continued)</p> <p>i. Limiting Escalation. Confirm details are provided on the general principles to be applied to mitigate the consequences of an incident.</p> <ul style="list-style-type: none"> • Mitigation measures are identified in Risk Assessments. • Documentation is in place detailing measures to be taken to limit escalation of incidents. • Personnel are familiar with the actions to be taken to prevent escalation. <p>JSP 498 chapter 5 paras 22 – 24</p>	<p>This information should cover reactive measures eg, the damping down of adjacent buildings in the event of a fire or the closure of fuel delivery valves in the event of a burst pipe. This includes notification of Water Companies or those who could otherwise be affected e.g. water abstractors, (This does not cover the use of stock segregation techniques, firewalls, Quantity Distance (QD) criteria etc. as these will be covered in the MAPP and are regarded as proactive measures).</p> <p>Review mitigation methods identified in Risk Assessments.</p> <p>Are these methods documented?</p> <p>Interview emergency response personnel to assess whether they are fully aware of the actions they must take to limit the potential for escalation of an event and to mitigate consequences.</p> <p>Are automatic control measures and shut off systems employed? If so is there a means of human intervention? Are staff trained to assess when human intervention might be necessary?</p>
<p>j. Establishment Resources Available to Off-Site Emergency Plan.</p> <ul style="list-style-type: none"> • Information has been provided to the Local Authority (LA) on resources available on-site to deal with an MA. • Appropriate establishment personnel fully understand the resources available on-site to support the Off-Site Emergency Plan. <p>JSP 498 chapter 6 paras 7 & 16</p>	<p>Confirm this covers such arrangements as pre-positioned stocks of Foam, normally Film Forming Floro Protein (FFFP) or potential use of establishment staff to assist in evacuation procedures eg, utilisation of Ministry of Defence Police (MDP) to assist Civil Police or the utilisation of establishment property by the media. Both On-Site and Off-Site Emergency Plans should clearly show what resources are available and the circumstances in which they will be released.</p> <p>Verify that information has been provided to the LA on the resources available to assist with the Off-Site Plan.</p> <p>Have the details of resources been discussed and agreed with the emergency services?</p> <p>Do relevant establishment personnel understand the support arrangements?</p>

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>3. Emergency Arrangements</p> <p>Location of the ECC, Medical or First Aid Centres, Emergency Shelters, Muster Points, Forward Control Points.</p> <ul style="list-style-type: none"> • The location of ECC, Medical Facilities, Muster Points, Emergency Shelters and other relevant locations are clearly shown in plans and relevant procedures. • The need for secondary locations and back-up facilities has been considered and included in plans where appropriate. • The selected locations are appropriate to the hazards at the establishment. • Where necessary, suitable direction signs and location signs have been erected. <p>JSP 498 chapter 5 paras 13 – 15</p>	<p>Confirm details are available of locations of the ECC (main and alternates) medical or first aid centres, emergency shelters, muster points and pre-planned forward control points. This may be provided in the form of a list or a diagram. It is acceptable to have different ECCs depending upon the nature of the emergency but each should conform to the minimum standards required in JSP 498 Chapter 5 Annex 5C.</p> <p>Check plans and procedures detailing location of ECC, Medical Centres, Emergency Shelters etc.</p> <p>Investigate selection and justifications for these locations and for alternative or back-up locations.</p> <p>Visit locations to judge suitability eg, proximity from hazardous installations, physical protective structure, etc. Are directions to/locations of: muster points, forward control points, Rendezvous Points (RVPs), emergency shelters etc. clearly signed?</p> <p>Verify that medical centres are fully manned.</p> <p>Note. Are First Aiders trained to deal with injuries likely to result from an MA eg, trauma, severe burns etc.</p>

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>4. Warning Systems</p> <p>a. Establishment Alert Arrangements.</p> <ul style="list-style-type: none"> • Effective arrangements are in place to alert:- <ul style="list-style-type: none"> • Key personnel. • Specific areas. • Whole site. • External Agencies. • General Public. • The means of alert are tested and maintained. • Response actions are periodically practised. <p>JSP 498 chapter 5 para 16</p>	<p>Confirm details are provided to show how people on the establishment are alerted to an incident. This should include the systems for mass alert eg, sirens or tannoys, as well as specific individuals. Establishment actions will also include contacting a limited number of off-site organisations, such as emergency services, neighbouring establishments, downstream water abstractors etc.</p> <p>Investigate systems for site wide and local area alerts or alarms. How are key personnel alerted in the event of an MA?</p> <p>Verify that systems are tested and check records.</p> <p>Question staff on arrangements for contacting external agencies i.e. emergency services, Environment Agency (EA), sewerage undertakers, water abstractors etc.</p> <p>How are contractors and visitors alerted and directed in the event of an MA?</p> <p>What arrangements are in place to alert the public in the event of an MA? This must be different to on site alerts unless the PIZ would be immediately affected in every scenario. Seek confirmation that the alerts adequately cover the PIZ.</p>
<p>b. Initial Reactions to Alert or Warning.</p> <ul style="list-style-type: none"> • Initial actions in response to MA alerts are clearly documented. • Required actions have been effectively communicated to all relevant staff, contractors, visitors and others who may be affected. • Automatic systems are tested. <p>JSP 498 chapter 5 para 17 & Annex 5D</p>	<p>Confirm that the plan shows what initial reactions are considered necessary. The depth required is dependent upon the complexity of the operation; however as a minimum it should include, isolation of fuel valves, First Aid Fire Fighting, manning of the ECC and alerting the emergency services.</p> <p>Investigate availability and adequacy of documentation relating to actions to be taken in response to alerts. Check documentation relating to individual hazardous installations, hazardous areas, specified areas, whole site and off-site.</p> <p>Have automatic shut down or fire detection systems been installed? Are these systems tested and maintained? Is there scope for human intervention and override? Have staff been fully trained regarding the circumstances and actions to be taken when over-riding automatic systems?</p>

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>4. Warning Systems (Continued)</p> <p>c. Arrangements for Briefing Emergency Services.</p> <ul style="list-style-type: none"> • Personnel have been allocated responsibility for briefing emergency services responding to MAs. • Information on specific hazards is readily available to the emergency services. • Effective systems are in place to ensure information is accurate and maintained up to date. • Effective arrangements are in place to provide information on the developing situation to EMC, EIC or other relevant parties. <p>JSP 498 chapter 5 para 17</p>	<p>Confirm that the plan describes the arrangements to brief the emergency services on the incident and any recommendations as to future actions. This should include how the initial information is to be briefed and how any follow up information is to be provided. The arrangements should be robust and avoid the possibility of confusing or misleading information being passed on. A single focal point for transfer of information is preferable.</p> <p>Verify that documentation details briefing arrangements for emergency services. Verify that nominated personnel are aware of their duties.</p> <p>Verify that information is readily available to the emergency services on arrival on the establishment eg, grab pack at gatehouse. Check systems for keeping such information up to date and accurate. Investigate how accurate information is gathered and passed on to person(s) responsible for briefing emergency services. In particular, are details of the contents of explosives buildings readily available to Incident Controllers etc? Information sources should be clearly defined. Are briefing arrangements included in Communications Exercises?</p>
<p>d. Monitoring Arrangements for Wind Speed and Direction.</p> <ul style="list-style-type: none"> • Measuring and monitoring equipment is available or has been installed where appropriate. • Links with the Meteorological Office have been established. <p>JSP 498 chapter 5 paras 22 - 24</p>	<p>Confirm that a system is available for determining wind speed and direction. A general indication from the local Meteorological Office may be sufficient. If the Risk Assessment indicates a high probability of wind borne contamination that will result in a toxic hazard, arrangements should be made on the establishment eg, weather station or hand held anemometer. See also Topic 5 - Wind Borne Release. Check details of assessments of risk of wind borne contamination. Has dispersion modelling been used to estimate extent of potential hazard or arrangements made to obtain information on dispersion?</p> <p>Have links been established with Meteorological Office?</p> <p>Have other organisations that may provide information on wind borne hazards been identified? Is equipment available to measure wind speed and direction and type and concentration of contaminant?</p> <p>Is there a need for monitoring stations?</p>

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>4. Warning Systems (Continued)</p> <p>e. Access Routes for Emergency Services, Escape Routes and Restricted Areas.</p> <ul style="list-style-type: none"> • Maps and site plans clearly show access and escape routes and restricted areas. • Access and escape routes are signed as appropriate and free from obstruction in the event of an MA. • Arrangements are in place to direct people to designated routes. 	<p>Confirm details are available of any pre-planned access routes for the emergency services. If pre-planned routes are not available then evidence should be available to show how the decision process is carried out to ensure the emergency services can approach the establishment safely and obtain a briefing of the situation. Expected documentation would be maps showing pre determined access routes, escape routes and restricted areas.</p> <p>Verify that RVPs are clearly identified on plans. Check that the locations of RVPs are self-evident or signed.</p> <p>Verify that access and escape routes have been identified. Check that routes are signed as appropriate and that there is no restriction or blockage of access.</p> <p>Check that secondary or alternative routes have been identified.</p> <p>Check if emergency responders have agreed pre planned routes.</p> <p>Verify that restricted areas eg, in or adjacent to hazardous areas, radar installations etc. are clearly identified and that sufficient information is available to be communicated to emergency services etc. Check that barriers, fences, signs or other suitable means are in place to indicate, or restrict access to, restricted areas.</p>

JSP 498 chapter 5 para 17

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>4. Warning Systems (Continued)</p> <p>f. Communications.</p> <ul style="list-style-type: none"> • Communication arrangements are clearly defined in establishment procedures. • Suitable communication equipment is available. • Communication systems and equipment are tested. • Communication arrangements within hazardous installations have been addressed. • Communication arrangements with the emergency services have been agreed, tested and found to be suitable. • Back-up arrangements are in place. <p>JSP 498 chapter 5 para 9 & 47</p>	<p>Confirm that there are adequate communication systems, including interoperability. The plan should provide details of the communications systems available, telephone, radio etc. Where feasible it should explain how such systems could be combined to ensure adequate information flow. It should include any arrangements for integrating different systems eg, the emergency services radio net and the establishments radio net. If emergency services focal points are not co-located in the ECC confirm adequate communications can be maintained. It is preferable to have systems co-located so radio nets can be operated in parallel.</p> <p>Verify that the means of communication between key personnel, emergency services and establishment personnel have been identified. (See Topic 4a for Establishment Alert Arrangements).</p> <p>Check availability of radios, pagers, mobile phones etc. and location of emergency phones in hazardous installations.</p> <p>Establish what checks have been made to ensure interoperability eg, with equipment used by emergency services. What steps have been taken to ensure equipment operates across all appropriate areas on the establishment i.e. have dead areas been identified?</p> <p>Verify that communication exercises have been completed and that recommendations have been implemented. (See Topic 11 – Exercising of Emergency Plans).</p> <p>(See Topic 2h regarding communication back-up arrangements).</p> <p>Confirm that arrangements have been made with BT Emergency Communications Network. Have mobile phones been registered with Mobile Privileged Access Scheme.</p>

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>4. Warning Systems (Continued)</p> <p>g. Mustering and Search and Rescue Arrangements.</p> <ul style="list-style-type: none"> • Effective procedures are in place to identify who is on the establishment at any time. • Effective arrangements are in place to complete roll call at muster points and to identify the potential whereabouts of missing persons. • Systems are in place to communicate information between the muster points and the EMC, EIC and search and rescue teams. <p>JSP 498 chapter 5 para 28</p>	<p>Confirm details are shown of the mustering arrangements. Whilst adjustment can be made for the complexity or size of the establishment, mustering should normally be completed within 30 minutes. It is not necessary to muster the complete establishment if arrangements are in place to restrict access to the area that is affected by an incident. The system should include the principles for searching for people who are not accounted for on completion of mustering eg, forwarding details to the emergency services along with an assessment of the risk involved in entering particular areas that are affected by the incident.</p> <p>Verify that muster points for MAs have been identified on plans (these may differ from muster points for smaller or localised incidents). Visit locations to judge suitability regarding MAs.</p> <p>Verify that persons have been nominated to complete muster procedures.</p> <p>Check arrangements for determining who is on the establishment, particularly in or near hazardous installations. Particular attention should be paid to the arrangements for accounting for contractors and visitors. Verify that a visitors log is maintained eg, at access points to the establishment and to hazardous areas.</p> <p>Check what arrangements have been made for silent hours.</p> <p>Verify that suitable arrangements are in place to notify EMC and emergency services of missing persons.</p> <p>Verify that search and rescue arrangements have been made, particularly for hazardous installations.</p>

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>4. Warning Systems (Continued)</p> <p>h. Evacuation Arrangements.</p> <ul style="list-style-type: none"> • Organisations and staff responsible for managing evacuation are clearly defined. • Effective liaison is maintained between all parties involved in evacuation arrangements. <p>JSP 498 chapter 5 para 29</p>	<p>Confirm that plans are available showing the arrangements for on-site and off-site evacuation. This may be for immediate action or over a more extended period as deemed necessary to manage the incident. They should show who is controlling these procedures (MDP, Civil Police, Establishment Staff). This could be a mixture, for instance establishment staff overseeing an on-site evacuation whilst Civil Police oversee the off-site evacuation. It should be clear who has responsibility to action these arrangements.</p> <p>Review procedures for on-site and off-site evacuation. Are responsibilities clearly defined? Are nominated persons or agencies familiar with evacuation routes, mustering arrangements etc.</p> <p>Has appropriate information been passed to the LA for inclusion in the Off-Site Plan?</p>
<p>i. Consideration of the Effects of Emergency Response Actions.</p> <ul style="list-style-type: none"> • The effects of emergency response actions have been considered in the ERA. • Procedures and physical controls are available and in place. <p>JSP 498 chapter 5 paras 22 – 24 & 32</p>	<p>Confirm that the effect to the environment from firewater run off is included in the ERA. The arrangements for reducing the impact of firewater run off should be shown. This would be expected to cover such elements as drain interceptors, curbed areas, the provision of catchment areas (lagoons), pre fire plan control burn options, etc.</p> <p>Check USRP for plans to control pollutants including FFW run off.</p> <p>Check ERA for assessment of effects of: emergency plans including FFW run off, emergency dams/excavations/back filling of drains/etc, mitigation provided by USRP.</p> <p>Review referenced procedures and documentation.</p> <p>Is special equipment eg, booms, required?</p> <p>Discuss arrangements with the Establishment Fire Officer, Pollution Control officer and environmental advisor.</p>

<p align="center">TOPIC & PASS CRITERIA</p>	<p align="center">GUIDANCE/VERIFICATION METHOD</p>
<p>5. Wind Borne Release</p> <p>a. Arrangements to Mitigate the Consequences of a Wind Borne Release.</p> <ul style="list-style-type: none"> • Dangerous substances with the potential to be released to and carried in air have been identified in Risk Assessments. • Control measures identified by Risk Assessment are in place. • Areas at risk from wind borne hazards have been identified. • Sources of information relating to wind borne hazards have been identified and links established. <p>JSP 498 chapter 5 paras 22 – 24, 30 & 31</p>	<p>Confirm that if a Risk Assessment predicts the release of toxic wind borne particles the arrangements for mitigating the consequences of their release are provided. This may include methods of reducing the emission and the spread of particulates and ways to protect individuals who could be exposed to the emissions.</p> <p>Identify any toxic materials referenced in Risk Assessments inventories of dangerous substances, site hazard surveys etc. with potential to be released to atmosphere eg, toxic smoke (fuels, CS), Depleted Uranium (DU), Man Made Mineral Fibres (MMMMF).</p> <p>Have physical control measures been introduced eg, segregation or isolation, sprinkler systems, selection of location with regard to people on and off-site (taking into account prevailing winds)?</p> <p>Have instructions been published on actions to be taken in the event of release to atmosphere eg, stay indoors, shut windows etc.?</p> <p>Has Personal Protection Equipment (PPE) and or Respiratory Protection Equipment (RPE) been provided to persons particularly at risk? (See also Topic 4d for monitoring arrangements for wind speed and direction).</p>

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>6. Liquid Release</p> <p>a. Measures to Mitigate the Consequences of a Leak involving a Dangerous Substance.</p> <ul style="list-style-type: none"> • Effective procedures are in place to monitor loss of liquid for both slow and rapid loss. • Effective shut-off procedures are in place. • Effective procedures are in place to deal with spills and leaks. <p>JSP 498 chapter 5 paras 22 – 24, 30 & 31</p>	<p>Confirm that details are provided of the arrangements to limit leaks. This would be expected to include arrangements to monitor pumping pressures or liquid levels and the actions that should be taken if changes in these monitored elements indicate a problem eg, shut down of pipelines or valves. Examples of measures would include use of multiple valves with interlocks to reduce spills to short lengths of pipe or the automatic close down of pumps if pressure lost.</p> <p>Check the availability of reports undertaken by external authorities eg, Fuels & Gases Safety Regulator (FGSR). Review any such reports. Are any recommendations made relating to accidental liquid releases?</p> <p>Investigate process controls, monitoring, shut-off and isolation arrangements.</p> <p>Are Mass balance audits undertaken?</p> <p>Are staff trained in operation and monitoring of installation?</p> <p>Check that spill kits etc. are available and accessible. Verify that personnel have been trained in actions to be taken in the event of spills or leaks.</p> <p>Are filling and or discharge operations properly supervised?</p> <p>Check that all drains are identified on a plan. Check drains in location of hazardous installations. Are drains colour coded? Are physical controls eg, separators, sumps, lagoons, catchment areas etc. identified and maintained?</p> <p>Check that leak pathways for gasses including heavier than air gasses have been identified and assessed.</p> <p>Check adequacy of controls associated with maintenance operations eg, pre-planning, permits to work etc.</p>

<p style="text-align: center;">TOPIC & PASS CRITERIA</p>	<p style="text-align: center;">GUIDANCE/VERIFICATION METHOD</p>
<p>6. Liquid Release (Continued)</p> <p>b. Secondary Containment.</p> <ul style="list-style-type: none"> • Secondary containment volumes are appropriate to the volume of liquid stored. • The integrity of the secondary containment system is sound. <p>JSP 498 Appendix 6A9</p>	<p>Confirm that the secondary containment eg, bunding, is adequate for the quantity of liquid that may be released (110% of tank capacity and impermeable). This could also include secondary containment for firewater run off (kerbs, hoses, booms etc.).</p> <p>Review Technical Inspection Reports.</p> <p>Review calculations for bunding etc. volume. Visit bulk liquid storage installations.</p> <p>Confirm integrity and adequacy of bunding arrangements. Assess secondary arrangements, particularly in fill and discharge areas.</p> <p>Confirm that bunding arrangements etc. are periodically checked for integrity and that suitable arrangements are in place to deal with emptying debris and rain water.</p>
<p>7. Monitoring and Sampling</p> <p>a. Provisions For Monitoring Contamination.</p> <ul style="list-style-type: none"> • Procedures for sampling and monitoring have been defined in establishment documentation. • Human and technical resources to undertake sampling and monitoring have been identified. • Actions to be taken in the event of excursions from defined limits have been documented. <p>JSP 498 chapter 5 paras 22 – 24, 27 & 30.</p>	<p>Confirm that the arrangements for the monitoring of contamination eg, HAP/OTTO Fuel, DU, Oil Fuels etc, are detailed. This would include arrangements for obtaining suitable technical equipment and trained personnel to operate it. Staff conducting hazardous monitoring should be trained and certified as competent. It should be noted that, if the establishment is a Nuclear Authorized Site, radioactive spills are not covered by Major Accident Control Regulations (MACR).</p> <p>Check database for named substances.</p> <p>Check site hazard survey.</p> <p>Has the need for monitoring and sampling (including statutory health monitoring of workers) been assessed in the Risk Assessment process?</p> <p>Confirm that establishment documentation describes the arrangements for monitoring and sampling with regard to adverse health effects and environmental releases. Confirm that actions to be taken in the event of releases with MA potential are described in procedures</p> <p>Confirm that the technical and administrative arrangements are in place.</p>

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>8. Environmental Remediation</p> <p>a. Long Term Remediation Arrangements.</p> <ul style="list-style-type: none"> • ERAs include information on potential remediation measures. • Sources of assistance to deal with long term consequences of pollution incidents resulting from MAs have been identified. <p>JSP 498 chapter 5 paras 32 & 33</p>	<p>Confirm that there are arrangements for the long term remediation of the consequences of an MA. These will probably include dormant enabling contracts for decontamination such as the removal of contaminated soil, dispersal of spilled material, etc. Confirm that the arrangements include agreement from the relevant Environment Agency (EA/SEPA/etc), local conservation groups and other interested parties. It is better to concentrate on establishing the principles to be used rather than the application of specific measures.</p> <p>Review ERA for environmental aspects and impacts.</p> <p>Verify that potential remediation measures have been defined and that potential resources and sources of assistance been identified.</p> <p>Have contracts been placed to provide assistance with pollution incidents? Verify that these are appropriate to the environmental aspects relating to the establishment.</p> <p>Investigate what specialist assistance has been sought with regard to the identification of appropriate remediation arrangements.</p>
<p>9. First Aid and Medical Requirements</p> <p>a. On-Site Medical Emergency.</p> <ul style="list-style-type: none"> • The level of medical and first aid resources has been properly assessed and justified. • Medical and first aid arrangements for dealing with MAs are documented. • Medical and first aid resources appropriate to the hazards and risks are in place. <p>JSP 498 chapter 5 paras 41 & 42</p>	<p>Confirm how the On-Site Emergency Plan deals with a medical emergency eg, requirements for treating Otto fuel contaminated staff. Include details of how the establishment provisions dovetail with the Off-Site Emergency Plan where appropriate. These arrangements may be covered in a number of stand-alone procedures.</p> <p>Investigate justification for level of medical and first aid facilities (Health and Safety (First Aid) Regulations 1981 Reg. 3).</p> <p>Check Risk Assessments etc. for the need for any special medical facilities or arrangements to deal with specific dangerous substances. Verify that such facilities are available. Verify that the training requirements have been defined and that staff have been trained and maintain their skill levels.</p> <p>Verify that establishment procedures describe the medical and first aid facilities available and arrangements for use in the event of an MA.</p>

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>10. Training</p> <p>a. Emergency Organisation Personnel.</p> <ul style="list-style-type: none"> Effective systems are in place to ensure that staff receive training within specified timescales. <p>JSP 498 chapter 5 para 43</p>	<p>Confirm that the training required for individuals having a specific role to undertake in the emergency organisation has been identified. This should cover, knowledge of alarm systems, information on MA scenarios, environmental impact, availability of resources and specific duties for emergency posts. Each position in the emergency organisation should have been assessed to determine the competencies required and the training needed to deliver those competencies. It should be demonstrable that the post requirements have been reviewed against the competency of an individual.</p> <p>These aspects have been covered in part in elements of the MAPP (Topic 4b), SR and On-Site Emergency Plan Assessment Criteria.</p> <p>Undertake a detailed review of training arrangements.</p>
<p>b. Awareness Training.</p> <ul style="list-style-type: none"> An effective system is in place to provide persons working at the establishment with training and information on actions to be taken in the event of an MA. <p>JSP 498 chapter 5 paras 43 Table 5.1</p>	<p>Confirm that general awareness training has been developed to a set programme covering as a minimum; evacuation and mustering, initial actions and use of emergency and protective equipment. Frequency should be in accordance with the timeframes laid down in JSP 498 Chapter 5. Verify that appropriate training has been recorded on personal training records and that these records are kept for at least three years.</p> <p>Verify that there is a system for provision of training on actions to be taken in the event of an MA on joining and that refresher training is provided at appropriate intervals. Refresher training could be in the form of evacuation exercises, provision of information in the form of leaflets or briefings from supervisors etc.</p> <p>Verify that formal training is recorded on personal training records and that evacuation exercises are properly recorded.</p> <p>Test knowledge of individuals on action to be taken in the event of an MA. Pay particular attention to lodger units, contractors etc.</p>

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>10. Training (Continued)</p> <p>c. Emergency Services Familiarisation.</p> <ul style="list-style-type: none"> • Emergency Services have been invited to undertake familiarisation visits at least annually. • Records of such visits should be maintained. <p>JSP 498 chapter 5 paras 44 – 45, Table 5.1</p>	<p>Confirm that the emergency services are encouraged to undertake a familiarisation visit to the establishment at least annually.</p> <p>Training should be undertaken in accordance with the frequencies laid down in JSP 498 Chapter 5 and records of such training and familiarisation visits should be kept for at least three years.</p> <p>Verify records are maintained and kept for at least three years.</p>
<p>11. Exercising of Emergency Plans</p> <p>a. Frequency of Exercises.</p> <ul style="list-style-type: none"> • Emergency exercises are undertaken in accordance with JSP 498 Chapter 5. <p>JSP 498 chapter 5 paras 46 – 49 & Table 5.2</p>	<p>Confirm that there is a programme for exercising the emergency plans in accordance with the frequencies laid down in JSP 498 Chapter 5 and that there is evidence of compliance to the programme.</p> <ul style="list-style-type: none"> • Table Top – Yearly. • Communications – Six monthly. • Live (internal) – Yearly. • Live (with external emergency services) – Three yearly

<p style="text-align: center;">TOPIC & PASS CRITERIA</p>	<p style="text-align: center;">GUIDANCE/VERIFICATION METHOD</p>
<p>11. Exercising of Emergency Plans (Continued)</p> <p>b. Recording of Tests and Updating of Emergency Plans.</p> <ul style="list-style-type: none"> • Detailed records relating to emergency exercises are maintained. • Recommendations made in Post Exercise Reports (PXR) have been implemented. <p>JSP 498 chapter 5 para 49 & 50</p>	<p>Confirm that arrangements exist for keeping PXR for a minimum period of three years. The PXR will include lessons learnt and they should be reviewed to ensure that the lessons learnt have been reflected into working practices and the emergency plans have been updated as required.</p> <p>If considered necessary, review PXR for each exercise.</p> <p>Verify that lessons learned and recommendations have been implemented and emergency plans updated.</p>
<p>12. Maintenance of Emergency Equipment</p> <p>a. Arrangements for the Maintenance of Emergency Equipment.</p> <ul style="list-style-type: none"> • Inspection, testing, examination and maintenance procedures are available for emergency equipment. • Equipment is inspected, maintained etc. by competent persons. • Records of all inspection, maintenance etc. are kept. • Records indicate that inspection, maintenance etc. is undertaken at appropriate frequency. <p>JSP 498 chapter 5 para 51 & 52</p>	<p>Confirm that such equipment is covered by standard plant maintenance procedures which includes inspection, examination and testing. Assessment of these arrangements should include scrutiny of the appropriate records. It should be possible to verify that the maintenance has been carried out in accordance with the Provision and Use of Work Equipment Regulations 1998 (PUWER).</p> <p>Verify that all appropriate emergency equipment is entered onto some form of inventory or register.</p> <p>Verify that the inspection, testing and maintenance requirements for all such equipment are specified.</p> <p>Verify that records exist which demonstrate that equipment is inspected, tested and maintained to the required standards and frequencies.</p> <p>Verify that effective systems are in place to ensure new equipment is entered onto appropriate inspection schedules.</p> <p>Maintenance regimes should be in place for all emergency equipment, for example:-</p> <p>Water mains and emergency water tanks, fire fighting equipment, stand-by generators, communication equipment, spill equipment and monitoring equipment.</p>

**ANNEX 6E
QUALIFIED ESTABLISHMENTS INSPECTION CRITERIA**

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>1. Emergency Exercise</p> <p>a. Planning Phase. Confirm that the establishment has produced an exercise plan.</p> <ul style="list-style-type: none"> • Specific objectives set. • Performance criteria for each objective set. • Realistic scenario produced. • Key events timeline produced. • Directing Staff (DS) and Observers identified. • Public warned (if appropriate). 	<p>Objectives may be as simple as testing particular elements of the emergency plan such as the evacuation arrangements or testing how the emergency plans cope with a particular type of incident and should identify the exercise objectives in discussion with all the agencies involved.</p> <p>Performance criteria should be agreed in advance and where possible should be quantitative eg, full muster of staff completed within 30 minutes of the alarm.</p> <p>The scenario should be based on one of the Major Accident (MA) scenarios identified for the establishment. The off-site agencies may have particular requirements that they would like to exercise that will not be readily apparent to establishment staff. In order to generate maximum benefit the exercise scenario should be agreed with the establishment and off-site agencies.</p> <p>Artificial compression of the key events timeline may be necessary in order to exercise all elements of the plan. However any compression will introduce exercise artificiality and should be kept to a minimum. All staff should be made aware of any intentions to compress the timeline.</p> <p>DS must be identified and separate from those people undertaking their emergency response function. In addition to DS it is advantageous to have observers at various locations on the establishment to provide feedback on the responses that occur to the exercise action.</p> <p>It may be necessary to warn the public that an exercise is taking place. The establishment should also have a system in place to respond to any enquiries from the public during the exercise.</p>

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<ul style="list-style-type: none"> • Flow of information into and out of the ECC tested. (continued) • Flow of information within the ECC tested. • Decision making process tested. • Liaison with Emergency Services 	<p>Type of link between ECC and Forward Control Point</p> <p>Did links work effectively / were they sufficient?</p> <p>Was a dedicated person appointed to perform this linkage?</p> <p>The flow of information within the ECC will require demonstration that information received is exchanged and disseminated to all parties with a role to play and in a format that can be understood and assimilated. Additionally all decisions made within the ECC must be forwarded to relevant participants.</p> <p>How good was the process of sharing information?</p> <p>Was salient information posted on wall boards?</p> <p>Decision making involves demonstrating that advice is provided by all participating organisations to allow rational decisions to be made, which can then be implemented.</p> <p>Was a dynamic risk assessment conducted to assess on-site and off-site consequences?</p> <p>Was it timely – was it re-visited?</p> <p>What was taken into account? e.g. – chemical concerned, wind speed & direction, amount released, toxicity, harmful effects, environmental impact if any, density of population likely to be effected, knowledge of vulnerable premises, isolations completed, warnings necessary for the public.</p> <p>Were RV points considered / set up? Were safe routes established?</p> <p>Was someone designated to meet and greet the emergency services?</p> <p>If so at what location?</p> <p>Are there grab bags (site maps/hazard data sheets) located at gatehouse for emergency services?</p>

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<ul style="list-style-type: none"> • Liaison with Emergency Services (continued) • Command and Control arrangements tested. • Emergency equipment tested. • Mitigatory Actions to reduce off-site consequences / impact on off-site arrangements. • Mitigatory actions to reduce any adverse effects to the environment 	<p>Were gate staff aware of procedure? Were escorts provided? Was emergency services properly briefed at scene / FCP? Command and Control arrangements will require demonstration that there are clear and effective lines of responsibility and that the participating organisations work together in a coherent and effective manner. Was an ECC Manager appointed? Was a person nominated to meet/greet personnel as they arrived at ECC? Were Liaison Officers from emergency services briefed on arrival at ECC? Did time-outs take place – were they well conducted / concise/ constructive / informative – did they result in actions to take? Was a technical advisor part of ECC team? Was he/she part of call-out team? Was technical information readily available – either pc based or hard copy? Was technical information disseminated appropriately? Emergency equipment involves demonstrating that the equipment identified as having a role to play in the response to an emergency, is fully operational; that identified personnel are competent to operate it and that it can be deployed quickly and safely(e.g. MHE available, pre determined access locations, etc.) Were implications / effects (or potential) considered? If so, were they sufficient / timely / adequate? Were implications / effects (or potential) considered? If so, were they sufficient / timely / adequate? Involvement of external environmental experts</p>

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<ul style="list-style-type: none"> Public Relations (PR) arrangements tested. 	<p>PR arrangements involve the need to demonstrate how information on the emergency and current response can be passed to all participating organisations and appropriate media. This may require preparing briefs for the media or providing a media briefing centre.</p> <p>Were media protocols activated – timely – who by?</p> <p>Effectiveness of a media briefing centre</p> <p>Were press statements produced – who by – were they timely – were they co-ordinated?</p> <p>Was there an exchange of PRO's between Operator and Police or other lead agencies?</p>
<ul style="list-style-type: none"> Off-Site Emergency Plan activated (Top Tier Sites only). 	<p>Activating the Off-Site Emergency Plan will require demonstration that there is an effective method for moving from the On-Site Emergency Plan to the Off-Site Emergency Plan.</p>
<ul style="list-style-type: none"> Problem areas identified. 	<p>Problem areas identified during the exercise should be dealt with in an effective and timely manner.</p>
<ul style="list-style-type: none"> Positive areas identified. 	<p>Any particularly good practices seen during the exercise should be noted and brought to the attention of the participants. If these would benefit the wider community then adequate information will be gathered on such practices and, with the permission of the establishment, passed on to the other qualifying establishments.</p>

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>c. Debrief Phase.</p> <ul style="list-style-type: none"> • Hot debrief held. <p style="padding-left: 40px;">Written Post Exercise Report (PXR) produced.</p>	<p>There should be an immediate post exercise debrief (hot debrief) with all participating agencies being given the opportunity to contribute.</p> <p>There should be a written PXR produced within a reasonable timescale (normally within one month). All involved agencies should be given the opportunity to contribute to the PXR and all should receive a copy of the final report.</p> <p>The PXR should record any Lessons Identified and consider the need to improve procedures. Areas for improvement should be incorporated into an Action Plan.</p>
<p>d. Records and Update of Procedures.</p> <ul style="list-style-type: none"> • Training Records kept up to date. <p style="padding-left: 40px;">Procedures updated to reflect lessons learnt and any other changes.</p>	<p>Verify that the training records of the key personnel have been updated to reflect the role undertaken. It is acceptable for either individual training records to be updated or for a record to be kept detailing the roles all key personnel have undertaken. Records must state names as well as roles undertaken. The record should include competence evaluation of the MOD players.</p> <p>If the PXR established a need to improve procedures it should be verified that there is a system in place to incorporate the improvements in the procedures. A record should also be kept on file that justifies the action taken. This could simply be the PXR (including Action Plan) if that is judged to provide adequate information on the rationale for changing the procedure so that subsequent changes do not compromise the lessons learnt from previous exercises.</p>

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>2. Other Major Accident Control Regulations (MACR) Issues.</p> <p>a. Issues raised in last MACR Assessment Report</p> <ul style="list-style-type: none"> • Issues raised have been adequately addressed. 	<p>Any comments and observations made in the last MACR Assessment Report and Executive Summary will be discussed with the MACR Co-ordinator and any other relevant person. Evidence should be sought that appropriate action has been taken regarding such matters.</p> <p>Where procedures were changed or updated during the Assessment checks should be taken to ensure that they have been embedded.</p>
<p>b. Review of Major Accident Prevention Plan (MAPP) or Safety Report</p> <ul style="list-style-type: none"> • Evidence is available to show that the MAPP or Safety Report (as applicable) has been subject to periodic review in accordance with establishment procedure. 	<p>The MACR MAPP/SR held by the establishment should be periodically reviewed and updated to reflect changes to the activity, organisation and establishment documentation.</p> <p>The MACR Co-ordinator should demonstrate how this is achieved and indicate what changes have been made.</p> <p>Confirm that the MACR MAPP/SR has been updated to reflect any significant changes.</p>
<p>c. Safety, Health, Environment and Fire (SHEF) Management Systems</p> <ul style="list-style-type: none"> • External SHEF audits and inspections are undertaken at appropriate frequencies. • SHEF audits and inspections indicate that effective Safety and Environmental Management Systems are in place. 	<p>MACR relies on the existence and effective implementation of other MOD regulations, inspections and audit regimes. In particular SHEF Management Systems should be audited in accordance with the systems described in JSP 375 Vol 1 Chapter 10.</p> <p>The establishment will be subject to periodic audit by SHEF Auditors and it should be confirmed that these audits are completed at the appropriate interval and that action is taken to address any recommendations with MACR implications.</p> <p>Confirm that MACR is discussed as a standing agenda item at internal SHEF meetings.</p>

TOPIC & PASS CRITERIA	GUIDANCE/VERIFICATION METHOD
<p>d. Specialist Inspections</p> <ul style="list-style-type: none">Specialist inspections are being undertaken at appropriate intervals.Appropriate action has been taken to address any recommendations made in the specialist reports.	<p>The establishment will be subject to periodic inspections by specialist regulators eg Fuels & Gases Safety Regulator, Inspector of Explosives etc. and it should be confirmed that these inspections are completed at the appropriate interval and that action is taken to address any recommendations with MACR implications.</p>

CHAPTER 7

MAJOR ACCIDENT CONTROL REGULATIONS

ENVIRONMENTAL RISK ASSESSMENT

Para

- 1 Introduction
10 Aims of the Environmental Risk Assessment

INTRODUCTION

1 Each establishment requires a Major Accident (MA) Environmental Risk Assessment (ERA) to be carried out as part of the evaluation of overall risk. The ERA will be one element within the EMS for the establishment. The full requirements for the EMS will be covered by JSP 418 and the elements shown here are only in relation to MA's. Note that general ERA'S required by JSP 418 may be used to support a MA ERA required by MACR but on their own will not contain sufficiently detailed information. *The ERA should be undertaken by a competent team, using either MOD personnel or a consultant authorized by DIO.* The ERA is a live document and must be reviewed at least annually and updated as required.

2 The ERA is to demonstrate via a detailed document that potential MA's to the environment from the establishment have been identified and adequately considered. Where the consequences of an accident involving a hazard (bulk fuel tank, facility, munitions, etc.) are thought to fall just below those of a MA, the hazard must be included in the ERA to demonstrate that all potential MA scenarios have been assessed.

3 The environmental risk assessment process can be viewed as addressing seven basic questions:

- 3.1 **What Can Go Wrong?** i.e. identification of the sources of potential accidents and the ways they could happen (hazard identification);
- 3.2 **How Often?** i.e. an estimate of the probability of their occurrence (source frequency);
- 3.3 **What Gets Out and How Much?** i.e. evaluation of the size of the release from knowledge of the material(s) in question and release rate calculations;
- 3.4 **Where Does It Get To?** i.e. dispersion (and deposition) predictions for the release;
- 3.5 **What Are The Consequences?** i.e. an estimate of the potential consequences of the accidents (consequence assessment);
- 3.6 **What are The Risks?** i.e. determination of risk levels derived from the above analyses, and assessment of their significance; and
- 3.7 **So What?** i.e. risk management action.

4 Three components need to be present before a risk can be manifest, namely:

a source Æ a pathway Æ a receptor

5 This recognition of the need for the presence of a source-pathway-receptor link can be valuable in both identifying that there is a risk and in managing that risk. If any of the above are missing then there is no risk. However, care must be taken to ensure that a risk is not dismissed on the grounds that one of the components is missing, if there is the chance that this omission is because of the presence of a system/barrier which might fail. For example, a bund might be considered as a method of removing the pathway between the source and the receptor; this would not be a valid reason for concluding that there was no risk since there is a probability that the bund would be ineffectual.

6 One of the building blocks to demonstrating compliance with MACR (same as for COMAH regulations) is the identification of Major Accidents to the Environment (MATTEs). Assistance in this process is provided by the definition of a 'Major Accident' in the regulations, viz,

'an occurrence (including in particular, a major emission, fire, or explosion) resulting from uncontrolled developments in the course of the operation of any establishment and leading to serious danger to human health or the environment, immediate or delayed, inside or outside the establishment, and involving one or more dangerous substances'

7 Specific guidance to help judge the scale of events which would be classed as MATTEs has been provided by the DETR Publication Guidance on the Interpretation of Major Accident to the Environment for the Purposes of the COMAH Regulations available from The Stationery Office. A PDF version can be downloaded from the DEFRA.Gov.UK website.

8 The key parameters influencing this judgement are a combination of:

- 8.1 The recovery time;
- 8.2 The spatial extent of the damage; and
- 8.3 The severity of the damage (e.g. numbers affected).

9 Although the guidance does not cover every eventuality it should facilitate decisions concerning the criteria used in screening out accidents which are not considered to warrant consideration as MATTEs. The rationale behind the screening out of hazards should be documented.

AIMS OF THE MAJOR ACCIDENT ENVIRONMENTAL RISK ASSESSMENT

10 The following are the aims of the Environmental Risk Assessment (ERA):

- 10.1 Identify the processes, activities and materials on the establishment that have the potential to cause environmental harm.
- 10.2 Identify environmentally sensitive receptors likely to be affected by the establishment and its activities.

10.3 Identify and assess the pathways available for the passage of pollutants from the establishment to these receptors.

10.4 Assess the environmental risk including that of a MATTE arising from establishment activities taking account of mitigating measures and contingency plans (both positive and negative effects).

10.5 Provide establishment personnel with an overview of the environmental risks and guidance on their management.

10.6 Compile an environmental incident response data sheet.

10.7 Provide suitable information to be useful to those responding to an emergency who may or may not be familiar with the establishment.

11 Each facility (bulk fuel tank, explosives storehouse etc) must have its own description and assessment of risk. If two facilities are identical then the design description may be generic, however their physical condition, immediate environment, aspect and pathway-receptor routes are unlikely to be the same. For each facility the risk of a Major Accident to the environment must be recorded. Note that a “low risk to the environment” is different to a “low risk of a major accident” (the equivalent to a high risk to the environment).

12 Guidance on conducting a suitable and sufficient ERA to meet the requirements of MACR has been developed by DIO Environmental Science Group in conjunction with MACR CASG. A copy of the DIO MACR ERA Method Guidance Notes is hosted on the MOD intranet and can be accessed via the DSEA/DOSR website. To further assist establishment’s examples of completed MACR Establishment’s Major Accident ERA’s are also hosted on the DSEA/DOSR website.

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CHAPTER 8

MAJOR ACCIDENT CONTROL REGULATIONS

OFF SITE EMERGENCY PLAN

Para

- 1 Introduction
- 4 Scope
- 6 Responsibilities
- 8 Information
- 9 Environmental Remediation
- 11 Production and Layout
- 12 Exercising

Annex

- 8A Off-site Emergency Plan Suggested Layout

INTRODUCTION

1 The Control of Major Accident Hazard Regulations 1999 (COMAH) used by industry, places a responsibility on Local Authorities (LA) to produce and maintain effective Off-Site Emergency Plans for dealing with Major Accident (MA) hazards which may pass beyond the establishment boundaries. Whilst there is no legal framework requiring an LA to produce an Off-Site Emergency Plan for MOD establishments the Local Government Association (LGA) and the Convention of Scottish Local Authorities (COSLA) have agreed in principle that similar arrangements should be put in place. In such cases it is essential that full consultation takes place between both parties during the production phase, to ensure that both the On-Site and Off-Site Emergency Plans are written in such a way that they will dovetail into each other.

2 The emergency services already have a duty to deal with all accidents and emergencies and the Off-Site Emergency Plan will principally form a tool to co-ordinate existing plans to deal with specific MAs which may occur. It is however essential that establishment key personnel are identified and trained to meet the duties required to initiate and support the Off-Site Emergency Plan.

3 The production of the plan will be carried out by the LA emergency planning department who will liaise fully with the Major Accident Control Regulations (MACR) establishment staff, emergency services and all other relevant agencies such as the water authority, the Environment Agency (EA), Scottish Environment Protection Agency (SEPA), the National Health Service (NHS), LA and media resources.

SCOPE

4 The Off-Site Emergency Plan should be based around the MA hazards which may occur within the establishment, that could affect human health and or the environment.

5 The plan should concentrate on those events identified as being the most likely to occur, but should not ignore the reasonably low probability high consequence accident events, such as mass explosion, toxic gas leak, catastrophic vessel failure or major fuel spillage. The level of planning however should be proportional to the probability of the accident occurring.

RESPONSIBILITIES

6 Each Head of Establishment (HOE) should liaise directly with their LA to agree the arrangements for their establishment. It should be noted that the LA may raise reasonable charges to carry out this work which the establishment will be expected to fund.

7 It will be necessary for the HOE, through the MACR Co-ordinator, to provide the various items of information to the LA, which will allow it to produce an effective Off-Site Emergency Plan. The establishment should maintain a record of all the information provided, its source and how it will be reviewed, revised and updated. Key pieces of information likely to be needed from the Safety Report (SR) are as follows:

- 7.1 Details of dangerous substances present, quantities and how stored.
- 7.2 Control measures.
- 7.3 Details of hazards and potential MA scenarios.
- 7.4 Consequences to human health and or the environment should a dangerous substance be released.
- 7.5 Distances over which the dangerous substances will create harmful effects.
- 7.6 Resources in place to deal with potential MAs.
- 7.7 Details of specialist advice available within the establishment.

INFORMATION

8 It is likely that the following information will be contained within the Off-Site Emergency Plan:

- 8.1 A plan of the establishment incorporating the following information:
 - (a) Access routes.
 - (b) Rendezvous point, Emergency Control Centre and assembly points.
 - (c) Hazardous Areas.
 - (d) Emergency water supplies.
 - (e) All drainage systems and out falls to watercourses.
 - (f) Location of vulnerable population areas, such as housing estates, schools, hospitals etc.
 - (g) Location of environmentally sensitive areas.

(h) Location of any specialist equipment which will assist operations.

8.2 The names or positions of persons authorized to set emergency procedures in motion, take charge of the situation and co-ordinate off-site action. This should include the organisation of the management chain for the off-site response in the event of an emergency and include arrangements for managing the remediation phase.

8.3 The arrangements for receiving early warning of incidents and the alert and call out procedures which are primarily concerned with bringing the off-site emergency response into action and should incorporate details of how the warning of a developing or actual MA will be received by the off-site emergency services. These arrangements should show how this warning will be cascaded down, as necessary, to other off-site agencies involved in the response.

8.4 The arrangements for co-ordinating resources necessary to implement the Off-Site Emergency Plan. This refers to information that should be included in the plan on how the resources identified in response arrangements will be mobilised and how their actions will be co-ordinated.

8.5 The arrangements for providing assistance with on-site action. Normally the off-site emergency services will come on to the establishment and take over full responsibility for dealing with the response to the emergency, with specialist advice and direction as necessary being given by establishment personnel. The On-Site Emergency Plan should be available as a reference.

8.6 The arrangements for off-site mitigatory action. This requires details of procedures for dealing with accidents with off-site consequences.

8.7 The arrangements for providing the public with specific information relating to the accident and the action that should be adopted as follows:

(a) The Off-Site Emergency Plan should include information on how the public in the vicinity of the establishment will be alerted in the event of an accident, how they will be told what they should do, and how they will be informed that the danger has passed and they can return to their normal activities. The establishment will assist in the preparation of information to people in the Public Information Zone (PIZ) (see Chapter 4).

(b) The plan will also include details of how the media will be used to transmit information (by radio or television) for immediate dissemination. It is also important to consider within the plan how the wider media response to an emergency will be dealt with. The aim should be to ensure that concerns are not raised unnecessarily and that the media and hence the public can fully understand the extent of the emergency, its consequences and what action is currently being taken by the emergency services.

8.8 The arrangements for provision of information to the emergency services of other Member States in the event of an MA with possible trans-boundary consequences. This should only be required where the assessment of possible MA hazards show a reasonable likelihood that there

could be harmful consequences across national borders to other European Community Member States. This is unlikely to apply in Great Britain.

ENVIRONMENTAL REMEDIATION

9 The HOE has a duty to take remedial measures to mitigate the effects of MAs under MACR and environmental legislation such as the Pollution Prevention and Control Act 1999, the Environment Act 1995, the Water Resources Act 1991 and the Wildlife and Countryside Act 1981.

10 One of the main requirements of MACR is that the On-Site and Off-Site Emergency Plans make provision for the remediation of the environment after an MA. The remedial measures should be proportional to the amount of harm caused by the accident and the likely level of continuing harm to human health and or the environment.

PRODUCTION AND LAYOUT

11 Responsibility for producing the Off-Site Emergency Plan rests with the LA and a suggested format is given in Annex 6A.

EXERCISING

12 Emergency plans prepared to meet the requirements of MACR are to be exercised at least once every three years. This applies to both the On-Site and Off-Site Emergency Plans.

13 Exercising should be based on an MA scenario identified within the SR. In general, practical exercises should concentrate on the response during the initial emergency phase and the more complex wider issues are best dealt with through table top exercises that should include the remediation phase.

14 There are considerable benefits to be gained from exercising On-Site and Off-Site Emergency Plans at the same time, not least to confirm that both plans work effectively together.

15 Establishment budget holders need to be aware of the need to allocate funding to cover costs for the exercising procedure. These costs will vary depending on the extent of the exercise, the complexity of the establishment and the number of principal players involved.

ANNEX 8A

OFF-SITE EMERGENCY PLAN SUGGESTED FORMAT

GENERAL

The Off-Site Emergency Plan should include the following sections and headings:

- 1 Section 1 - Introduction:
 - 1.1 Aim.
 - 1.2 Regulatory responsibilities.
 - 1.3 Responsibility for activation of plan.
 - 1.4 Emergency contacts.
 - 1.5 Relationship with other plans.
 - 1.6 Terms and abbreviations.
- 2 Section 2 - Establishment and Access:
 - 2.1 Description of establishment.
 - 2.2 Principal access routes.
 - 2.3 Alternative routes.
 - 2.4 Internal establishment routes.
 - 2.5 General map.
 - 2.6 Establishment layout map.
- 3 Section 3 - Establishment Processes:
 - 3.1 Processes.
 - 3.2 Dangerous substances.
 - 3.3 Potential hazards.
 - 3.4 Off-site effects of a Major Accident To The Environment (MATTE).
- 4 Section 4 - External Environment at Risk from a MATTE:
 - 4.1 Terrain.
 - 4.2 Ecological sensitivity.
 - 4.3 Water.
 - 4.4 Roads, paths and tracks.
 - 4.5 Other industries.
 - 4.6 Buildings.
 - 4.7 Population.
 - 4.8 Evacuation.

5 Section 5 - Roles and Responsibilities:

- 5.1 Establishment.
- 5.2 Emergency Services.
- 5.3 National Health Service.
- 5.4 Area Health Authority.
- 5.5 Local Authorities.
- 5.6 Conservation Agencies.
- 5.7 Environment Agency (EA) or Scottish Environment Protection Agency (SEPA).
- 5.8 Utilities providers.

6 Section 6 - Preparatory Actions:

- 6.1 Introduction.
- 6.2 Public safety.
- 6.3 Evacuation.
- 6.4 Environmental protection.
- 6.5 Graded response.
- 6.6 Categories of incidents.

7 Section 7 - Action Immediately on an Incident Occurring:

- 7.1 Establishment.
- 7.2 Police.
- 7.3 Fire Service.
- 7.4 Ambulance.
- 7.5 Local Authorities.
- 7.6 Utilities providers.

8 Section 8 - Control and Co-ordination:

- 8.1 Concept of command and control.
- 8.2 Operation of Emergency Control Centre.
- 8.3 Incident Control Point.
- 8.4 Forward Control Point.
- 8.5 Strategic (gold) level of command.
- 8.6 Police control arrangements.
- 8.7 Traffic control and cordon arrangements.
- 8.8 Local Government.
- 8.9 Co-operation with media.

9 Section 9 - Public Information and Facilitating the Media:

- 9.1 Introduction.
- 9.2 Objectives.
- 9.3 Public information.
- 9.4 Co-ordination of actions.
- 9.5 Media liaison point.
- 9.6 Media centre.
- 9.7 Contact information.
- 9.8 Radio and TV broadcasts.
- 9.9 Urgent press flash.
- 10 Section 10 - Communications:
 - 10.1 Introduction.
 - 10.2 Telephones.
 - 10.3 Radios.
 - 10.4 Fax.
 - 10.5 E-Mail.
- 11 Section 11 - Contact Information:
 - 11.1 Emergency Services.
 - 11.2 Public Health Service.
 - 11.3 Local Authorities.
 - 11.4 Electricity supplier.
 - 11.5 Gas supplier.
 - 11.6 Water supplier.
 - 11.7 EA and SEPA.
 - 11.8 British Telecom.
 - 11.9 Radio stations.
 - 11.10 Television stations.
 - 11.11 Voluntary organizations.
 - 11.12 The Clergy and representatives of other faiths.
 - 11.13 Temporary shelter contacts.
 - 11.14 Public Relation contacts.
 - 11.15 Buildings or establishments at risk eg, schools, care centres, hospitals, etc.
 - 11.16 Establishment Chain of Command

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CHAPTER 9

MAPP COMPLETION GUIDANCE

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1 Introduction

Section 2 – Table 2.1 Establishment Address Information

Section 3 – Table 3.1 Holdings of Dangerous Substances

Section 3 – Table 3.2 Holdings of Named Substances

Section 4 – Table 4.1 Establishment Organisation

Section 5 – Table 5.1 Installations and Risk Assessments

Section 5 – Table 5.2 Installations and Risk Assessments continued

Section 6 – Table 6.1 Major Accident Scenario's

Section 7 – Table 7.1 Emergency Plan Information

Section 7 – Table 7.2 Exercise Information

Section 8 – Table 8.1 Environmental Information

Section 9 – Table 9.1 Management of Change

Section 9 – Table 9.2 Audit and Review

INTRODUCTION

1 The Major Accident Prevention Policy (MAPP) document is designed to be a user friendly tool which enables the establishment to produce the necessary reports required by MACR in a straight forward and systematic way.

2 Each Lower Tier MACR establishment will receive a copy of the MAPP that will be partially completed, drawing upon the information already held by the MACR CA SG from notification.

3 The guidance in this chapter provides supporting information to enable a Major Accident Control Regulations (MACR) qualifying establishment at Lower Tier level to complete their MAPP. The format for a MAPP is the same across MoD. Note: Defence Munition sites are developing a Safety Management tool – Assurance & Safety Case Environment (ASCE) to capture and display a wide range of safety related information. This tool may be used to generate the MAPP as it incorporates all the MACR requirements. The guidance below will still be applicable with respect to the required detail.

4 The word format has been developed as a "form" to enable the use of drop down boxes. Each form has to be protected in order to activate the drop down boxes. If any establishment identifies a requirement to alter the format the form will need to be un-protected. Please contact the MACR CA SG to discuss the issue. Note Section 10 is not protected to allow easy updates for the synopses which will be provided by the MACR CA SG. Any areas of concern or uncertainty should be brought to the attention of the MACR CA SG

so that a decision can be made and the form or supporting information amended if necessary. Each box which requires the entry of information has either a drop down menu or a data entry field. To move to the next box press the Tab key.

Section 2 – Table 2.1 - Establishment Address Information

Establishment Name - Insert establishment name e.g. RAF Nonsuch.

Budget Holder - Select top level budget holder from drop down list.

Service - Insert relevant Service.

MACR Contact Number – insert telephone number, this will normally be the telephone number for the MACR Co-ordinator for the establishment utilising the MoD dialling code.

Establishment Activity - Insert description of main activity at establishment – a brief description only is required e.g. for RAF station “Military Airfield”, for OFD “Bulk Fuel Installation”.

Fax Number - Insert Fax number for MACR Co-ordinator.

Establishment Address - Insert establishment address utilising the 7 boxes as required (note Country is selected via drop down box).

MACR Civilian Number - Insert telephone number using civilian code, this will normally be the MACR Co-ordinators number.

E-mail Address - Insert e-mail address – this could be MACR Co-ordinators e-mail unless a more generic e-mail address for the establishment is considered more appropriate.

Emergency Contact - Insert emergency contact name and telephone number – this will normally be contact number for Establishment Main Controller in Emergency Control Centre. This is intended for use during an emergency situation.

Local Authority - Insert name(s) of Local Authority which covers the establishment. For overseas establishments this could be the local government eg Sovereign Base Area for the MACR establishments in Cyprus.

Date Updated - Insert date at which last changes have been made to the MAPP or date which MAPP was last reviewed. Please note that MAPP should be reviewed on regular basis (at least annually) or at any significant change (see JSP 498 chapter 3).

Section 3 – Table 3.1 – Holdings of Dangerous Substances

Select the appropriate dangerous substance from the drop down box. Against each dangerous substance selected insert the maximum anticipated quantity. This is the best estimate of the maximum quantity it is anticipated could be held, looking forward over the next 5 years. It is NOT, the actual holdings at any one moment in time, or the average holdings, or necessarily the licensed limits. It could be the authorised limit from an explosives licence if holdings are anticipated to be up to the authorised limit within a 5 year period. For bulk fuel tanks the quantity will often be the licensed capacity of the tank even though the holdings may be at this level for short periods only. For explosives facilities a degree of judgement is required particularly where a facility may have differing quantities of explosives allowed dependant upon the aggregation rules. Note: explosives Hazard Divisions 1.1, 1.2 and 1.3 are

aggregated together and have the same threshold level. Hazard Division 1.4 is shown separately.

Section 3 - Table 3.2 Holdings of Named Substances

The table indicates if the named substances are present on the establishment. All that is required is a cross entered in the adjacent box. Clicking in the box will automatically insert a cross (a further click will deselect and therefore remove the cross).

Section 4 – Table 4.1 Establishment Organisation

The first 4 lines of this table are already started. The posts shown are the minimum requirements. Each establishment should consider what posts undertake a significant role in the emergency response and additional lines should be completed for each position. Anyone who requires specific training to undertake their role in the emergency response is likely to be regarded as playing a significant role. Under the document reference column insert details of which document shows the responsibilities for each position.

All positions with a significant role to play should be subject to a competence assessment to determine what competencies are required in order to adequately discharge the required role. A training needs analysis should then be undertaken to determine what training is required for each position. The last column should show what the training needs are. These training needs may vary from particular training courses, participation in live exercises, participation in control post or table top exercises to simple briefing sheets.

Section 5 – Table 5.1 Installations and Risk Assessments

Background - The start point for this section is the Hazard Survey which should have been completed to meet JSP 375. That should enable each establishment to identify all facilities / buildings on the establishment which hold (or are anticipated to hold) dangerous substances. Each facility / building can be considered as a hazardous installation. Whilst it is acceptable for each installation to be considered separately the workload for the establishment can be reduced by grouping facilities / building together where the hazard and the controls are the same. For instance an explosives storage area consisting of 12 buildings within a compound can be regarded as a single installation. Most controls relevant to that type of facility are contained within JSP 482. A group of bulk fuel tanks within an Oil Fuel Depot can be grouped, particularly if they share a common bunded area.

Name – insert into column the name of the single facility or the grouped facilities e.g. Northern ESA or Fuel Tanks 1 to 4.

Function – insert simple descriptor e.g. explosives storage, explosives processing, bulk fuel storage.

Location – Provide adequate information to determine the location on the establishment. This could be by using a grid system or OS map designators. If your hazardous installations map is colour coded this could be orange area on

Hazardous Installations map. The intention is to describe the boundaries of the installation by whatever method is feasible at the establishment.

Hazard Description – provide description of the hazard(s) present (or anticipated will be present) at the installation as identified in the hazard survey.

Existing Controls – describe what controls are relevant to the installation. This can be generically such as reference to JSP's or more specific such as reference to work instructions or individual elements of the JSP's or work instructions e.g. use of explosives licences.

Assessment Number – Insert relevant assessment number – this is probably the appropriate section from the Site Risk Assessment although could be an individual Risk Assessment following the standard JSP 375 format. Further more detailed information on the risk assessments relevant to each installation are shown in the next table. Provision has been made for up to 30 installations in the table which is expected to be sufficient for most establishments. If additional installations need to be catered for please contact the MACR CA SG to discuss options.

Section 5 – Table 5.2 Installations and Risk Assessments (cont)

Installation – insert name of installation – this will link to any grouping shown in previous table.

Risk Assessment Number – insert risk assessment number – this could be a single risk assessment (particularly if MACR specific assessments have been carried out) or a number of assessments which collectively cover the hazards at each installation. Many establishments have made use of a suite of risk assessments which have been carried out to meet the requirements of JSP 375, either methodology is acceptable.

Identified Risks – List the risks identified as present at the installation i.e. those risks which the control measures are intended to mitigate.

Residual Risks – List those residual risks left after control measures have been applied. It is not feasible to reduce all risks to zero without removing the dangerous substances from the establishment. The risk can be reduced to an acceptable level. Because we are dealing with Major Accidents the consequence rating on the risk assessment proforma should be 3 or 4 utilising the JSP 375 criteria. This would normally result in a review of existing controls. It is accepted that from a MACR perspective there may be residual risks which are at an acceptable level and improving control measures may not be feasible without undue cost or restrictive practices which prejudice operational capability. Such situations should always be adequately documented.

Numbers of personnel at risk – numbers of people who could be immediately affected by the consequences of a Major Accident need to be identified. The criteria are the same for both top and lower tier establishments. For top tier establishments this process identifies the Public Information Zone (PIZ) – see chapter 4 Annex A. For lower tier establishments the zone needs to be identified but is not declared to the local population under MACR. The zone broadly equates to the Purple Line (2 X IBD) for explosives facilities and 1000 metres from bulk fuel tanks. The numbers of people within those zones should be broken down into 3 categories; Service personnel – MoD employed

civilians – other, which includes contractors and any members of the public. This information is valuable in assessing the potential size of an incident (deaths / casualties). The assessment information used to arrive at these figures should be recorded and be available during the MACR Assessment.

Section 6 – Table 6.1 Major Accident Scenario's

For each installation insert details of the reasonably foreseeable Major Accident scenarios relevant to the installation. Sufficient detail is required in order to understand the feasible scenarios and the implications and therefore consequences of such an event occurring. See Chapter 3 Annex A for information on what needs to be covered by the scenario information. Note: A single entry may be made for a number of identical installations if the Major Accident scenarios and consequences are the same.

Section 7 – Table 7.1 Emergency Plan Information

Insert into the table details of the On-Site plan. This could be single coherent plan or could be a series of plans covering different aspects e.g. Fire, Oil Spill Response, LOX incident etc.

Insert details of the Off-Site plan – this plan will be compiled by the Local Authority. Although the requirement to have a bespoke Off-Site plan is normally related to a Upper Tier Establishment it is feasible that a Lower Tier Establishment may be covered either because the establishment has previously been a Top Tier Establishment and the Local Authority decided to maintain the plan or the establishment will have been included within a generic Off-Site Plan which has been generated under the requirements of the Civil Contingencies Act.

Section 7 - Table 7.2 – Exercise Information

Forward Exercise Plan Location – insert details of where the Forward Exercise Plan or plans are held. This could be in an appropriate file or on an Establishments Intranet.

Date of Last Exercise – insert date on which the last live exercise held in conjunction with the Local Authority and the Emergency Services was undertaken.

Post Exercise Reports – insert location where post exercise reports are stored (records need to be kept for a minimum of 3 years).

Section 8 – Table 8.1 Environmental Information

Background - This section aims to capture environmental information about the establishment. All of the required information will be contained in the Environmental Risk Assessment (ERA) undertaken in line with Chapter 3.

ERA Reference – insert details of the ERA, this would normally be a single document but could include supporting documents such as land quality assessments or review sheets.

The environment description box should contain information on the main environmental factors relevant to the establishment particularly noting those

aspects which show vulnerabilities to a Major Accident e.g. the presence of a significant aquifer under the establishment.

A range of types of protected habitats are shown, under the numbers column the quantity of each protected habitat should be shown. The intention is to highlight any particularly vulnerable areas with more details being provided within the ERA.

Section 9 – Table 9.1 Management of Change

Management of Change arrangements – this table should provide guidance on where the systems are documented to control changes in the 3 categories shown.

Changes to Installations – this is mainly works actions where physical alterations are to be made to the infrastructure of buildings. Normally these are covered in JSP 434 or Defence Infrastructure Organisation RPC Instructions. They are often supplemented by specialist guidance e.g. Explosives facilities – JSP 482, Bulk Fuel Installations – JSP 317, JSP 375 Volume 3.

Changes to processes – this relates to changes in the work processes. These are normally governed by Safe Systems of Work (process documentation). Specialist JSP's or individual process instructions will usually cover how changes to the process are to be agreed and implemented: e.g. for explosives – JSP 482 / TIADS / MECPS / Approval to Process, Fuel processing – JSP 317, LOX – JSP 319.

Changes to Storage – Changes to storage methodologies will often be covered in centrally mandated documents e.g. Explosives – JSP 482 / Approval to Store and Handle Explosives, Fuels – JSP 317, LOX – JSP 319.

Section 9 – Table 9.2

Monitoring Performance:

SMS - insert details of the documents explaining how SMS performance is monitored – may include general principles laid down in JSP 375. This will normally be the establishment's internal monitoring system e.g. 6 monthly Supervisory Inspections, H&S Advisor Inspections.

EMS – insert details of the documents explaining how the EMS performance is monitored – may include general principles laid down in JSP 418. Again this is likely to be the establishment's internal monitoring systems and will include the Environmental Protection Officers inspection system.

Audit & Review:

SMS – insert details of where SMS auditing can be found – principles are laid down in JSP 375 – this will normally be copies of audits carried out on an establishment by agencies outside of the establishment e.g. audits by CESO(RAF) on RAF Stations to 3 yearly programme.

EMS – insert details of where EMS auditing can be found – principles are laid down in JSP 418 – this will normally be copies of audits carried out on an establishment by agencies outside of the establishment e.g. audits by CESO(RAF) on RAF Stations to 3 yearly programme.

CHAPTER 10

SAFETY REPORT COMPLETION GUIDANCE

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13	Section 10 – Table 10.1 PIZ Information

INTRODUCTION

1 The Safety Report (SR) is designed to be a user friendly document which enables the establishment to produce the necessary reports required by MACR in a straight forward and systematic way.

2 Each Top Tier MACR establishment will receive a copy of the Safety Report that will be partially completed, drawing upon the information already held by the MACR CA SG from notification.

3 The guidance in this chapter provides supporting information to enable a Major Accident Control Regulations (MACR) qualifying establishment at Top Tier level to complete their SR. The format for a SR is the same across MoD. Note: Defence Munition sites are developing a Safety Management tool – Assurance & Safety Case Environment (ASCE) to capture and display a wide range of safety related information. This tool may be used to generate the SR as it incorporates all the MACR requirements. The guidance below will still be applicable with respect to the required detail.

4 The word format has been developed as a “form” to enable the use of drop down boxes. Each form has to be protected in order to activate the drop down boxes. If any establishment identifies a requirement to alter the format the form will need to be un-protected. Please contact the MACR CA SG to discuss the issue. Note Section 11 is not protected to allow easy updates for the synopses which will be provided by the MACR CA SG. Any areas of concern or uncertainty should be brought to the attention of the MACR CA SG so that a decision can be made and the form or supporting information amended if necessary. Each box which requires the entry of information has

either a drop down menu or a data entry field. To move to the next box press the Tab key.

Section 2 – Table 2.1 Establishment Address Information

Establishment Name - Insert establishment name e.g. RAF Nonsuch.

Budget Holder - Select top level budget holder from drop down list.

Service - Insert relevant Service.

MACR Contact Number – insert telephone number, this will normally be the telephone number for the MACR Co-ordinator for the establishment utilising the MoD dialling code.

Establishment Activity - Insert description of main activity at establishment – a brief description only is required e.g. for RAF station “Military Airfield”, for OFD “Bulk Fuel Installation”.

Fax Number - Insert Fax number for MACR Co-ordinator.

Establishment Address - Insert establishment address utilising the 7 boxes as required (note Country is selected via drop down box).

MACR Civilian Number - Insert telephone number using civilian code, this will normally be the MACR Co-ordinators number.

E-mail Address - Insert e-mail address – this could be MACR Co-ordinators e-mail unless a more generic e-mail address for the establishment is considered more appropriate.

Emergency Contact - Insert emergency contact name and telephone number – this will normally be contact number for Establishment Main Controller in Emergency Control Centre. This is intended for use during an emergency situation.

Local Authority - Insert name(s) of Local Authority which covers the establishment. For overseas establishments this could be the local government eg Administrator Sovereign Base Area for the MACR establishments in Cyprus.

Date Updated - Insert date at which last changes have been made to the SR or date which SR was last reviewed. Please note that SR should be reviewed on regular basis (at least annually) or at any significant change.

Section 3 – Table 3.1 Holdings of Dangerous Substances

Select the appropriate dangerous substance from the drop down box. Against each dangerous substance selected insert the maximum anticipated quantity. This is the best estimate of the maximum quantity it is anticipated could be held, looking forward over the next 5 years. It is NOT, the actual holdings at any one moment in time or the average holdings. It could be the authorised limit from an explosives licence if holdings are anticipated to be up to the authorised limit within a 5 year period. For bulk fuel tanks the quantity will often be the licensed capacity of the tank even though the holdings may be at this level for short periods only. For explosives facilities a degree of judgement is required particularly where a facility may have differing quantities of explosives allowed dependant upon the aggregation rules. Note: explosives Hazard Divisions 1.1, 1.2 and 1.3 are aggregated together and have the same threshold level. Hazard Division 1.4 is shown separately.

Section 3 - Table 3.2 Named Substances

This table indicates if the named substances are present on the establishment. All that is required is a cross entered in the adjacent box. Clicking in the box will automatically insert a cross (a further click will deselect and therefore remove the cross).

Section 4 – Table 4.1 Establishment Organisation

The first 4 lines of this table are already started. The posts shown are the minimum requirements. Each establishment should consider what posts undertake a significant role in the emergency response and additional lines should be completed for each position. Anyone who requires specific training to undertake their role in the emergency response is likely to be regarded as playing a significant role. Under the document reference column insert details of which document shows the responsibilities for each position.

All positions with a significant role to play should be subject to a competence assessment to determine what competencies are required in order to adequately discharge the required role. A training needs analysis should then be undertaken to determine what training is required for each position. The last column should show what the training needs are. These training needs may vary from particular training courses, participation in live exercises, participation in control post or table top exercises to simple briefing sheets.

Section 5 – Table 5.1 Installations and Risk Assessments

Background - The start point for this section is the Hazard Survey which should have been completed to meet JSP 375. That should enable each establishment to identify all facilities / buildings on the establishment which hold (or are anticipated to hold) dangerous substances. Each facility / building can be considered as a hazardous installation. Whilst it is acceptable for each installation to be considered separately the workload for the establishment can be reduced by grouping facilities / building together where the hazard and the controls are the same. For instance an explosives storage area consisting of 12 buildings within a compound can be regarded as a single installation. Most controls relevant to that type of facility are contained within JSP 482. A group of bulk fuel tanks within an Oil Fuel Depot can be grouped, particularly if they share a common bunded area.

Each Installation has a complete page. Provision has been made for up to 20 installations which is expected to be sufficient for most establishments. If additional installations need to be catered for please contact the MACR CA SG to discuss options.

Name – insert into column the name of the single facility or the grouped facilities e.g. Northern ESA or Fuel Tanks 1 to 4.

Function – insert description of the function / activity expected to be carried out at the installation

Location – Provide adequate information to determine the location on the establishment. This could be by using a grid system or OS map designators. If your hazardous installations map is colour coded this could be orange area on

Hazardous Installations map. The intention is to describe the boundaries of the installation by whatever method is feasible at the establishment.

Hazard Description – provide description of the hazard(s) present (or anticipated will be present) at the installation as identified in the hazard survey.

Existing Controls – describe what controls are relevant to the installation. This can be generically such as reference to JSP's or more specific such as reference to work instructions or individual elements of the JSP's or work instructions e.g. use of explosives licences.

Hazard Assessment Number – Insert relevant assessment number – this is probably the appropriate section from the Site Risk Assessment although could be the Hazard Survey reference number.

Risk Assessment Number(s) – insert risk assessment number – this could be a single risk assessment (particularly if MACR specific assessments have been carried out) or a number of assessments which collectively cover the hazards at each installation. Many establishments have made use of a suite of risk assessments which have been carried out to meet the requirements of JSP 375, either methodology is acceptable.

Identified Risks – List the risks identified as present at the installation i.e. those risks which the control measures are intended to mitigate.

Residual Risks – List those residual risks left after control measures have been applied. It is not feasible to reduce all risks to zero without removing the dangerous substances from the establishment. The risk can be reduced to an acceptable level. Because we are dealing with Major Accidents the consequence rating on the risk assessment proforma should be 3 or 4 utilising the JSP 375 criteria. This would normally result in a review of existing controls. It is accepted that from a MACR perspective there may be residual risks which are at an acceptable level and improving control measures may not be feasible without undue cost or restrictive practices which prejudice operational capability. Such situations should always be adequately documented.

Numbers of personnel at risk – numbers of people who could be immediately affected by the consequences of a Major Accident need to be identified. For top tier establishments this process identifies the Public Information Zone (PIZ) – see chapter 4 Annex A. The zone broadly equates to the Purple Line (2 X IBD) for explosives facilities, 200 metres from LPG farms and 1000 metres from bulk fuel tanks. The numbers of people within those zones should be broken down into 3 categories; Service personnel – MoD employed civilians – other, which includes contractors and any members of the public. This information is valuable in assessing the potential size of an incident (deaths / casualties). The assessment information used to arrive at these figures should be recorded and be available during the MACR Assessment.

Description of process undertaken at installation – Insert description of the work processes which are expected to be undertaken at the installation e.g. processing of conventional explosives, Issue receipt and storage of aviation fuel F35. Sufficient detail is required in order to allow a basic understanding of the activity.

Type of Dangerous Substance held – utilising the drop down box select the appropriate substance from the list provided. Majority of the significant dangerous substances commonly in use within MACR qualified

establishments are shown. If your particular substance is not shown use the “other” designation. The box and its adjacent quantity are repeated 4 times and further boxes should be used to cover each dangerous substance at the installation.

Quantity Present – insert quantity in Tonnes equivalent to the maximum anticipated level.

Section 6 – Table 6.1 Major Accident Scenario’s

For each installation insert details of the reasonably foreseeable Major Accident scenarios relevant to the installation. Sufficient detail is required in order to understand the feasible scenarios and the implications and therefore consequences of such an event occurring. See Chapter 3 Annex A for information on what needs to be covered by the scenario information. Note: A single entry may be made for a number of identical installations if the Major Accident scenarios and consequences are the same.

Section 7 – Table 7.1 Emergency Plan Information

Insert into the table details of the on-site plan. This could be single coherent plan or could be a series of plans covering different aspects e.g. Fire, Oil Spill Response, LOX incident etc.

Insert details of the off-site plan – this plan will be complied by the Local Authority.

Forward Exercise Plan Location – insert details of where the Forward Exercise Plan or plans are held. This could be in an appropriate file or on an Establishments Intranet.

Section 7 – Table 7.2 Emergency Exercise Information

Date of Last Exercise – insert date on which the last live exercise held in conjunction with the Local Authority and the Emergency Services was undertaken.

Post Exercise Reports – insert location where post exercise reports are stored (records need to be kept for a minimum of 3 years).

Section 8 – Table 8.1 Environmental Information

Background - This section aims to capture environmental information about the establishment. All of the required information will be contained in the Environmental Risk Assessment (ERA) undertaken in line with Chapter 3.

ERA Reference – insert details of the ERA, this would normally be a single document but could include supporting documents such as land quality assessments or review sheets.

The environment description box should contain information on the main environmental factors relevant to the establishment particularly noting those aspects which show vulnerabilities to a Major Accident e.g. the presence of a significant aquifer under the establishment.

A range of types of protected habitats are shown, under the numbers column the quantity of each protected habitat should be shown. The intention is to

highlight any particularly vulnerable areas with more details being provided within the ERA.

Section 8 - Table 8.2 – Topography

Establishment Topography – insert details of the main topographical information relevant to the establishment (this will probably come from the ERA).

For each Installation insert details of the local topography. This is required if the local topography is significantly different from the general establishment and could therefore lead to different consequences in the event of a Major Incident e.g. if one installation is adjacent to a SSSI the consequences of the same pollution incident could be much greater from that installation than if the incident occurred elsewhere on the establishment where other installations, pathways and receptors are different.

Section 9 – Table 9.1 Management of Change

Management of Change arrangements – this table should provide guidance on where the systems are documented to control changes in the 3 categories shown.

Changes to Installations – this is mainly works actions where physical alterations are to be made to the infrastructure of buildings. Normally these are covered in JSP 434 or Defence Infrastructure Organisation RPC Instructions. They are often supplemented by specialist guidance e.g. Explosives facilities – JSP 482, Bulk Fuel Installations – JSP 317 and JSP 375 Volume 3.

Changes to processes – this relates to changes in the work processes. These are normally governed by Safe Systems of Work (process documentation). Specialist JSP's or individual process instructions will usually cover how changes to the process are to be agreed and implemented: e.g. for explosives – JSP 482 / TIADS / MECPS / Approval to Process, Fuel processing – JSP 317, LOX – JSP 319.

Changes to Storage – Changes to storage methodologies will often be covered in centrally mandated documents e.g. Explosives – JSP 482 / Approval to Store and Handle Explosives, Fuels – JSP 317, LOX – JSP 319.

Section 9 – Table 9.2 Audit & Review

SMS – insert details of where SMS auditing can be found – principles are laid down in JSP 375 – this will normally be copies of audits carried out on an establishment by agencies outside of the establishment e.g. audits by CESO(RAF) on RAF Stations to 3 yearly programme.

EMS – insert details of where EMS auditing can be found – principles are laid down in JSP 418 – this will normally be copies of audits carried out on an establishment by agencies outside of the establishment e.g. audits by CESO(RAF) on RAF Stations to 3 yearly programme.

Section 10 – Table 10.1 PIZ Information

Details of PIZ evaluation kept in: Insert details of which establishment file the PIZ records are kept in.

Dropdown box which will read yes or no depending upon whether the PIZ has been set in accordance with the standard protocol in JSP 498.

If answer to above question is No then the establishment should hold a copy of the MACR CASG letter authorising a variation and the details of the change are inserted here.

Details and location of PIZ map – the area covered by the PIZ should be plotted on a map of the local area. Confirm location of the PIZ map either by file reference or physical location such as held in ECC.

PIZ letter held in file – self explanatory.

Date of PIZ Letter - self explanatory.

Date of last review - self explanatory but note a review is required at least every 3 years and a reissue every 5 years even if no information has changed.

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