Ministry of Defence

JSP 886
DEFENCE LOGISTICS SUPPORT CHAIN MANUAL

VOLUME 7
SUPPORTABILITY ENGINEERING

PART 7
SUPPORT DELIVERY MANAGEMENT, MONITORING AND REVIEW

VERSION RECORD		
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1.0	26 Oct 12	Initial Publication.
1.1	05 Mar 13	Minor Amendments to Terminology.
1.2	14 Aug 14	POC and Delegation Chain amended. Annex B updated.

Contents

CHAPTER 1: SUPPORT DELIVERY MANAGEMENT, MONITORING AND REVIEW

CONTEXT

1. Using the Integrated Logistic Support (ILS) methodology during the early phases of the Product life cycle, the support solution will have been developed ensuring that it meets the capability and operational requirements, is optimized for through life cost, and is sustainable. This part of the JSP provides the policy and advice on the process, to deliver and monitor the support solution during the product life.

POLICY

2. It is MOD policy, as directed by Director Inventory Management (DIM) and the Defence Logistics Working Group (DLWG), that delivered support solutions are to be managed, monitored, reviewed and optimized, and that authorised changes are funded.

3. Support Managers must ensure that their support solution:

   a. Is delivered to satisfy the Support Contract.

   b. Continues to meet the capability requirements.

   c. Is periodically reviewed to ensure it remains optimal, taking into account any changing capability, or operational and environmental requirements.

PRECEDENCE AND AUTHORITY

4. Ownership of Logistic policy in support of the Logistic Process falls to the Assistant Chief of Defence Staff Logistics Operations (ACDS Log Ops) as CDM's Process Architect[1]. This role is exercised through the Defence Logistics Working Group (DLWG) and the Defence Logistics Steering Group (DLSG), reporting up to the Defence Logistic Board (DLB). It is against this governance framework that sponsorship[2] for support delivery management, monitoring and review policy is the responsibility of Director Inventory Management (DIM). Project Teams (PT) are required to assess and show compliance with key policies and governance as signposted by the Support Solution Envelope.

MANDATED REQUIREMENTS

5. There are no legally mandated requirements for support delivery management, monitoring and review.

REQUIREMENTS AND CONSTRAINTS

Requirements

6. The boundaries within which the support solution is to be delivered are defined in the User Requirements Document with its associated Defence Support Requirements and the project System Requirements Document.

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[1] JSP 899: Logistics Process – Roles and respons bilities.

[2] Sponsor - The person respons ble for the content, currency and publication of a JSP (as per letter of delegation). Responsibility established through Letters of Delegation (LoD), issued through the DLPWG chair and exercised through Terms of Reference

Constraints

7. None identified.

KEY PRINCIPLES

8. Support control, monitoring and management will be through the In-Service Logistic Support Committee (ISLSC) which will fulfil the role by:

a. Monitoring the Contract and Contractor performance for compliance with the contractual requirements, to ensure the delivery and sustainment of the support solution.

b. Monitoring and central co-ordination carried out between all the ILS elements and across platforms and equipment where the same product is fitted. This will ensure that proposed changes originating from system are considered across all support solutions.

c. Maintaining:

(1) Modification, failure trend analysis and disposal planning against all indicators, to ensure that the Product continues to meet the requirements

(2) Contact with all the Stakeholders involved.

(3) A set of funded ILS requirements.

d. Responding to incidents, assessing their impact and effect on the delivered support solution.

e. Reviewing the support delivered, using Support Optimization tools to ensure that the Support Indicators remain appropriate to contract, product and capabilities.

f. For each modification or change to the product, contract or operational usage the review will be tailored to ensure that the analysis does not become a cost driver.

g. Maintaining through life data and information and financial records to meet accounting regulations. The output will inform support reviews.

h. Reviewing periodically, at the delivery level, tailored to the overall system and environment, the support solution to ensure continued best value, and sustained delivery of the Project Force Elements at Readiness State (FE@R). The review will assess the impact of major operational and/or environmental changes.

i. Ensuring that technology insertions, upgrades, upkeep and operational changes are managed and changes to the support solution incorporated.

j. Monitoring support risks and overseeing mitigation action to ensure they are at an acceptable level.

ASSOCIATED STANDARDS AND GUIDANCE

9. The following documents complement the content of this document.

a. JSP 886: Defence Logistic Support Chain Manual.

b. DEFSTAN 00-600: Integrated Logistic Support Requirements for MOD Projects.

c. DEFSTAN 00-44: Reliability and Maintainability Data Collection and Classification.

d. DEFSTAN 05-57: Configuration Management of Defence Materiel.

e. DEFCON 637: Defect Investigation and Liability.

OWNERSHIP AND POINTS OF CONTACT

10. The policy, processes and procedures described in the JSP 886: Defence Logistics Support Chain Manual are owned by Director Inventory Management (DIM). Head Support Chain Processes (SCP) is responsible for the management of JSC ILS policy on behalf of DIM. :

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CHAPTER 2: FUNDING SUPPORT DELIVERY

1. It is the MOD Project Team Leader's task to co-ordinate Support Planning and to implement the Support Policy for the product, having made provision for long term funding and timely submission for approval of finance for Support contracts.

2. Project staff will follow the Through Life Finance policy to ensure that facilities/resources required for use by other MOD authorities and by contractors to implement the support policy are provided, and are adequate for the purpose. The Project Team Leader will also assist, when required, in reviewing and updating these requirements.

3. The Support Manager will be involved in the production of the funding budget estimates, which must include provision for all support activities.

4. The Support Manager will ensure that all the support costs are included, both for the support of the existing system, and for updating, modification and validation of the system in the future.

5. In addition to the basic costs, the submissions may include alternative assumptions. These allow for changes to the basic assumptions, and the Support Manager will ensure that the support impact of these alternatives are identified and taken into consideration. This is especially applicable where commercial off the shelf (COTS) products are involved, as the design life expectancy of these can be shorter than that of the system of which they are part, and where shorter, will result in the need for more regular updates through life.

6. The adoption of a policy of re-baselining the product during its lifetime provides an opportunity for updating the products to reflect technological updates or operational, environmental and support solution changes.

CHAPTER 3: ACCEPTANCE AND TRANSITION

ACCEPTANCE PROCEDURES

1. The aim of the ILS acceptance procedures is to ensure that the required ILS activities have been conducted to underpin a costed Through Life Support Solution and to identify and develop a plan to manage, Support Risk. The acceptance procedures to be used will have been specified in the contract.

2. The Support Manager will support the post Logistic Support Date (LSD) trial and inspection programme. Evidence will be required to show to the nominated owner of the Logistics Defence Line of Development (DLOD) that the product continues to be supported through life.

3. An Integrated Test, Evaluation and Acceptance Plan (ITEAP) as part of the Through Life Management Plan will have been created and will be maintained.

4. The Support Manager is responsible for ensuring that the results of the supportability analysis activity Supportability Test, Evaluation and Validation are included, in the Project Integrated Test, Evaluation and Acceptance Plan.

5. Information from the acceptance procedures will be populated in the Logistic Information Repository, as defined in Def Stan 00-600, and will include the evidence and justification used to update the Supportability Case.

6. Acceptance and validation of support resources will be an integral part of the overall acceptance procedures.

7. Integrated Test, Evaluation and Acceptance will be conducted in accordance with the ITEAP to confirm that the support solution continues to meet the User needs. It is also a method of identifying and managing technical and operational risks and hence time and cost throughout the programme.

8. The ILS activities will consist of:

   a. Updating the support solution to correspond to any design changes.

   b. Resolving any outstanding support problems.

   c. Reviewing the support recommendations for the impact on existing support solutions analysis results to reduce the in-service risk.

9. Acceptance by the ISLSC will require evidence of a supportability case and summary report, which may include a practical demonstration of the effectiveness of support measures. Advice on the supportability case is contained in JSP 886 Volume 7 Part 9.

10. The Support Manager will ensure that the lessons learnt, as part of the acceptance process, are identified and used to improve the supportability predictions and planning for future projects.

TRANSITION TO IN SERVICE SUPPORT

11. One of the main objectives of ILS from the start of procurement is to produce a product which can be supported in service.

12. The final planning for transition to In-service support will have taken place during the Manufacture phase of procurement with the creation and implementation of the Master Fielding Schedule. The schedule will ensure that the transition to In-service activities are scheduled and managed. It can be in response to a MOD Fielding Plan or standalone.

13. Advice on fielding plans is contained in JSP 886 Volume 7 Part 2.

14. The Support Manager will ensure that all the requisite support elements identified at LSD have been put in place, including an initial stock of spares, and where applicable, maintenance contracts for products.

15. The planning for the In-service phase must include the following:

a. The roles and responsibilities of the Support Manager and Industry partners.

b. Handover of responsibility for support elements to the other Support Agencies.

c. How Logistic Information is to be managed and maintained.

d. Support contract management.

CHAPTER 4: SUPPORT DELIVERY MANAGEMENT

1. The support solution will have been articulated in an In-service Support Solution Plan (ISSP) and incorporated into the TLMP.

2. As the Project enters the In Service phase the Integrated Logistic Support Manager becomes the Support Manager and the role changes.

3. The Support Manager will be responsible for delivering and managing the support solution through ISLSC chairmanship to ensure:

a. The delivered support is in accordance with the Support Contract.

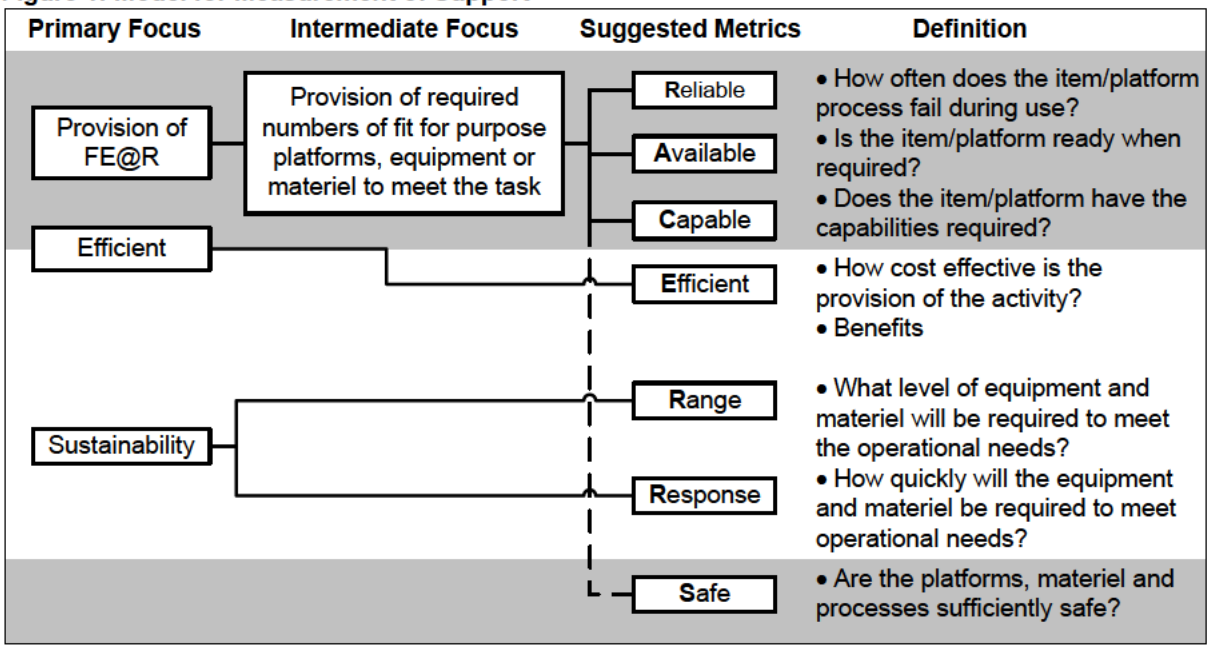
b. Usage, defects, training and technical information are monitored, managed and controlled.

c. Failure Trend analysis is carried out to identify potential modifications to improve reliability.

d. Modifications and changes are authorised and controlled, and the impact on existing support solutions is assessed.

e. Upkeep due to operational or environment changes and technological insertions are incorporated to meet User requirements.

Figure 1: Model for Measurement of Support



f. Obsolescence is managed and procedures implemented to minimise impact on delivered support.

g. Periodic reviews of the Support Solution are conducted, using ILS principles, to ensure it is optimised and remains the best value.

h. Assessment of usage rates from inventory management data is carried out to identify cost drivers.

i. Support Risk is kept at an acceptable level and mitigation action is planned and followed through.

4. The IS LSC will ensure the fulfilment of the support primary aims:

a. Provision of Force Elements at the readiness states (FE@R).

b. Efficient.

c. Sustainable.

5. A suggested concept for a high level model is shown at Figure 1 above.

TAILORING

6. The processes and procedures described below are comprehensive and complex and all actions may not be appropriate to Projects. The Support Manager will tailor the activities to ensure all tasks are addressed without nugatory or potentially expensive inappropriate work.

7. Guidance on the Tailoring process is contained in JSP 886 Volume 7 Part 6.

INTEGRATION

8. The support should be fully system integrated and will have input into and output from all project related disciplines, committees, plans and processes. These will include:

a. Inventory Management.

b. Technical (design).

c. Safety.

d. Environmental.

e. Security.

f. Finance.

g. Commercial.

h. Obsolescence Management.

i. Configuration Management.

j. Through Life Management.

k. Risk Management.

l. Reliability.

m. Information Management.

n. Operational requirements.

9. A diagram showing interrelationships between the above is in Annex A.

ACCESSIBILITY

10. The Support Manager will ensure all dealings between Stakeholders are open and honest in accordance with the Defence Values for Acquisition.

11. The process will be responsive and practical and will be proactive rather than reactive.

12. Proactive support management involves the use of one or a combination of the following management methodologies:

a. Define all interfaces so that the consequences of the change in any one element are bounded.

b. Agree the plan with the Stakeholder to upgrade the support at Stakeholder agreed, defined intervals.

c. Monitor the delivered support and processes used for approaching changes.

MONITORING

13. The Support Manager must instigate a monitoring system to ensure contact with, and involvement of, all the appropriate agencies, and also that ILS requirements are included and properly funded in any support arrangement. Project supplied data will be used by Director Joint Support Chain to analyse the effectiveness of the Support Chain at Operational Centre and DE&S levels. The nine areas covered by the Support Chain Management By Facts (SCMBF) analysis is shown at Annex B.

14. The objectives of the application of ILS in-service are exactly the same as for any other life phase. ILS and Supportability Analysis activities should only be carried out where there is a tangible benefit and the same ILS management and rigorous tailoring principles must be applied.

15. Using the procedures applicable to the Service of the User, defects and failures need to be identified, analysed for trends and rectified in:

a. Hardware.

b. Software.

c. Technical documentation.

d. Training.

e. Sparing.

f. Delivered support.

g. Supplier performance.

h. All ILS elements.

16. The Support Manager must consider feedback from all stakeholders, and operate a closed loop process by informing the originator of decisions made and actions taken.

17. Support related costs will be authorised before any work commences and monitored and controlled.

18. The Support Manager will implement the strategy, developed during the pre In-service activities, for the level of reporting and analysis to be carried out. This will depend on several factors, and will include:

a. Complexity and/or novelty of the system.

b. Operational significance.

c. Safety significance.

d. Experience with other similar systems.

e. The need to verify predicted reliability or other predictions. Advice and guidance is contained in DEFSTAN 00-44.

IN-SERVICE LOGISTIC SUPPORT COMMITTEES (ISLSC)

19. The principal means of monitoring and managing the Support delivery will be through the In-service Logistic Support Committee (ISLSC), whose Terms of Reference are available in JSP 886 Volume 7 Part 2 Annex F, and identify:

a. Role.

b. Processes.

c. Procedures.

20. The IS LSC will:

a. Monitor support solution delivery against contracted requirements

b. Support Supplier Performance. The Support Contract and Contractor performance will be monitored and managed to ensure that the contractual requirements are being met.

c. Milestone Payments. Inform Commercial Officers for payment against milestones.

d. Monitor turnaround times including Repair Times.

Support Chain Performance.

21. The JSC Support Chain Management produces the Support Chain Management by Facts (SCMBF) data to report on the areas for ten of the Operating Centres (OC) and at DE&S level.

22. They are used by the OC and other key Stakeholders to specify Support chain performance and identify issues within DE&S.

23. Further information is contained in Annex B.

Forward Support Chain.

24. Sufficient information will be made available to ensure that accurate analysis of the forward chain can be conducted.

25. This data will be used in the performance assessment of the Contractor, in meeting the contractual requirements of the delivered support.

Reverse Support Chain.

26. The reverse Support chain will impact on the Contractor performance.

27. This could be outside the Contractor's control, therefore detailed information on the reverse Support chain will be assembled, to minimise the risk of the Contractor passing liability back to the MOD.

Spares Availability.

28. Manage:

a. **Initial Fielding Plan.** This ensures that the delivered support is commensurate with the product numbers as detailed in the Project fielding plan.

b. **Modification Implementation.** Ensures that the required assets are located and modified in a programme that does not degrade the operational capability.

c. **Modification Fielding Plan.** Ensures a smooth modification programme that has minimal distribution to the Capability. Any updates or modifications will be handled through the contract arrangement in place.

d. **Operational Changes.** Assess impact of changes to the operational usage on the delivered support.

e. **Environmental Changes.** Assess impact of changes to the usage environment on the delivered support.

f. **Product Upgrades.** Assess impact of upgrades to the product on the delivered support.

g. **Input into Supportability Case.** Ensures decisions, justifications and evidence are available.

Obsolescence.

29. The ISLSC will ensure that obsolescence is managed in accordance with the Obsolescence Plan. Guidance on obsolescence management is contained in JSP 886 Volume 7 Part 8.13.

30. Platforms and products are procured against a predicted or required life. This may be extended or shortened for any number of reasons.

31. The Support Manager must plan not only for the disposal, but also have a strategy to detect the onset of obsolescence, of the whole or part of the product or system.

32. The Support Manager will then, if necessary, instigate contract action to find a suitable replacement if required, or extend the life of product.

33. The signs of the onset of obsolescence include:

a. Non availability of spares and prohibitive costs for replacements.

b. Lack of the necessary skills or training to maintain the product.

34. Product no longer used due to changes of role, or introduction of enhanced capability.

Configuration Management.

35. Configuration control of product and technical information.

36. Policy and advice is contained in JSP 886 Volume 7 Part 8.12.

37. Configuration Management (CM) provides a mechanism for controlling product functional and physical characteristics throughout the acquisition lifecycle, and enables an orderly transition from development to production and entry into service.

38. Procedures will be adopted to apply CM as the control of a product's form, fit and functional characteristics, as described in the Product technical documentation.

39. CM provides a record of changes throughout the life of the product, and shows any dependencies between products and their sub systems or components.

40. The record of changes against the baseline must be made available to both MOD and the Supplier.

Inventory Management Input.

41. Advice and guidance is contained in JSP 886 Volume 2.

42. **Details of Product and Spares Usage.** The Support Manager will ensure that procedures put in place in the pre In-service phases are followed, to provide sufficient information on the exact circumstances and usage that were present when the reported fault or incident occurred. This will include running times, maintenance status and environmental (operational and climatic) information.

43. **Input into Project Safety Case.** All reported incidents and accidents will be investigated. Implications on the Safety Case will be identified and actioned as appropriate. Actions will be authorised to minimise the risk of reoccurrence. Impact on the support system will be assessed.

44. **Input into Reliability Case.** Maintenance of the Reliability Case with current usage, incident and failure evidence, trends and analysis. Publication at agreed intervals will enable stakeholders to be informed of the reliability solutions and achievements.

45. **Disposal Planning**

a. Beyond economical repair spares or supersession during use.

b. Beyond economical repair in use products.

c. Out of service rundown during disposal phase for:

(1) The support to reflect reducing numbers.

(2) The product. Any legislation that is enacted or amended must be assessed for impact on product disposal. The Disposal Plan will be updated as appropriate to reflect any decisions and actions taken.

(3) Disposal procedures and guidance is detailed in JSP 886 Volume 2 Part 404: Disposal of Inventory.

Identify, Mitigate and Manage Support Risks

46. Risk Management will be an integral part of the project management process and should inform project decisions and forecasts. It will also inform an organisation's Corporate Risk Management activities:

a. Influencing the Project Risk Management Strategy (RMS) and maintaining support issues in the Project Risk Management Plan (RMP).

b. A common Project Risk Management process that uses common risk information.

c. Agreeing acceptable levels of support risk at all major decision points.

d. Using risk information, in conjunction with project data, to generate the 10%, 50% and 90% Confidence Figures for time and cost. These are required for Project Approvals.

e. Adopting a formal and open Risk Management approach appropriate to the in-service phase and nature of the project.

f. Assigning risk ownership to the party best able to manage the risk.

Receive, Analyse and Act on Product Information, Data and Usage Feedback

47. **Users.**

a. Product failures and incidents.

b. Technical Documentation change recommendations.

c. Training change recommendations.

48. **Inventory Management.** Advice and guidance is contained in JSP 886 Volume 2.

a. Stock usage.

49. **Support Supplier.**

a. Obsolescence data.

b. Operation variances to contract.

c. Environment variances to contract.

d. Fault::

(1) Trends.

(2) Investigations.

e. Reliability:

(1) Data analysis.

(2) Reports.

f. Modification recommendations to the:

(1) Product. Any new hazards or hazardous substances used in the product will be minimised by modifications as the changes in legislation are identified.

(2) Support solution.

g. MOD Safety Organisations and Authorities.

(1) Changes to Legislation.

(2) Product Changes.

(3) External Safety Organisations and Authorities.

h. Capability Sponsor.

(1) Operational Changes.

(2) Environment Changes.

Review, Analyse and Approve:

50. **Trend Analysis Reports.**

a. Information contained in the LIR will be analysed to identify trends that may have an impact on the delivered support.

b. The analysis will cover all areas but concentrate on:

(1) Spares consumption.

(2) Defects.

(3) Failure rates.

(4) Reliability.

(5) Test and measurement performance (including No Fault Found).

51. **Modification Recommendations.**

a. Modifications to the product arising from defects, reliability or operational, and associated modification programme management.

b. Technical Information and Documentation changes and any impact on other ILS elements.

c. Training changes and any impact on other ILS elements.

52. **Fault Reports.**

a. Fault investigation.

b. Modification investigation.

53. **Incident Reports.**

a. Incident Investigation.

b. Modification Investigation.

c. Feedback to Originators of any Defect, Observation or Incident.

Assess and Mitigate Impact of Modifications and Changes

54. **Support Risks and input into Project Risk Register.**

55. **Reliability and Input into Reliability Case.** Advice is contained in JSP 886 Volume 7 Part 8.04.

56. **Maintenance Routines.** Advice is contained in JSP 886 Volume 7 Part 8.03.

57. **Training and Training Equipment.** Advice is contained in JSP 886 Volume 7 Part 8.01.

58. **Support Solution Delivery.**

59. **ILS Elements.** Identified in DEFSTAN 00-600 and JSP 886 Volume 7 Part 1.

60. **ILS Associated Disciplines.** Identified in DEFSTAN 00-600 and JSP 886 Volume 7 Part 1.

61. **Safety and Input into Project Safety Case.** Advice is contained in JSP 886 Volume 7 Part 2.

62. **Operations.**

63. **Environment.**

64. **Disposal planning.**

a. Update, impact on or implementation of Disposal Plan for replaced items and spares.

b. Any legislation that is enacted or amended must be assessed for impact on product disposal.

c. Any new hazards or hazardous substances used in the product will be minimised by modifications as the changes in legislation are identified.

Update ISSP

65. Fielding Plan.

66. Disposal Plan.

67. ILS Element Plans.

Monitor and Manage the Supportability Case

68. All relevant data and information generated will be contained within the Logistic Information Repository. The Supportability Case will be maintained and populated with evidence and justifications from all support activities, including ISLSC inputs and outputs. Advice and guidance on the supportability case is contained in JSP 886 Volume 7 Part 9.

a. **Update.** All ISLSC decisions, with justification and evidence for decisions taken, and progressive assurance, will be updated in the Supportability Case.

b. **Request and Review Reports.** Periodic and ad hoc reports will be generated as detailed in the Project schedule, and will input into the ISLSC meetings.

Approve Funded Work

69. The purpose of the Approvals and Scrutiny process for funding approval is to provide a Governance framework that enables Ministers and the Permanent Under Secretary (PUS) to justify continued financial delegations from Her Majesty's Treasury (HMT) to MOD.

a. Investigations.

b. Modifications.

c. Support Contract Milestones.

Learn from Experience (LFE)

70. LFE is closely linked to Post Project Evaluation. It helps organisational learning whilst project evaluation assesses how the outcome of a project meets the initial investment appraisal. LFE is recognised as a key business process and Project Planning should take account of LFE at all stages of the lifecycle. Applying LFE will aid in anticipating risks, issues and increase the probability of future success.

Initiate, Monitor and Assess the Impact of Periodical Reviews

71. The support solution reviewed (see Chapter 5), at agreed intervals to ensure continued optimization and value for money. The reviews will be performed using ILS methodology and process tailored to reflect the level of detailed analysis required.

IS LSC PERIODICITY

72. The periodicity of IS LSC meetings will be agreed by all Stakeholders and included in the Project Milestone Plan.

73. The ISLSC will be part of the overall Project programme and planning process reporting to the Capability Working Group.

INFORMATION QUALITY

74. Clear, accurate and full information on any defect or failure is essential to ensure that the data can be analysed, enabling the rectification to take place in a timely and efficient manner.

75. The ISLSC will ensure that Information quality is monitored, managed and controlled. The reporting process will include feedback to the originator.

76. Defence Logistics has a requirement to exploit the information contained within information systems more efficiently and effectively. The Defence Logistic Information Strategy identifies that this can be best achieved through maximising re-use of existing and planned systems, and limiting future proliferation.

77. Defence networks are not free to the User and must be funded. Comprehensive polices, identified in JSP 886 Volume 1 Part 1, are in place to ensure that applications can coexist on, and use, network resources efficiently. Compliance with the policies will bring coherence to this area when considering changes/upgrades to an existing Logistic IS or application, including increases in the number of users or terminal hardware.

78. LogNEC Front Door is to be consulted before implementation of any Log IS solution in order to ensure coherence with Defence Strategy and Policy.

79. D ISS will be tasked to provide communications and infrastructure to support Log IS within agreed performance, time and cost envelopes.

80. Advice and guidance on the management of support information is available in JSP 886 Volume 7 Part 5.

SUPPORTABILITY ANALYSIS

ILS and Supportability Analysis Strategy

81. It is unlikely that the strategy documents will need to be updated as part of a modification, except for a radical change to the system maintenance concept. The strategy may be updated as part of the modification process if subsequent development work was expected.

ILS and Supportability Analysis Plan

82. For the majority of the modification/redesign activities, the ILS Element and Supportability Analysis plans will not be required other than as an annex to the ILSP. This will identify particular activities, within the original development plans, applicable to the specific modification under consideration.

83. Alternatively, the overall In-service Support Solution Plan could be supplemented with a list of the activities specific to a particular modification. The purpose will be to ensure that the supportability assessment activities are identified, and responsibility for them clearly defined.

84. The Support Manager will ensure that the need, and extent, of updates to the ILS and Supportability Analysis Plan is clearly specified in the initial modification approval process.

Supportability Analysis Activities

85. The Supportability Analysis (SA) activities to be undertaken during a product modification or redesign process must be tailored to those that will return a cost effective benefit.

86. The SA activities that were specified in the Supportability Analysis Plan used for the procurement of the product may be used as a baseline for the identification of the required activities to be performed for the modification or redesign that can influence the process, and assist in identifying and optimising the support requirements.

87. The activities to be tailored out of the baseline will be those applicable to initial design that are primarily activities no longer possible, due to the design decisions having been made during the development process, and where there is no longer any design freedom. This applies equally to COTS products.

88. In order to ensure that the supportability has been addressed, the applicability of the Supportability Analysis activities to the modification process will be identified in the modification instruction.

89. For re-designs or modifications, the Support Manager will be provided with reports from the Contractor, summarising the Supportability Analysis. The reports are available in the Logistic Information Repository, either automatically or manually.

LOGISTIC INFORMATION REPOSITORY (LIR) MANAGEMENT

90. The LIR is an important source of data for any studies, and the MOD Contractor will have access to the information. The ISLSC will ensure that the LIR continues to be populated through life.

91. The cost of maintaining the LIR must be included in Project funding.

92. As part of the project acceptance activities, the MOD will have the right to review, approve and accept the information contained in the LIR.

93. Depending on contractual arrangements, at acceptance into service for product and platforms, the Contractor information held in the LIR may be transferred to MOD as part of the transfer of responsibility for the product / platform.

94. The LIR may contain a large amount of data required for design optimisation purposes. In order to reduce costs, only a limited set of data is maintained throughout the life of the product. This maintained data will also be used as the basis for further modification activities.

95. The cost effectiveness of re-establishing the full LIR will be assessed and where required, it will form part of the Government Furnished Information provided to the modification design team.

96. The strategy for management of the LIR will be defined by the Support Manager. This will depend on the expected rate of modifications / updates and the probability of subsequent development requirements.

97. Data and information that are inputs into other project cases, documents and plans will be contained within the LIR.

RELIABILITY AND MAINTAINABILITY IN USE

98. To support the provision of the capability through the in-service phase, Reliability & Maintainability (R&M) is maintained by monitoring and recording:

a. System usage.

b. Preventative and corrective maintenance burden.

c. Spares and consumables usage.

d. Product unavailability.

e. Product unreliability.

99. This enables the in-use R&M achievement to be determined and shortfalls to be identified.

100. Analysing this data will permit the cause of shortfalls to be understood, and where appropriate, solutions to be developed and modifications implemented. This activity will allow the R&M case to be maintained.

101. Guidance on R&M is contained in JSP 886 Volume Parts 08.03a-e and 8.04.

SAFETY

102. The Support Manager must ensure that the delivered support and changes to the support, product, operational use or environmental use continue to or do not infringe any safety aspects either regulated by the MOD or an outside authority.

103. The Project Safety Case must be updated with support related matters. Appropriate subject matter experts should be engaged and invited, on an ad hoc basis, to the IS LSC as appropriate.

104. Typical aspects will include:

a. Health and Safety and Environmental protection. Advice is available on the AOF.

b. Airworthiness. Advice is available on the AOF.

c. Ordnance Safety. Advice is available on the AOF.

d. Operational Safety.

CHAPTER 5: REVIEWS

REVIEWS

1. Reviews to ensure continued sustainability and cost value will be conducted at intervals, as in the Contract, and included in the Project Milestone Plan.

2. The IS LSC will instigate reviews and impact assessments of the delivered support in response to:

   a. Programme scheduled periodic review.

   b. Legislation change.

   c. Operational or environmental change.

   d. Planned upgrades.

   e. Maintenance schedule changes.

   f. Funding changes.

   g. Unscheduled change.

3. Reviews will be conducted in conjunction with ESCIT and can use optimisation tools such as OSP.

SUPPORTABILITY ANALYSIS ACTIVITIES

4. Tailored Supportability Analysis activities will be undertaken to ensure that upgrade, upkeep, technology insertions, operational changes (capability management), and environmental changes are best value, and the support remains sustainable.

SUPPORT VALIDATION

Maintenance Schedules

5. Effective and achievable maintenance schedules are essential to meeting the required availability and reliability, at the least through life cost.

6. The initial maintenance schedules may have been generated from the Reliability Centred Maintenance (RCM) analysis (DEFSTAN 00-45), based on predictions and historical data.

7. It is essential, therefore, that the maintenance schedules remain a live document to reflect operating experience and changed usage.

8. Feed-back through the data reporting system will be used, and communication maintained with the users to sustain their interest and co-operation.

9. The Support Manager will review the upkeep policy on a regular periodicity, as agreed by the ISLSC Stakeholders to ensure that the assumptions are still valid. Factors to be considered include:

a. Validity of the maintenance plan including the Level of Repair Analysis (LORA) and RCM recommendations.

b. Divergence of commercial standards from product build standard.

c. Changes to legislation.

d. Quantities fielded versus distribution and quantity of spares.

e. Accuracy of original wastage estimate.

f. Product performance falling below or exceeding original predictions.

10. Maintenance policy and guidance is detailed in JSP 886 Volume 7 Part 8.03a to 8.03e.

POTENTIAL INITIATORS FOR SUPPORT VALIDATION

Changes to legislation

11. Legislation changes are to be reviewed, and if relevant, the impact assessed on the support delivered.

Operational or environmental requirement changes

12. Changes to the operational and environmental conditions will be assessed for the impact on the delivered support. The analysis may result in changes to the product or the support contract.

13. The mechanism for monitoring and agreeing changes is through the ISLSC.

Planned Upgrades

14. Sometimes referred to as ‘Technology Insertion’, this option involves predetermining points during the product life at which the design of all or parts of the system will be brought up to date and obsolete items replaced.

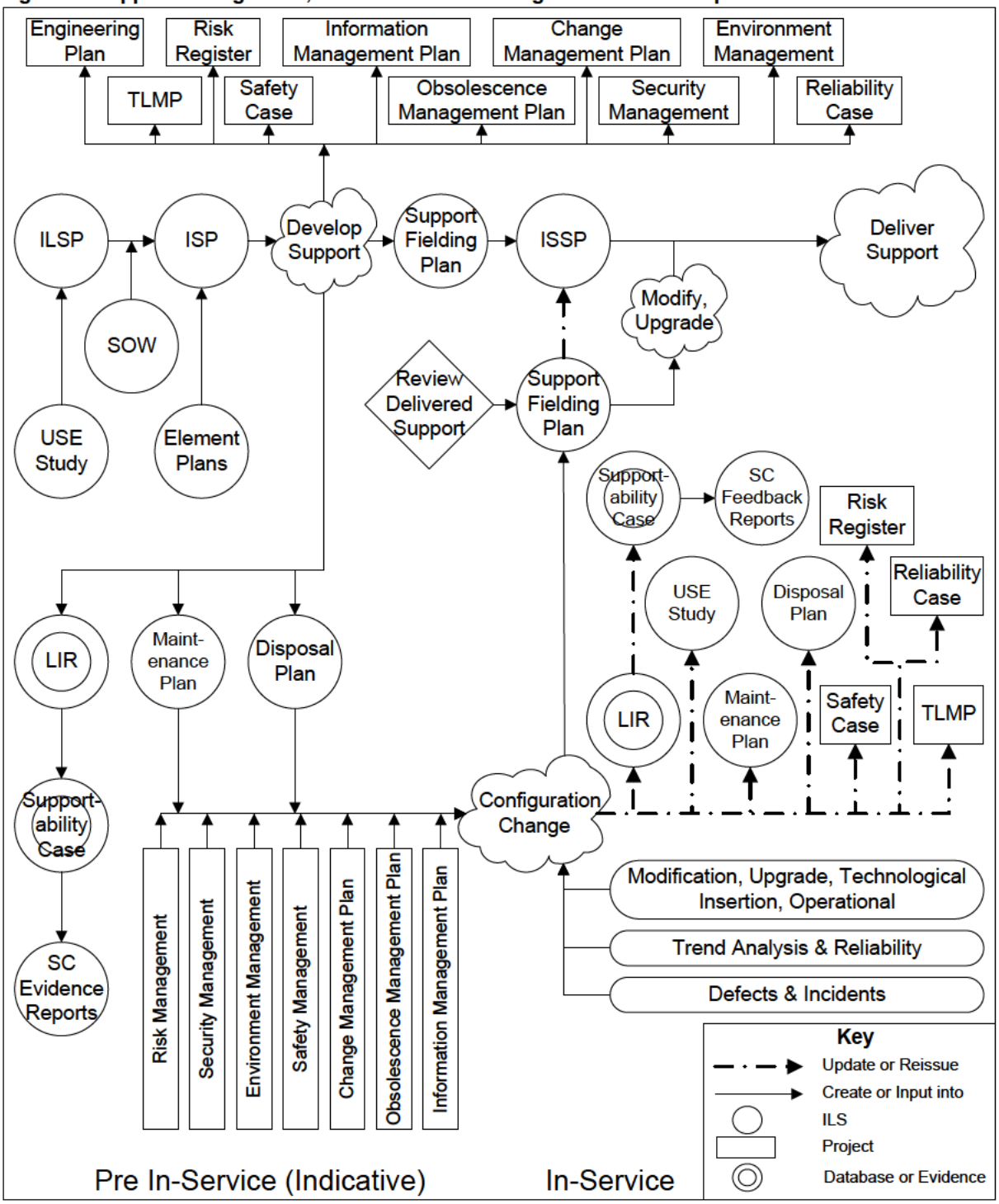
15. These upgrades may or may not be synchronised with ‘Mid-life updates’ which may enhance the requirement that the product is designed to satisfy.

16. The system upgrade programme shall take into account the need to minimise Through Life Finance.

17. Upgrades are to be reviewed and if relevant the impact assessed on the support delivered and the contracted availability.

ANNEX A: SUPPORT MANAGEMENT, REVIEW AND MONITORING INTER-RELATIONSHIPS

Figure 2: Support Management, Review and Monitoring Inter-Relationships



Notes: The Figure 2 above illustrates how during:

1. The development of the support solution (pre In-service), the ILS Plans and Elements interface and interact with each other and associated discipline Plans and processes external to ILS.

2. Use the delivery of the support solution and modification to the product or changes to the operational usage is managed by identifying the interfaces between, and the upkeep of, associated plans and evidence provision processes. These processes were developed during the pre-In-service phase and the in use change process.

ANNEX B: SUPPORT CHAIN MANAGEMENT BY FACTS

1. The Support Chain Management By Facts (SCMBF) data is produced by SCM Strategy Development and Performance Management (SDP PM) team to report on the areas below for ten of the Operating Centres (OC) listed below and at DE&S level. They are used by the OC and other key Stakeholders to specify Support chain performance and identify issues within DE&S.

2. The nine areas covered by the SCMBF are:

(1) Immediate Availability Depth
Source: EDW (PM4IM) No CLS Data
% Off the Shelf Availability - on demand
Description: Immediate Availability Depth measures conformity to mandated targets of Issues from UK Depots. Value shows percentage compliancy of issues made in month. In Land and Maritime this measures solely depth availability. Maritime: IA if the Issue Date is within 2 days of the Demand Date or if the Demand Type is Future. Land: IA satisfied within 1 day of UNICOM Authorised date or 2 days of demand date if not available. Air: IA satisfied if RDD met.
(2) Inventory Dues Out Back-log (%)
Source: EDW (PM4IM) No CLS Data
% of Demands still not met at Month-End
Description: Percentage of demands placed during the dues out period still not met at the end of month. Maritime: Dues out recorded when Issue has a current status of Unavailable. Land: Dues out as identified by SS3. Air: Dues out as per MJDI and are recorded in the month of the Demand Date (or Issues date if no demand date).
(3) Supplier Delivery Performance
Source: EDW (PM4IM) No CLS Data
% of Orders Overdue by > 30 days
Description: Number of deliveries overdue from industry >30 days of original delivery forecast, expressed as a percentage of total Dues In. Maritime: The total of Dues in (with procurement status of 4, procurement method that is not Q1, Q3, Q6, Q9, T1 or W1 and quantity due in stock not equal to 0) where the original due in date is less than the first day of the reporting period. Land: Count of Dues in more than 30 days late based on the original due in date. Air: Insufficient data in the Base Information System means this metric is not used within Air environment.
(4) NCTRs Requiring PT Action
Source: LS
Description: Details the Non-Conforming Trade Receipts entering the Support Chain within LS. These are broken down by Operating Centre, receipts with outstanding priority, routine and no Dues Out and length of time elapsed before PT remedial action initiated.
(5) PT Stock Management Controls (%)
Source: EDW
Description: Identifies the percentage of NIINs requiring PT intervention prior to the issue of materiel. In Maritime this equates to Sers 1,3,4,6 or 9 on CRISP Management Control Code. In Air this equates to SCCS Degree of Control Codes 2,3,4 or 5. In Land, SS3 Provision Management Status 1, Management Controlled Item. (Land definition currently being reviewed). Excludes CLS Items not held within LCS.

(6) A1 & A2 Stock not fit for Issue (£)
Source: SSIT IM Reps
Description: Value of red-carded (suspect, obsolete etc) stock. There are differing criteria for individual environments e.g. in the Air environment, this refers to Depot stock with suffixes of C,D,Q, W1,W2 and X. Measured in £Millions.
(7) Gross and Net Book Value (£bn)
Source: IAET
Description: Displays the monthly Gross Book and Net Book Value of the Inventory. (Metric under review for better visual representation.)
(8)Flow Metric (Raw Materials & Consumables) (£m)
Source: IAET
Description: The graph shows the value of disposals through various stages of the disposals process. Sentenced, Issued, Dispatched and Completed. Currently, STP only provides data to complete two of the four columns. Expressed in £M. (Metric under review for better visual representation.)
(9) LCS Stock Not Moved for >4yrs
Source: STP
Description: Percentage of items managed by LS designated as non- movers (criteria being no stock movement for more than 4yrs). Inert EBS activity at Beith, Crombie, Glen Douglas, Gosport and Plymouth. Forms and Pubs, and West Moors activities are excluded from this metric. CLS data is also excluded from this metric.

3. The 10 clusters currently being reported on are:

   a. D Air Support.

   b. D Combat Air.

   c. D LCS (Commodities).

   d. D Helicopters.

   e. D ISS.

   f. D ISTAR.

   g. D Land Equipment.

   h. D Ships.

   i. D Submarines.

   j. D Weapons.