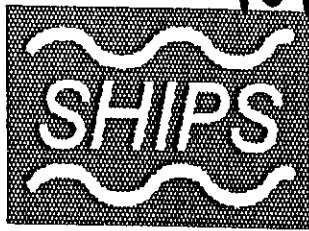


RFI 069 3 of 4



D154
Pre Contract Award
Evaluation
1996

April 1996

Report By: (S.40)
[Redacted]
[Redacted]
[Redacted]

Allott & Lomax
D.E.O
Consultant

**DG Ships/SSD
Works Devonport Section**

D154

**Pre Contract Award
Evaluation 1996**

April 1996

D154
PRIME CONTRACT
PRE-CONTRACT AWARD
EVALUATION REPORT

25 April 1996

(S. 40)

Approved

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Date 25 April 1996

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Date 25 April 1996

D154 PRE CONTRACT AWARD EVALUATION MARCH 1996

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EXECUTIVE SUMMARY

General

1. The Pre Contract Award Evaluation was carried out to provide a high level examination of the adequacy of DML's proposals for the corporate and management arrangements to deliver the D154 project, and to make recommendations for necessary improvements where these could be identified.
2. The evaluation was carried out at a time when major changes in DML's ownership and organisation were taking place and while the company was working towards meeting the requirements of a new Nuclear Site Licence. The evaluation considered DML's future organisation shown in Figure 1 of Annex D; many of the changes DML propose were not in place. Some details of the management proposals changed during the evaluation, which was an indication of the very early stage of development of the thinking in some areas.

Principal Findings

3. The Principal Findings of the evaluations are:
 - The proposed changes in DML's organisation and ownership of the Company are consistent with creating the basis for an organisation capable of being able to deliver the D154 project successfully and to meet the requirements of the nuclear site licensing regulator.
 - In many areas of the proposed organisation, particularly in the proposed Capital Projects Directorate, arrangements and procedures have not been developed to a point where firm views can be taken of the likelihood of their successful implementation and this is reflected in the detailed evaluation reports. Further, the new Chief Executive and the Director of Operations are yet to be appointed; the project manager is yet to take up his post full time and a major build up of staff is planned. The successful development of systems and procedures and the appointment and the build up of staff are vital to the success of the project. The process has started but much remains to be done. Until this has been successfully completed the capability of DML to manage the D154 project will remain a significant risk to the project.
 - Of major importance to the success of the project is the performance of Rolls-Royce and Associates Ltd (RRA) as sub-contractors to DML and their willingness to offer an

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unqualified fixed price contract. DML were in the process of forming alliances with RRA and others at the time of the evaluation and were working towards an agreement to sign a fixed price contract. DML stated they were 'absolutely confident' that a sound working relationship will be achieved since they consider that there is a will at senior management level on both sides to provide one. The basis for this confidence is unclear to the evaluation team. Until this matter is resolved the relationship between DML and RRA must remain the major risk to the project.

- Because of the lack of development of certain resources and procedures and the developing situation between DML and RRA, it is considered that a follow up PCAE should take place prior to Phase 2 contract placement. The further evaluation would be to confirm that the build-up in resources and the development of procedures and systems is proceeding satisfactorily and that DML has made an adequate response to the recommendations arising from this report.

4. The key recommendations given at the end of this section are considered necessary to reduce the risk to the D154 project. Other recommendations are given in Section 3. DML should address and provide a response to MoD to all of the recommendations made in this report.
5. The PCAE Team's findings relating to the specific evaluation topics are summarised below:

Corporate Issues

6. The presentations made to the evaluation team emphasised the importance of the Brown and Root management culture and systems introduced from the parent company Brown & Root UK Ltd. It was noted that very few Brown and Root staff are currently in post in the D154 team, and there is a concern that the introduction of their systems needs to be more proactively managed.
7. Two key senior executive positions in the new Company structure are vacant, namely those of Chief Executive and Director of Operations. It was also noted that the D154 Project Manager had not taken up his post and it seemed that he would not be in post full time in the near future. These are clearly appointments of the utmost importance to the project.
8. The position of the Director of Safety and Quality in the Company hierarchy is very important and an appointment to this post has recently been made. It is welcomed that this post will be at Board

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level from which the new Director can ensure that the Company's intentions in respect of Safety, Quality and QA can be enforced. In this respect it is considered that the Company should make a clearer policy statement of the prime importance that it attaches to safety and make arrangements to ensure that the influence of this key Director is felt in the new Capital Projects Directorate.

9. The two managers in the Capital Projects Directorate with responsibilities for safety, namely the Nuclear Safety Manager and the Construction Safety Manager report through various layers of management to the D154 Project Director. This is not a satisfactory arrangement. The influence of safety requirements should be felt at the highest level in the Project Directorate and the Safety Managers should have the same access to the Project Director as the QA and Risk Managers. These safety managers should report to the Project Director and have a strong link with the new Safety and Quality Director.
10. The PCAE Team were unclear as to the relative responsibilities of the Project Director and Project Manager and, indeed, whether there was a need for two posts; there should be a clearer definition of responsibilities in this area.
11. On occasions the PCAE team lacked confidence in the competencies available for certain posts and it is considered that DML should regularly assess the performance of key post holders, and make improvements where shortcomings exist.

The Nuclear Site Licence

12. The Company appears to have made significant progress in its arrangements to meet the requirements for the introduction of the new Nuclear Site Licence and should be able to ensure that no obstacles remain to its issue on time to meet the needs of the D154 programme.

Commercial and Contract Management

13. With the exception of the Company's proposals concerning sub-sub contract competition, there are no clear or documented procedures within the Commercial Department. Much of the policy and corporate philosophy has yet to be resolved. In particular, effective management of information, staff availability and continuity, vendor rating and cost control need to be urgently addressed.
14. Relationships with the various sub contractors, in particular the relationship between DML and RRA, need to be clearly defined. The Prime Contractor must demonstrate his ability to manage these interfaces to MoD. The relationship between DML and RRA is crucial

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to the success of the Project and this has yet to be formalised. Cost control and pricing mechanisms need clarification. The interface between the Commercial Manager and the rest of the team appears to be cumbersome and requires streamlining.

The Management of Risk

15. Given the high level of risk that the Company consider they are to accept, it was disappointing to find that a risk management culture is yet poorly developed within the Company. Plans for the management of risk both at corporate and project levels are poorly defined and not complete. As far as risk management in general is concerned, it is considered that DML need to give more consideration to the management of risks to the project by the appointment of managers with experience of risk management techniques, by assigning responsibilities for the management of various elements of the risk and their proactive control.

Interface Management

16. The Company has introduced some important improvements in Corporate Structure through:
- the creation of a Capital Projects Directorate
 - the establishment of a coherent Operations Directorate
 - the creation of a Safety and Quality Directorate
17. Creation of the above Directorates should provide better clarity and formality to many of the key boundaries of responsibility and interfaces within the Company. Additionally interfaces between the Company and the Nuclear Regulators, and between the Company and the Client are now more sensibly allocated. The authority vested in the three new Directorates appears appropriate, and DML recognises that the definition of their responsibilities will need to be revisited as the Company develops during this period of rapid change.
18. Co-ordination of refit and construction activities on the site is a major management challenge on which much of the success of the project depends. The assessment of the Company's ability to manage this important interface suggests that lack of full acceptance of their risk in this area could reduce the Company's ability to co-ordinate effectively work on site.
19. No overall management philosophy or procedures have yet been documented for change control and configuration management.

- [REDACTED]
20. There has been a disappointing lack of progress in the development of DML's Quality Assurance System which is still at an early stage, and could not at this time support contract commencement. The capability of the quality management group to support the D154 project meeting the timescale required for the agreement of sub contractors is of concern.

Design Management

21. The proposed Design Team structure identifying the various posts appears to be appropriate, but the majority of the posts, including Design Managers, are yet to be filled. As the Core Team has not been set up it has no experience of working as a team and its effectiveness is unproven. The job descriptions currently available for the various posts need expanding to include authority, responsibility and the method of interfacing with other team members. Rapid build up is required to appoint competent staff to posts; this is a significant risk to the project and requires more attention.
22. There is concern that the difficulties of design direction and co-ordination have not yet been fully anticipated and that DML have not taken ownership of the D154 project. There is a pressing need that responsibility for the technical direction of the project is clearly defined.

Nuclear Safety Case Management

23. The Safety Case Management arrangements, as currently proposed by the Company are in accordance with current practice in the civil nuclear industry and if implemented should meet the requirements of the regulators.
24. At this early stage of the project the arrangements are considered to be good but it is noted that the ability to deliver the intentions is heavily dependent upon the ability and influence of the Nuclear Safety Manager and the recruitment of a significant number of suitably qualified and competent staff to work under his direction. The ability of the project management and the principal safety case sub contractors to provide staff to time will be of concern until their recruitment has been successfully completed.

Construction Management

25. The Construction Management proposals are under development, and the construction management strategy, management structure and roles and responsibilities have yet to be finalised. The current proposals to use QA accredited contractors, with contractor self

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regulation, places considerable reliance on corporate and project Quality Management Systems, the majority of which have yet to be developed. The construction management proposals when fully developed may be expected to provide an adequate level of confidence in the construction. There is, however, concern that DML's proposals for a relatively sophisticated construction management approach, when taken with the intention to form risk sharing alliances with the major sub contractors, is perhaps too ambitious and will place considerable strains on a new and untried organisation. DML's ability to develop their proposals needs to be demonstrated quickly.

Acceptance and Commissioning Management

26. The Company understands its responsibilities for commissioning and acceptance of the completed D154 plant and equipment but presently the arrangements need greater clarity and unambiguous terms of reference. The new Nuclear Site Licence requires arrangements to be made to control commissioning and the top tier document meeting the site licence condition has already been issued. The development of these arrangements should provide a sound basis for the control of commissioning. Present proposals do not include the involvement of the Safety and Quality Directorate in this process. This is an omission which will have to be considered for the future commissioning of nuclear plant in order for the detailed arrangements in support of commissioning to be acceptable.

Conclusions

27. In most of the management areas considered in the evaluation, DML's proposals have been assessed as either poor or fair, indicating that improvement is required prior to Phase 2 Contract placement.
28. Many of the areas of concern are due to the limited development of DML's systems and procedures, and the need to recruit large numbers of experienced staff quickly. Much remains to be done and the full commitment of the DML management will be necessary to achieve the changes required.
29. The specific areas of concern are detailed in the report. Recommendations are given to which DML should provide a response to MoD. A further evaluation should be carried out prior to Phase 2 to confirm the satisfactory build-up of resources and the development of systems and procedures, and to ensure that the recommendations of this report have been addressed.



KEY RECOMMENDATIONS

1. The appointment of the Chief Executive and the Director of Operations should be made as soon as possible.
2. The designated D154 Project Manager should be confirmed and should take up his post immediately on a full time basis to ensure that the required development of procedures and build-up of resources is achieved effectively.
3. DML should continue urgently to develop procedures and systems for the D154 project and complete the recruitment of staff. In particular;
 - a coherent risk management culture needs to be developed within the Company.
 - a disciplined financial management framework needs to be instituted.
4. DML should demonstrate to MoD that their contractual arrangements with Rolls-Royce and Associates Ltd provide a sound working relationship and do not present an undue risk to the project.
5. DML should regularly assess the performance of key posts holders.
6. The DML Company Safety Policy Statement should make clear that the Company considers safety to be of paramount importance in the pursuit of its business interests.
7. The Safety and Quality Director should arrange for early audits, inspections and reviews of the way procedures are being implemented in the design, construction, commissioning and operations which take place on the company's site and ensure that appropriate corrective actions are taken if necessary.
8. The managers responsible for nuclear and conventional health and safety matters in the Capital Projects Directorate should report at the same level as the QA and Risk Managers.
9. The safety and quality managers should also have a direct link with the Safety and Quality Director to ensure that the company's safety policy, and safety and quality standards are communicated to the highest levels of the project organisation.
10. The adequacy of procedures, systems and resources which DML assemble for the implementation of the project should be evaluated during a follow-up PCAE prior to Phase 2 contract placement.



1.0 INTRODUCTION

1.1 A Pre-Contract Award Evaluation (PCAE) was undertaken for Project D154 during 1994. This examined the corporate and project management arrangements of Devonport Management Limited (DML) in order to establish their suitability to be the Prime Contractor for D154. The report concluded that, in 8 out of 10 main areas of assessment, considerable improvement was required before the MoD could award a Prime Contract to DML.

1.2 Since the 1994 PCAE, changes have been made to the Dockyard Operator's management proposals. The key changes have been:

- a. The proposal to introduce Brown and Root (UK) Ltd to take over responsibility for the project management of D154.
- b. The proposed strengthening of Brown and Root's position as majority shareholder in DML.
- c. The clearer definition of the responsibilities of, and the working relationships between, the works project management team and the operating directorate, and the newly created separate Safety and Quality Directorate (SQD).
- d. The bringing together of all infrastructure projects on the nuclear licensed site under the management of a single project management team within DML.

1.3 This report details a further PCAE conducted during March-April 1996 to address each of the areas above, particularly 1.2c and d, as they affect D154.

1.4 This high level evaluation was carried out within the limited timescale required by the review co-ordinator. The scope of the evaluation was limited to the key areas identified in the Terms of Reference.

1.5 The evaluation team did not access financial information on the Company. No reference is made to the financial stability of the organisation in this report.

[REDACTED]

2.0 TERMS OF REFERENCE

2.1 Objectives

- 2.1.1 To evaluate the adequacy of the Corporate and Project Management Arrangements made to provide the D154 facilities which are to support the Naval Nuclear Submarine Programme at Devonport Royal Dockyard in a fully commissioned, licensed, operable and maintainable state and fit for purpose.
- 2.1.2 To identify all necessary improvements for implementation in the Management Arrangements.

2.2 Scope

- 2.2.1 The PCAE has examined all of the Management Arrangements which influence the Dockyard Operator's ability to deliver the D154 facilities in order to support the Naval Nuclear Submarine Programme at Devonport Royal Dockyard. Due to the close relationship between the D154 Project and the Dock Staged Improvement Programme the PCAE encompassed all capital works projects and was carried out as a high level overview.
- 2.2.2 Definition of Management Arrangements

The PCAE concentrated on the following management areas:

- a. Corporate Issues - do the Corporate Management arrangements, including the organisation/structure and financial stability provide the necessary confidence in the licensability of the company for nuclear operations?
- b. Interface Management - do current proposals adequately address all interfaces and the means by which they are controlled? Are the proposals adequate on all sides? Are responsibilities and authority fully defined and do sufficient, capable resources exist to meet these responsibilities?
- c. Design Management - is the process of Design Management adequate to lead to suitable procurement specifications?
- d. Nuclear Safety Case Management - does confidence exist that current proposals will lead to successful nuclear consents/licensing of the facilities?
- e. Construction Management (including Off-site Manufacture) - have all the site management, quality, safety, setting to work and Acceptance/Handover issues been addressed?

- [REDACTED]
- f. Acceptance and Commissioning Management - do current proposals adequately cover Operator Training and Maintenance aspects of the facilities? What are the arrangements for acceptance of the facilities and are they adequate? Does confidence exist that the arrangements for Inactive and Active Commissioning have been adequately defined?
 - g. Commercial and Contract Management - does confidence exist that adequate arrangements are in place to control the commercial aspects of the project?

2.2.3 A more detailed list of the Management sub-topics, provided to assist Lead Evaluators in developing their Evaluation Task Forms, is provided in the Evaluation Task Plan at Annex E.



3.0 EVALUATION SUMMARIES/RECOMMENDATIONS

3.1 Introduction

3.1.1 The following comments are edited extracts from the evaluation team's detailed reports.

3.2 General/Corporate Issues

3.2.1 The new arrangements in which Brown and Root have a controlling interest in the Company are welcomed and will give clearer overall direction and control.

3.2.2 The Brown and Root project management experience being introduced to the Capital Projects Directorate (CPD) provides increased confidence in the Company's ability to control projects in general and D154 in particular.

3.2.3 The introduction of a Safety and Quality Director to the main executive is a major improvement in organisation from the control of safety, and the nuclear site licensing view point, whilst the new CPD should provide the resources and controls to meet the exacting demands of the D154 project requirements.

3.2.4 This proposed organisation is considered to be sensible and broadly consistent with good practice.

3.2.5 A major build-up in procedures, resources and staff is planned to meet the new Company Structure and the requirements of the D154 project. This has already started but much remains to be done and successful management of the process is vital. This also applies to the proposed systems.

3.2.6 At present two key senior executive positions need to be filled, namely that of Chief Executive of the new Company and that of Director of Operations. It is essential that these appointments are made as soon as possible since their roles are central to the success of the new Company and its ability to manage the design, construction and commissioning of the new facilities whilst ensuring that they can be smoothly integrated with the existing dockyard work programme.

3.2.7 There is great emphasis on the Brown and Root culture being introduced into the Company and its subcontractors. The Project Manager is from the Brown and Root organisation and is currently employed on another MoD project. It is essential that his commitment becomes dedicated to the D154 project immediately.

- [REDACTED]
- 3.2.8 The management of the build-up of competent staff in general, together with their training and assimilation into the Company structure, is an issue key to the success of the project - this is considered to be a primary task of the Project Manager and is one of the reasons why he should already be in post.
- 3.2.9 Concern has been expressed by DML over the commitment of RR&A to the concept of a fixed price contract, together with the unusual level of reliance DML will have to place on RR&A's delivery of appropriate safety case information to time. In terms of risk to the project RR&A are seen to make a significant contribution, yet DML has relatively limited ability to control it. Steps are being taken at the present time to form a commercial alliance between DML and RR&A and representations have been made by DML seeking improvements in RR&A's management arrangements for control of their input to the D154 project. The Project Director was hopeful that these approaches would be successful but clearly the matter is of concern to him. That concern is shared by the PCAE team. During a later interview the Capital Projects Director said that he was 'absolutely confident' that a sound working arrangement will be achieved since there is a will at senior management level at both DML and RR&A to provide one.
- 3.2.10 Until this matter is finally resolved it must remain the major risk to the project.
- 3.2.11 The Company safety policy statement covers the right issues but should include a clearer statement that safety is considered to be of paramount importance by the Company in the pursuit of its business interests.
- 3.2.12 Representations were made to the PCAE team during the course of the evaluation that in the past operational and programme requirements may have, on occasion, taken a higher profile relative to safety than could be strictly justified. Again it is important to the success of the project that this is not allowed to happen in future. Observation of the procedures devised by the Company to meet the requirements of the new Nuclear Site Licence conditions should prevent this occurring.
- 3.2.13 Figure 6 at Annex D shows the organisation of the CPD. It can be seen that the two managers with principal responsibilities for safety report through various levels of project management whilst the Quality and Risk Managers appear to have direct access to the Project Director. This does not satisfactorily ensure that the influence of safety is felt at the highest level in the project management. Further, there is no obvious linkage with the Safety and Quality Director's organisation which has Company responsibilities for ensuring that safety policy and standards are achieved.

- [REDACTED]
- 3.2.14 The conditions attached to the Nuclear Site Licence which, it is proposed, will be issued later this year are quite different from those attached to the existing licence. They are generally more comprehensive and will require the licensee to make specific arrangements for his activities in more than thirty areas. We were told by DML that the Chief Inspector of Nuclear Installations has said that, subject to four caveats being satisfied, there should be no bar to the issue of a new licence on time. One of the caveats relates to MoD commitments to fund the decommissioning of the site and another relates to the provision of insurance liability cover. The Company is confident that both of these requirements will be satisfied without difficulty.
- 3.2.15 The further caveats relate to the Company making satisfactory progress in revising the overall site safety case and making satisfactory arrangements for the project management of D154. The Company is confident that the Nuclear Installations Inspectorate can be satisfied in both those respects and nothing has been discovered during this evaluation to suggest otherwise.
- 3.2.16 Important requirements in the granting of a new Nuclear Site Licence will be the clear identification of the safety standards and criteria the Company will meet and the introduction of the arrangements required to meet the terms of the new licence conditions. The standards and criteria are defined in existing DML documents and the top tier documents relating to the licence conditions are already in place.
- 3.2.17 Consequently it seems that issue of the new Nuclear Site Licence will take place on time and the ability to satisfy the NII is under the control of the Company.
- 3.2.18 The evaluation team's recommendations on General/Corporate Issues are:
- The appointments of Chief Executive and Director of Operations should be made as soon as possible.
 - A dedicated Project Manager should be appointed to the D154 Project immediately.
 - The DML Company Safety Policy Statement should make a clearer statement that safety is considered to be of paramount importance by the Company in the pursuit of its business interests.
 - It is recommended that the SQD should arrange for early audits, inspections and reviews of the way procedures are being implemented in the design, construction,

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commissioning and operations which take place on the Company's site and ensure that appropriate corrective actions are taken where necessary.

- The Managers responsible for both nuclear and conventional health and safety matters in the CPD should report to the Project Manager at the same level as the QA and Risk Managers.
- Further, the safety and quality managers should also have a direct link with the SQD to ensure that the Company's safety policy, and safety and quality standards are communicated to the highest levels of the project organisation.
- All systems, procedures and resources should be in place prior to Phase 2 Contract placement.

3.3 Interface Management

3.3.1 The Company have introduced some important improvements in corporate structure since the last PCAE.

3.3.2 The new organisation structure provides better clarity and formality to many of the key boundaries of responsibility and interfaces within the Company. Additionally interfaces between the Company and the nuclear regulators, and between the Company and the project client, MoD, are more sensibly allocated within the Company.

3.3.3 The responsibilities allocated between CPD and Trident Programme Directorate (TPD) for interfacing with MoD and other external agencies require further development by the Company.

3.3.4 The responsibilities and authority of CPD, TPD and SQD have been documented by the Company. The authority vested in these groups appears appropriate.

3.3.5 Co-ordination of refit and construction activities on the operating dockyard site is a major management challenge on which much of the success of the project depends. The Company see this as the main risk to the project. The Company have created the position of Corporate Planning Manager to provide the Board with advice on the integration of construction and refit activities, and to produce a co-ordinated programme against which management decisions may be monitored. The process described by the Company during the PCAE appears far too reactive and is insufficiently forward looking to allow effective management intervention in order to mitigate risk before it arises.

[REDACTED]

3.3.6 The capability of DML personnel to effectively manage the key interfaces rests largely on the competence of:

- a. The Chief Executive - this post has yet to be filled.
- b. The D154 Project Director - The D154 Project Director has little experience in the management of major nuclear safety related projects and will require considerable support from his team to lead and manage the project side of this important interface function.
- c. The Trident Programme Director
- d. The Safety and Quality Director

3.3.7 The role of Corporate Planning Manager is described by the Company as key to the management of some of the principal interface risks. The skills and qualities needed to ensure that this post makes a positive and proactive contribution to the risk management process will be quite demanding.

3.3.8 Given the high level of risk the Company say they have accepted, it was disappointing to find that a risk management culture is poorly developed within the Company. Whilst the Company have appointed a specialist risk consultant to 'facilitate' the introduction of risk management methods to the project it was clear from questioning senior Company personnel during the PCAE that adequate plans for the management of risk both at corporate and project levels is poorly defined and far from complete. This is a major weakness in the Company's management arrangements which requires substantial improvement to provide an acceptable level of confidence that the Company are fully able to manage risk within its own resources.

3.3.9 The Company were unable to point to a clear Stakeholder Management Plan and appeared unclear about the allocation of responsibilities within the Company for the management of external stakeholders, especially in its relationship with MoD stakeholders. A basic cultural change in the Company's relationship with MoD is required to reflect the responsibilities transferred to the Company under the Prime Contracting arrangements. Clearly responsibility for the capture of design information from external sources and for satisfying external stakeholder requirements is central to this role.

3.3.10 No overall management philosophy or procedures have been documented for Change Control and Configuration Management. Some development of Change Control Procedures exists for Design Management and implicitly exists within Nuclear Safety Case Management. The evaluation concluded that although a Design Management Change Control Procedure exists in draft the Company's

[REDACTED]

proposals for Change Control and Configuration Management are poor due to their lack of development.

- 3.3.11 The Company are developing a quality management system comprising some 150 procedures (of which approximately 50 relate to the way in which the Company are to do business) as part of the project. These procedures were stated as 30% complete with all procedures requiring to be written or at least reviewed to reflect latest management arrangements or project requirements. This management system is being produced to interface with, and form part of, DML's existing accreditation. At this time the totality of the management system does not exist and therefore it is not possible to reach a clear conclusion.
- 3.3.12 The Company proposes to contract only with quality assurance accredited companies having appropriate experience so that they may be assured that their principal sub contractors will be able to deliver their part of the project. The sub contractors are to be self regulating and will exercise the necessary management control and discipline required for the delivery of the project.
- 3.3.13 It is perceived that this strategy was being examined and refined by the Company during the course of the interviews. It is not clear whether the strategy will be re-examined as part of the development of the CPD.
- 3.3.14 The QA manager anticipates drafting and updating of the procedures to take 3/4 months. The evaluation team consider the work involved to be very considerably under estimated and whilst some procedures will not be required at the outset, the quality management system must be substantially in place in order that the 'handshake' documentation can be completed by others.
- 3.3.15 In view of the number of principal design sub contractors (four) and principal construction/supply sub contractors (at least four), the requirement for quality representation at liaison meetings, and for audits and quality management system maintenance, the proposed staffing of the team is considered inadequate.
- 3.3.16 The current staffing of the quality management department comprises two staff. The other posts are vacant and therefore the competence of the individuals cannot be assessed at this time. The Company will need to demonstrate the capability and competence of the group at a later date, preferably before contract award.
- 3.3.17 The capability of the quality management group to support the D154 project is of concern. The reliance upon the quality management group to provide quality control through the handshake arrangements is flawed. If this is the route adopted then a considerably more intensive auditing schedule will be required with a significantly greater

[REDACTED]

presence at sub contractor premises. At present the auditors will be based at Devonport. The proposed audit regime appears inadequate.


3.3.18 It is noted that the QA manager reports above the D154 project manager but below the Capital Projects Director. This appears inconsistent in that the project manager will not have authority over the quality department upon whom he is relying for implementation of a quality management system. The Company explained that the quality manager would be providing a service to the whole of the CPD and as such had a responsibility to the Capital Projects Director. Notwithstanding this, it was indicated that the quality manager would have some functional responsibility to the project manager although this was not clear. It is to be welcomed that the quality management system should report to a higher level, however the project manager will have some concerns as to the availability of resources for his particular project.

3.3.19 Over reliance appears to be placed upon the sub contractor's self regulation and control. Inadequate attention has been given to the importance of vigorous auditing and whilst it is acknowledged that the project is at an early stage of development, the quality management system could not at this time support contract commencement.

3.3.20 It is considered that the Contractor's proposals are at best POOR and will require improvement in advance of the D154 Project commencement.

3.3.21 The evaluation team's recommendations on Interface Management are:

- The Company should clarify the allocation of responsibility between CPD and TPD for interfacing with MoD Stakeholders and collecting externally sourced information needed for the design and safety justification of the facilities.
- The Company should formally review the allocation of tasks and responsibilities between CPD, TPD and SQD 3 months after the start of Phase 2.
- The Company should review and justify their plans for the management of programme co-ordination risks.
- MoD should review plans for the effective management of submarine programme/construction programme risks.

- 
- The Company should be asked to justify the effectiveness of the interface management arrangements provided by D154 Project Director.
 - The Company should review and justify their staffing proposals for the position of Corporate Planning Manager.
 - Justification for the level of resources provided in CPD, TPD and SQD should be reviewed during contract negotiations in light of the procurement arrangements adopted by the Prime Contractor.
 - The adequacy of resources which the Company assemble for the implementation of the project should be evaluated during the follow-up PCAE.
 - The Company should provide greater clarity on the allocation of responsibility for the management of submarine programme and construction programme interface risks.
 - The Company should review their risk management plans and demonstrate that they are effective.
 - The Company should be asked to review risk management skills and experience in senior personnel and introduce structured training where shortfalls exist.
 - The Company should produce a Stakeholder Management Plan.
 - The Company should consider the establishment of a quality management system steering group who would have the responsibility of resolving any conflicts and for promoting the drafting, revision and implementation of procedures in the early part of the contract.
 - It is considered that a vigorous internal audit regime is essential in order to ensure the orderly implementation of the quality procedures. Experience on capital projects being undertaken by the Company indicates that such a regime has not been implemented.
 - It is recommended that the Company reviews its philosophy for quality control and reviews its intentions with regard to the quality management system being a sub section of DML's existing registration, when in fact it will substantially replace the existing system for CPD. Resources and their allocation must be reviewed. The Company must undertake vendor assessments and continue to audit the

[REDACTED]

sub contractors to a defined set of criteria which encompass the overall performance of these companies within the sub contract.

3.4 Nuclear Safety Management

3.4.1 From the evidence presented it appears that the procedures and methodologies necessary for the management of the safety case are in place. These are supported by a suite of corporate safety documentation that defines how safety will be reviewed and accepted by the Company and presented for Regulatory assessment.

3.4.2 The evaluation has investigated the procedures and methodologies for nuclear safety case management. At this stage of the Project they can be judged to be of a GOOD standard and equivalent to those that would be expected in a civil nuclear project prior to contract award.

3.4.3 The organisation of staff mirrors the structure of safety cases defined within the Safety Justification Plan.

3.4.4 It was stated that DML have carried out a comprehensive programme of interviews to identify staff to fill posts below Safety Manager. It is, however, intended that all of these posts be filled by agency staff rather than by either DML or partner company staff.

3.4.5 The fact that the production of the safety case will be largely carried out remote from the Project places a considerable reliance on the effective management of these sub contractors. The Safety Manager stated that he has had previous satisfactory experience of similar working arrangements at BNFL. Despite this reassurance concern still exists that the Company will be able to adequately control the effective development of the safety case.

3.4.6 The delivery of the safety case to programme and to an adequate standard will be dependent upon the recruitment of staff possessing the right skills and experience both with the Project and TPD. The proposals presented to date do not provide reassurance that staff, either in numbers or quality, can be recruited at a rate to support the early stages of the safety case development.

3.4.7 From the information presented it is not possible to judge whether the nominated safety case sub contractors have either the resources or the commitment to meet the safety case programme. Given that the great majority of the safety case is to be developed external to the Project this must remain a significant concern.

3.4.8 The position of the Nuclear Safety Manager within the Project Structure does not reflect the importance of the post. The Nuclear Safety Manager should have a direct reporting route to either the

[REDACTED]

Project Manager or the Project Director. This would give nuclear safety due prominence within the Project as the achievement of the safety case will remain one of the principal risks to the Project.

3.4.9 From the information presented it is not clear who has the responsibility for the management of risks associated with the nuclear safety case. This is a concern as the risks associated with the safety case dominate the risk register.

3.4.10 The interface between the Project and TPD is therefore crucial to the success of the later stages of the safety case campaign. It is not yet clear how this interface will be managed and as such it must be of concern until an interface proposal is agreed between the two parties.

3.4.11 The capability of both the Project and the principal safety case sub contractors to provide suitably qualified and experienced safety case staff within the current programme timescale is questioned.

3.4.12 There appears to be an over reliance on the recruitment of agency staff for the existing safety case team vacancies.

3.4.13 **The evaluation team's recommendations with regard to Nuclear Safety Management are:**

- The Nuclear Safety Manager reports directly to either the Project Director or Project Manager to ensure that nuclear safety matters are given due prominence in recognition of the risks inherent in the safety case.
- Both the Nuclear and Conventional Safety Managers have a direct route to the SQD to resolve disputes pertinent to safety.
- It is recommended that the principal safety engineers be either directly employed by DML/Brown and Root or are recruited from either the partner companies or nominated sub contractors.
- A further evaluation of the operation of the corporate safety case procedures should be carried out in six months time to evaluate compliance and instigate any remedial actions.

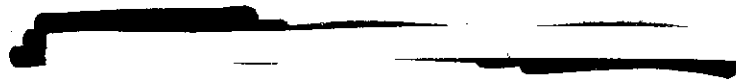
3.5 Design Management

3.5.1 Generally whilst progress has been made in organising a design team and in developing the basis of design, aspects of the Company's

[REDACTED]

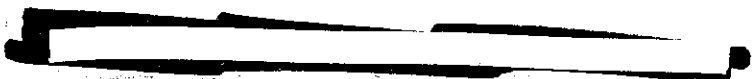
proposals for managing development of the design of this complex undertaking, including the major part offsite at subcontractors, give cause for concern.

- 3.5.2 Currently the team are in the Second Phase of their project, in which the input parameters and design principles are to be confirmed and agreed with the TPD representing DML as client. Confirmation of meeting the Authority's Requirements is also expected at this stage together with any reconciliation of requirements. Major design options such as the dock-within-dock concept are also to be developed during this phase. It is considered unrealistic that all of this work can be achieved within the stated 4 month period, including resourcing and training of the team and specification to, and negotiation with, the sub contractors.
- 3.5.3 Configuration control of the design during this phase was vague. The whole area should be clarified and strengthened.
- 3.5.4 Little provision has been made for design development by the subcontractors. The arrangements cover initial specification of the requirements, progressing of the work and acceptance by the core team but not for dynamic development under technical direction and liaison between all parties. These aspects, and particularly the main design development offsite, cause considerable concern.
- 3.5.5 Management of design risk appears adhoc, relying on engineers and subcontractors to raise items for consideration. There is no provision for formal risk recognition and management of risks.
- 3.5.6 The present 34 management procedures, which are derived from BNFL, are to be revised for clarity and streamlining without major change. This is endorsed although it adds a further task during the first three months. Much was made of an integrated Project Management System, which is a comprehensive software package to be supplied by Brown and Root and has ample proof of application to major projects. This is understood to be much better than the former TDOC system and should facilitate control of the project and subcontractors. The interface between D154 Project, TPD and SQD appears blurred at present and the procedures should be revised to formalise responsibilities and methods of interfacing.
- 3.5.7 The Design and Safety Manager will have 45 staff, approximately half each in safety and design. This number should be adequate for the work envisaged. Only 12 are currently in post, notable absences being the two Design Managers.
- 3.5.8 In all three Directorates the need for experienced and capable staff is paramount to meet their roles, and the achievement of rapid recruiting and training must represent a major risk to the Project.



- 3.5.9 A graph shown of subcontractor staffing showed an extremely rapid build-up from about 60 to 200 within one month. This is considered to be an unrealistic undertaking, being very difficult to control and ensure quality.
- 3.5.10 The Civil Engineer is expected to control mechanical and electrical design and development, including important safety related systems. These are outside his normal capability and constitute an overlarge scope of work. He is not in post.
- 3.5.11 DML would rely on its subcontractors to ensure quality of sub-sub contractors.
- 3.5.12 Job descriptions do not currently include authority or responsibility.
- 3.5.13 The overall performance is considered to be FAIR.
- 3.5.14 **The evaluation team's recommendations with regard to Design Management are:**

- The central design function of the core team at Devonport should be strengthened to include a pivotal role in technical direction and co-ordination. Primary subcontractor staff should be seconded into this team. Subcontractors should be limited to detailed areas which can more readily be co-ordinated.
- The initial period during which this core team is staffed and trained, design procedures rewritten and systems of working set up, design parameters and principles reviewed and confirmed, as well as radical design features developed, should be reassessed and lengthened into a more effective programme.
- The system for design definition and configuration control during the early stages should be clarified and strengthened. The interface with TPD at this time should also be clarified.
- Job descriptions should be extended to include authority, responsibilities and required qualifications and experience. Procedures should also be revised to formalise responsibilities and methods of interfacing.
- Resourcing of adequate staff is a significant risk to the Project and requires more definition.



- [REDACTED]
- The scope of the post of Civil Engineer is considered over-large and consideration should be given to splitting responsibilities.

3.6 Construction Management

- 3.6.1 Considerable reliance upon the D154 Quality Management System was indicated in the discussions. The selection of subcontractors with accredited Quality Assurance to ensure quality of product was a fundamental criterion for quality control.
- 3.6.2 The majority (27 out of 28 posts) of the Construction Management organisation tabled are vacant. The Quality Management System is not yet developed (only 30% completion of total procedures required is reported).
- 3.6.3 The ability to resource the proposals to meet the required programme remains a concern.
- 3.6.4 The companies which were indicated as sub contractors to the Company are well known within the Construction Industry and must be considered to have a level of competence within their areas of core business.
- 3.6.5 Similarly it is possible to consider the constituent parts of the Management Structure as capable of delivering the Works. However, the capability of the whole is not demonstrable.
- 3.6.6 It is of concern that there is no independent advice on Health and Safety at a high level within the project.
- 3.6.7 Resources do not currently exist to provide the Construction Management Team. There remains considerable development of the management structure and definition of the roles and responsibilities in order that appropriate resources can be recruited/allocated. It is not clear that the Company appreciate and concur with this view. Notwithstanding, the Project will require adequate time to develop the management structure and recruit the appropriate resources.
- 3.6.8 The Company proposes to use capable and competent resources which if adequately managed should give the Ministry confidence in Construction Management.
- 3.6.9 The shared responsibilities at senior level are a concern. The CPD is newly formed and limited development of roles, responsibilities and authorities has taken place.
- 3.6.10 It is concluded that the Construction Management arrangements are immature and overall as currently expressed are POOR. Further

[REDACTED]

development, including definition of the roles and responsibilities and a decision on the method of quality control to be exercised may enable a fair position to be reached in the short term.

3.6.11 The evaluation team's recommendations with regard to Construction Management are:

- The Management arrangements should be developed further and a clear understanding should exist with regard to functional, facility and contractual responsibilities and authority.
- In order that the Construction Management arrangements can improve upon fair it will be necessary for an improved quality control regime to be implemented and for SQD or others to provide a high level input to Quality and Health & Safety aspects.

3.7 Acceptance and Commissioning Management

- 3.7.1 The Company understands its responsibilities and has sought to provide a single focus for acceptance/management activities and training within the new TPD.
- 3.7.2 It is considered important that contractual and site licence responsibilities are delineated as soon as possible, and before contract award.
- 3.7.3 High level Site Licence Arrangement documents exist addressing Commissioning, Training and Control and Supervision of Operations.
- 3.7.4 It is understood that the appropriate policies and procedures, when developed, will also rely heavily on those already established and available to support the SSN refit programme. This will ensure that personnel involved in the training and commissioning processes will be familiar with and understand what is required of them.
- 3.7.5 The procedures to be adopted to train personnel are clearly established and fully understood within the Company.
- 3.7.6 The Company acknowledges that whilst opportunities exist for training personnel between now and the start of acceptance/commissioning activities less opportunity exists to provide the requisite levels of experience; it is likely therefore that the company will rely on its existing pool of suitable qualified and experienced personnel (SQEP).

- [REDACTED]
- 3.7.7 It is of fundamental importance that a coherent suite of Resource Plans and Training Plans are developed and implemented as soon as possible.
- 3.7.8 In establishing the TPD it is apparent that the company has sought to create a single focal point for acceptance/commissioning of, and training associated with, Project D154.
- 3.7.9 Notwithstanding that intention, it is apparent that greater clarity of the arrangements is still required.
- 3.7.10 It is of concern that the SQD is not currently included in the Acceptance/Commissioning process.
- 3.7.11 It is of fundamental importance to the company that clear lines of responsibilities for Acceptance/Commissioning and training are established and published, and that all personnel are fully conversant with those responsibilities.
- 3.7.12 **The evaluation team's recommendations with regard to Acceptance and Commissioning Management are:**

- Appropriate strategies/policies and procedures, consistent with the available high level documentation, should be developed as soon as possible defining how the D154 Acceptance/Commissioning and associated training are to be undertaken. This documentation should be reviewed during the next MoD evaluation.
- Appropriate Resource Plans and Training Plans should be developed to ensure that sufficient SQEP are available to support D154 Acceptance/Commissioning and operations. These plans should be reviewed during the next MoD evaluation.
- Clear, unambiguous and coherent Terms of Reference should be published defining contractual and site licence responsibilities for acceptance/commissioning and training. These should be available prior to contract award.

3.8 Commercial and Contract Management

- 3.8.1 With the exception of the Company's proposals concerning sub-subcontract competition, where a positive, coherent strategy is proposed, there are no clear or documented procedures. Any strategy which exists has not yet been defined by the Commercial

[REDACTED]

Manager and the discussions revealed that much of the policy and corporate philosophy has yet to be resolved.

- 3.8.2 The Commercial Department will receive all correspondence from the company project staff and sub contractors. No system for the effective management of the information within the Commercial Department is planned and assessment of the impact and consequences of any given information will rely solely on the competence of individuals.
- 3.8.3 The position of staff employed on a Project Hire basis was discussed and the need for continuity of staff at the higher level was not initially appreciated by the Commercial Director. There were no measures to aid commitment, cohesiveness and continuity.
- 3.8.4 A limited quality audit of the major sub contractors was carried out between September 1994 - January 1995. The Company do not intend to implement a vendor rating system for its major sub contractors.
- 3.8.5 The Company advised that it proposed to use a cost control system imported from Brown and Root, however there was insufficient information on the system to judge its adequacy.
- 3.8.6 The Commercial Manager's post appeared to be over loaded.
- 3.8.7 The Evaluation Team considered that due to the immature nature of the policy and philosophy required to support the Commercial Department activities a value judgement on its viability could not be made. However, based on the tenor of the discussions, the Company's proposals for the control and management of the functions of the Commercial Department, were assessed as FAIR/POOR.
- 3.8.8 The evaluation team's recommendation with regard to Commercial and Contract Management aspects are as follows:
- The policy not to implement a vendor rating system for the major sub contractors should be revisited.

ANNEX A

1996 PCAE INFORMATION PACK ~~INDEX~~

1996 PCAE INFORMATION PACK INDEX

Contents

1. Index
2. Introduction
3. Heads of Agreement dated 04 March 1996
4. Tender Deliverables

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Transmittal Letter		
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Section 2.	Technical Specification	Rev 1
Section 3.	Engineering Drawings	Rev 1
Section 4.	Draft PEP	
Part 1	Definition and Objectives	Rev 1
2	Organisation and Resourcing	Rev 5
3	Risk Management	Rev 2
4	Planning and Programme Control	Rev 1
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6	Quality Assurance	Rev 2
7	Project Safety Plan	Rev 2
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10	Nuclear Safety Case Management	Rev 2
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12	Security Plan	Rev 1
13	Commissioning and Training	Rev 3
14	Acceptance and Handover	Rev 3
15	Handover Documentation	Rev 3

EVALUATION METHODOLOGY

1. The Evaluation Team was staffed as shown below;

Team Leaders

[REDACTED]

Former Deputy Chief Inspector of
Nuclear Installations Inspectorate
Allott & Lomax, Consulting Engineers
Defence Estates Organisation

[REDACTED]

Independent Team Members

[REDACTED]

Defence Estates Organisation
MoD(PE)PQS

[REDACTED]

(S.40)

D154 Project Team Members

[REDACTED]

PCM/FF - PCAE Co-ordinator
PCM/PPO
CBFS T1
WDS APS FF1
WDS APS FF2
NWA(C)
NWA(D)
NWA(N)
NWA(S)

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

2. Project areas were allocated to Evaluators as is detailed in the attached task plan enclosed at Annex E.
3. The Evaluators were issued with the PCAE Terms of Reference and an Implementation Procedure. They were also fully briefed on the requirements of the D154 Phase 2 I.T.T and the relevant part of the DFF Project Manual and D154 Risk Log. Most evaluators attended a final briefing meeting prior to commencement of the audit.
4. A combined Evaluation Team/ Prime Contractor presentation and briefing session was undertaken prior to the commencement of the Evaluation.
5. Audit reports and summaries were submitted by each Evaluator on completion of their task.
6. This Evaluation Report is based on information received from the Evaluators and has been prepared by the Team Leaders

[REDACTED]

KEY EVENT HISTORY

KEY EVENT HISTORY

- 1990 MoD remit DML, BTL and VSEL to prepare submarine upkeep proposals.
- November 1991 DML submit the proposals for the modernisation and enhancement of the nuclear submarine support facilities at Devonport.
- July 1993 Issue of The Royal Dockyards Future Arrangements for Ship Refitting Consultative Document.
- July 1993 Report of the House of Commons Select Committee into the location of future refitting facilities for Nuclear Powered Submarines.
- September 1993 Confirmation by the Secretary of State for Defence of the location for undertaking future refuelling facilities for Nuclear Powered Submarines at Devonport.
- October 1993 Statement of the Government's intention to offer for competition the Government's remaining interest in Devonport Dockyard.
- July 1994 Issue of Invitation to Tender for D154 to DML.
- September 1994 First Pre Contract Award Evaluation.
- October 1994 DML Tender Response.
- June 1995 DML Tender Response.
- April 1996 Signature of Heads of Agreement for the Sale of DRD and the Provision of Nuclear Refuelling and Refuelling Facilities at Devonport.

ANNEX D

D154 PROJECT INFORMATION

D154 PROJECT INFORMATION

Background

1. On 29 November 1984, the SoS for Defence announced that the Government had decided that the future upkeep facilities for Vanguard Class submarines would be constructed at Rosyth. This resulting project became known as RD57. The "Options for Change" review projected a reduced submarine force level such that it was necessary to re-examine the future submarine upkeep proposals. DML, VSEL and BTL were asked to develop proposals for nuclear facilities to support the reduced force level. In November 1991 DML and BTL submitted their proposals; the DML scheme was a combination of the modernisation of existing facilities and the conversion of existing surface ship docks for Vanguard submarines; the BTL proposals were a modified version of the RD57 design. VSEL did not submit comprehensive proposals. Both DML and BTL continued to develop their designs with BTL submitting a further proposal to upgrade the existing docks at Rosyth.
2. The SoS for Defence announced on 29 September 1993, after detailed consideration of the future submarine upkeep proposals submitted by DML and BTL, that subject to satisfactory contractual arrangement, all nuclear submarine upkeep work would be concentrated at Devonport.
3. To make the facilities at Devonport suitable for the refitting and refuelling of the Navy's fleet of nuclear powered submarines, work needs to be carried out to modernise 14 and 15 Docks and to enhance 9 and 10 Docks to provide facilities to support nuclear operations. The existing facilities and the proposed modernised and enhanced facilities are shown in Figures 2 and 3.

Contract

4. The Prime Contract for D154 is proposed to be let to DML subject to the negotiation of satisfactory terms. At the same time the Government Owned, Contractor Operated (GOCO) arrangements will end with the sale of the site. The D154 Prime Contract will, at that time, be assigned to the new dockyard owner.
5. The Chief of Defence Procurement has determined that, due to the unique situation of having to construct a nuclear facility within an operating dockyard, the dockyard operator (DML) having ownership of the D154 design and being responsible for obtaining the necessary statutory authorisations, and that a competition has already taken place in the form of the "comparator exercise", the MoD should contract with DML as Prime Contractor.

6. The Invitation to Tender for the D154 Prime Contract was issued to DML on 15 July 1994. The I.T.T consists of Conditions of Contract specifically developed for the unique circumstances of this project and the Authority's Requirement that sets out the MoD's requirements for the facility in high level performance terms. An unsatisfactory response was received. A revised ITT was issued on 12 April 1995 and a response was received in 14 June 1995. This response was also considered unsatisfactory.

Programme

7. The Trident refit facilities need to be in place and ready in all respects to commence first operational use by the end of January 2002. All other facilities are to be ready with inspections completed to commence their first operational use by 9 April 2004. Consent for continued operation of all facilities is to be achieved by 28 March 2005. This has necessitated a tight programme of sequential activities, as shown in the indicative programme at Figure 4.
8. The four principal stages of the project and the key events are shown on the programme although it has to be recognised that these could migrate when a fully developed logic network is drawn up and any float available identified.
9. Notwithstanding the absence of a detailed programme it is clear from the strategic programme that the timescale for the project is not generous. Substantial delays would compromise achievement of the objectives and firm management will be required to exercise control of the time available without compromising the quality of the work or its cost.
10. The programme for obtaining the statutory approvals (Nuclear Site Licence and Nuclear Waste Discharge) together with the programme for subsequent approvals of Nuclear Safety Cases and the timely placement of the Prime Contract could all impact upon the D154 programme.
11. The D154 programme could impact on the programmes for privatisation of the dockyard site and the nuclear submarine upkeep programme.

DML Company

(S. 43)

12. DML is a company formed in 1986 as a joint venture between four independent private companies to bid for the management of the (GOCO) Term Contract of Devonport Royal Dockyard. The corporate management and financial guarantees necessary to obtain the Term Contract for Naval refitting are provided collectively by the private companies in joint venture, the skilled labour force being provided largely by Devonport Royal Dockyard plc. DML has very limited fixed assets but a turnover of approximately [REDACTED] per annum. DML's core business is defence related ship repair and it has had only a very limited success in diversifying into other fields.
13. During the contract negotiation process, DML recognised that to meet MoD expectations for the company to act as a Prime Contractor for D154, alternative internal business strategies needed to be adopted. One strategy proposed by DML and supported by MoD is that Brown & Root (UK) Ltd would become a majority shareholder of the company and would also project manage D154.
14. The table below shows the company shareholding as it is now and as it will be when the sale contract is signed:



(S. 43)

Company	% Share DML	% Share DRD	Nature of Business	Approx Turnover (1994) £M pa
BICC	30%	24.5%	Electrical Cable, Data networks, Civil Engineering Major Projects, Housing, Electronics	[REDACTED]
Weir Group PLC	30%	24.5%	Engineering Control Systems, Valve Manufacture, LPG Equipment, Offshore Engineering, Pumps, Machine Tools	[REDACTED]
Brown & Root (UK) Ltd (A subsidiary of Halliburton Holdings Ltd)	30%	51%	Construction, North Sea Oil Fabrications, Deep Ocean Services, Project Management	[REDACTED]
TRUST	10%	0		-



15. The primary business of DML is to refit and repair Naval vessels and this will progressively concentrate onto nuclear submarine work with surface ships work from the unallocated programme being won in competition with other yards.
16. To perform its primary function, DML needs to carry out modernisation and enhancement to the Dockyard facilities which has hitherto been considered an ancillary task. In the case of D154, the scale of the development required, its funding by Government and the scale of the project risks, promote the need for the provision of more specific management arrangements. Figure 5 shows the structure of the Company, identifying the Director of Future Facilities to be responsible as Project Director for the D154 project. Figure 6 shows the proposed DML organisation of the project below project Director level, incorporating personnel from DML, AEA, Balfour Beatty, BNFL, EC Harris, Gibb, Strachan and Henshaw, RR&A.

17. DML Company Details

Trading Styles	DML DML Diesels Devonport Yachts		
Management Board	Chairman Managing Director Directors	  10	(S. 40)
Finance (1995)	Turnover Pre Tax Profit Current Assets Current Liabilities Submarine Income	£224m £8.7m £59.5m £55.9m £100m	
QA Held	AQAP1 Edition 3 ISO 9001 BRCQA NAMAS		

Project Structure

18. DML has been re-structured so that the responsibility for all capital work projects rests with Director Capital Projects which is shown at Figure 6.

19. Two other Directorates have recently been established within the company; these are the Trident Programme Directorate and the Safety and Quality Directorate. TPD will act as the focal point for all Trident related matters and will act as the DML Client for acceptance and handover of D154 (See Figure 7). The Safety and Quality Directorate has been established to provide a focal point for Safety and Quality. The Submarine Directorate continues to have responsibility for the day to day management of the submarine up-keep programme (See Figure 8).

FUTURE DML ORGANISATION

(S.40)

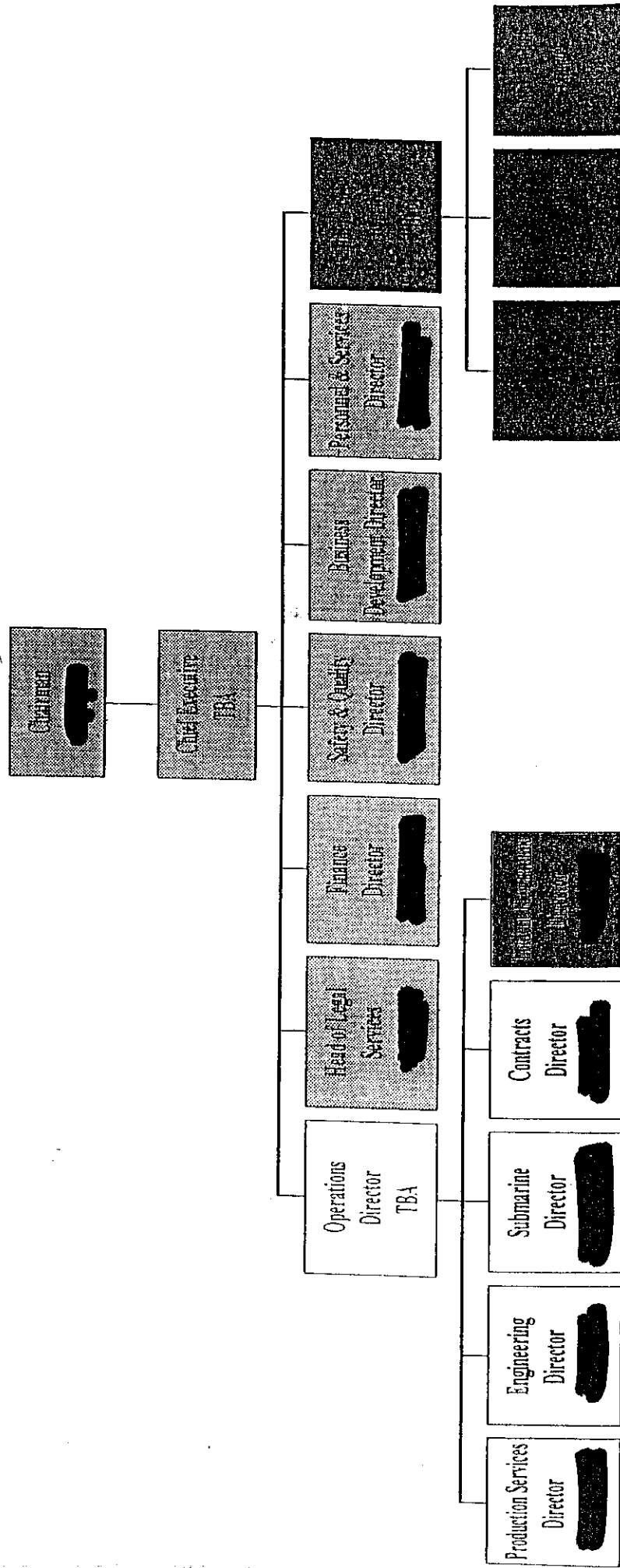
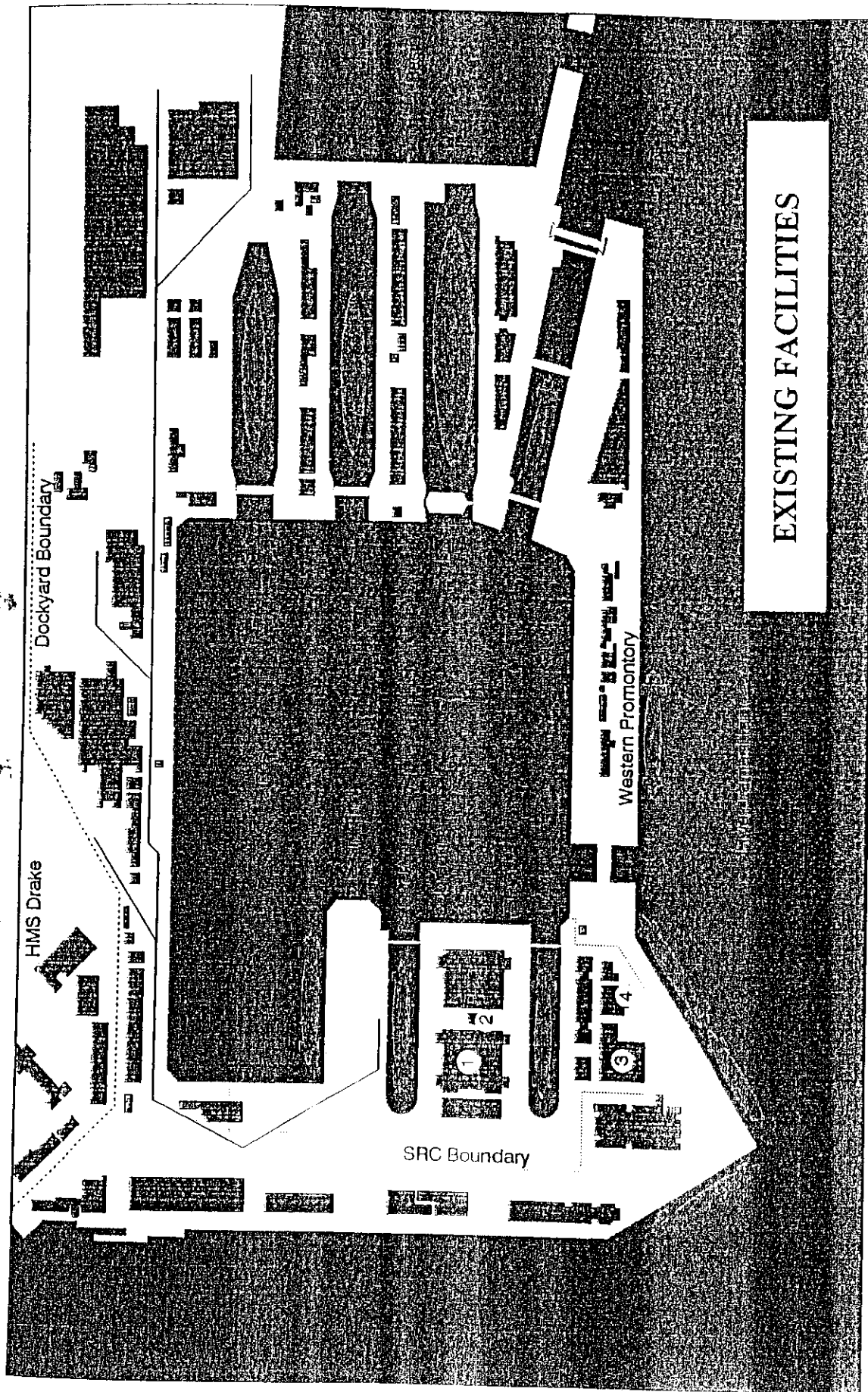


FIGURE 1



Key to Buildings in the SRC

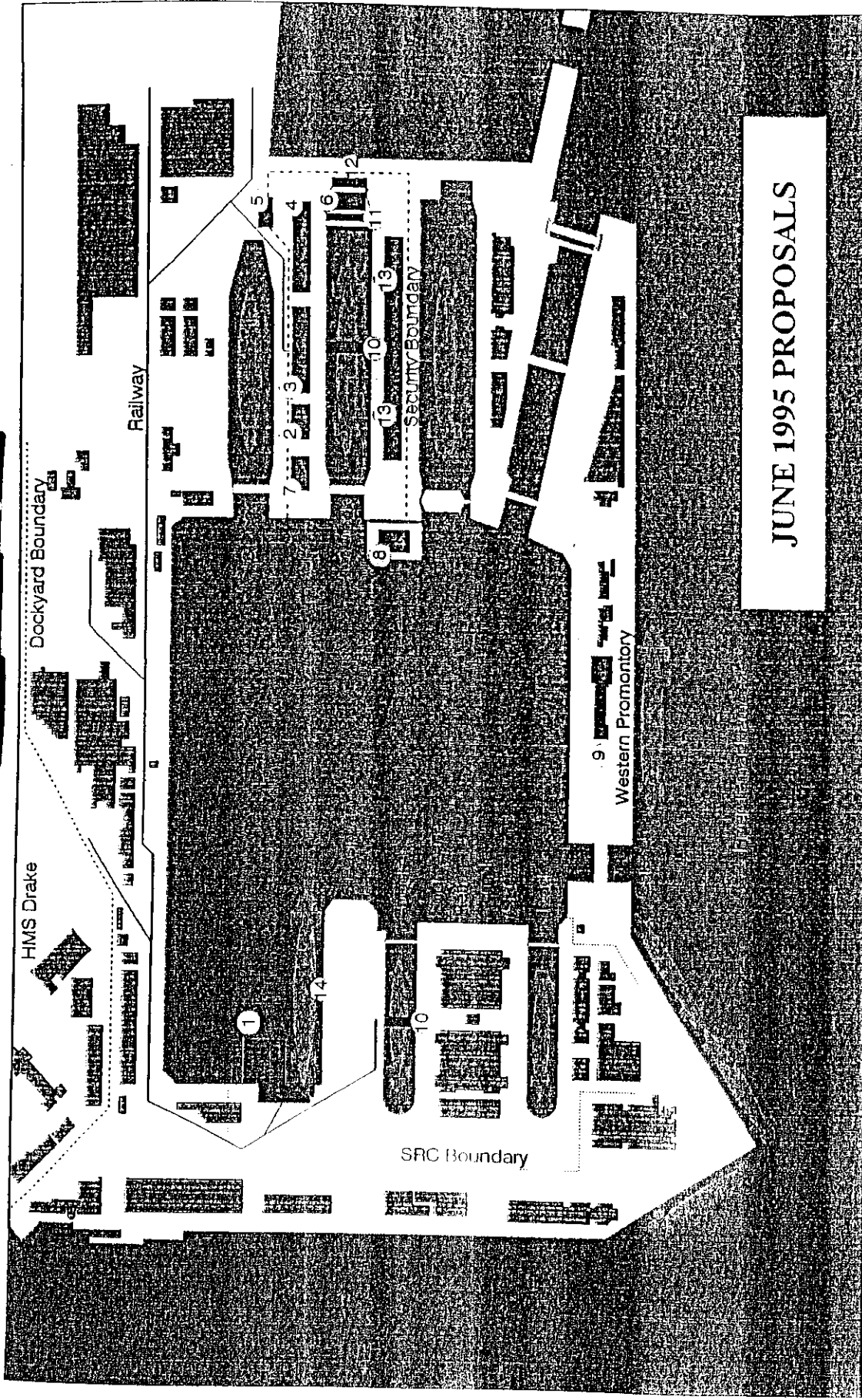
- 1 Nuclear Support Facilities (NSF)
- 2 Refuelling Crane
- 3 Nuclear Utilities Building (NUB)
- 4 Solid Waste Handling Facility (SWHF)

RESTRICTED-MANAGEMENT-COMMERCIAL



NOT TO SCALE

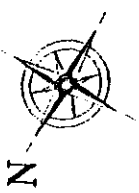
FIGURE 2



JUNE 1995 PROPOSALS

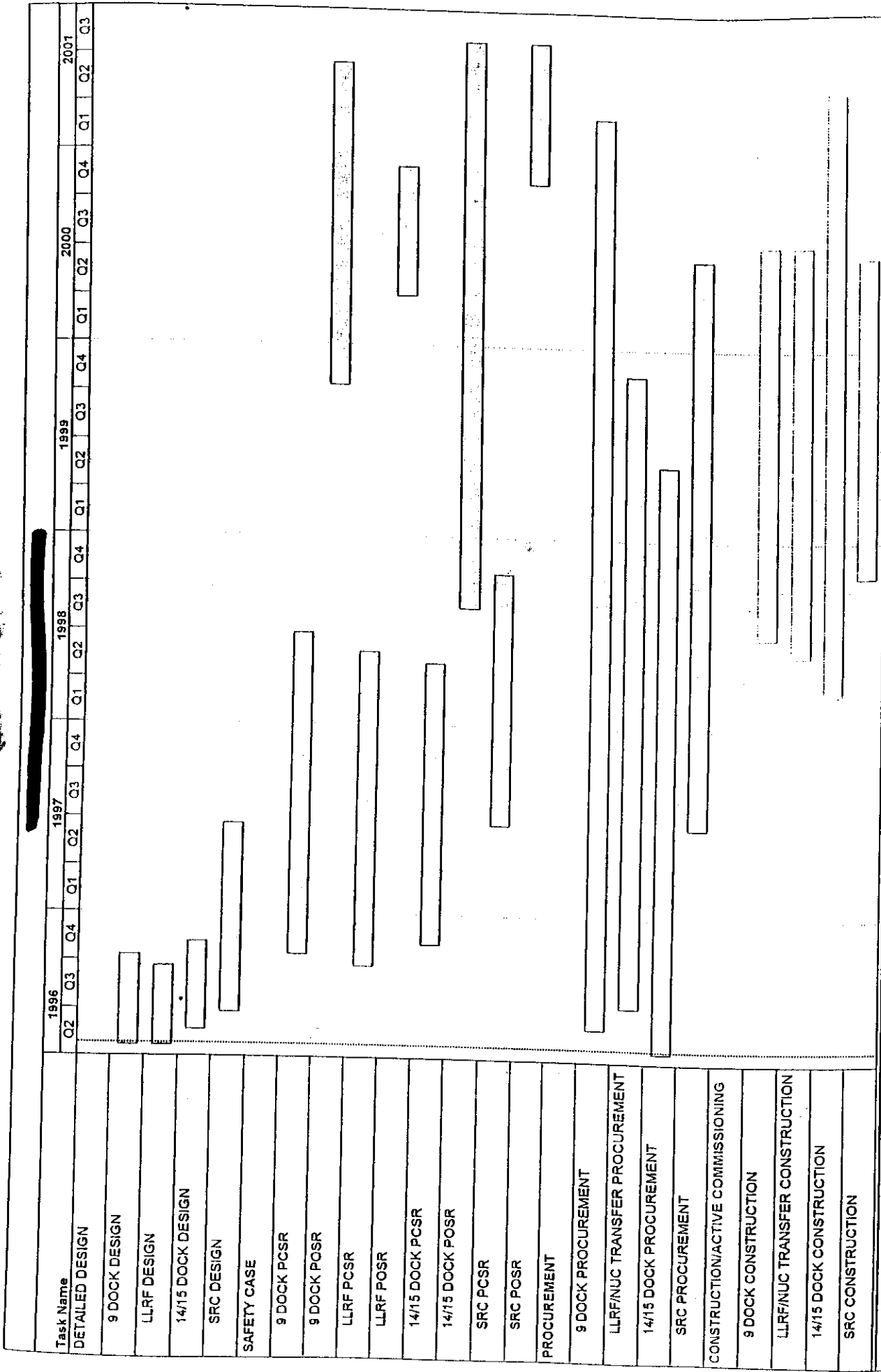
Key to New Buildings and Structures

- | | | | |
|---------------------------|-----------------------------|---------------------------|---------------------------------|
| 1 · LLRF Building | 5 · Entrance Building | 9 · 5 Basin Planthouse | 13 · Lowden & DML Accommodation |
| 2 · Mechanical Planthouse | 6 · PCD/ACRC Building | 10 · Reactor Access House | 14 · PRT Berth |
| 3 · R&RP Building | 7 · Strategic Systems Store | 11 · PWR2 Training Rig | |
| 4 · Electrical Planthouse | 8 · Steam Barge | 12 · Dock Head Bridge | |



NOT TO SCALE

FIGURE 3



DG SHIPS/SSD
 DEVONPORT NUCLEAR SUBMARINE SHORE FACILITIES
 HIGH LEVEL OVERVIEW PROGRAMME

ACTIVITY

FIGURE 4

TRIDENT PROGRAMME DIRECTORATE

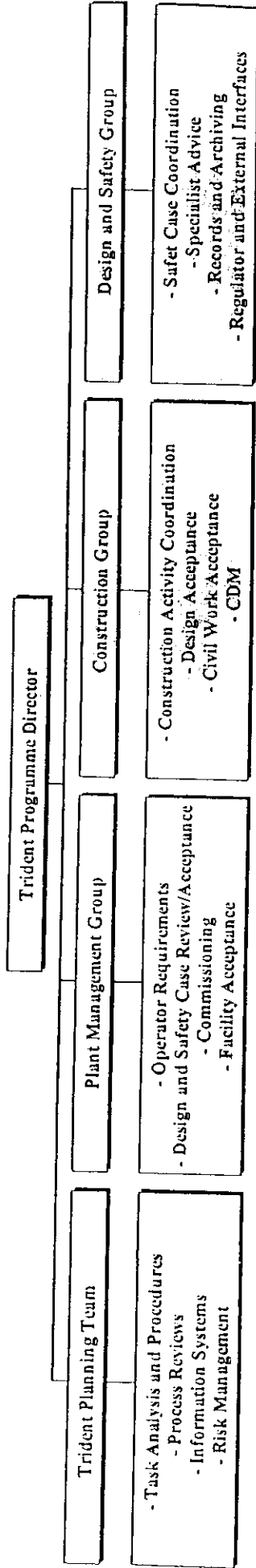


FIGURE 7

SUBMARINE DIRECTORATE

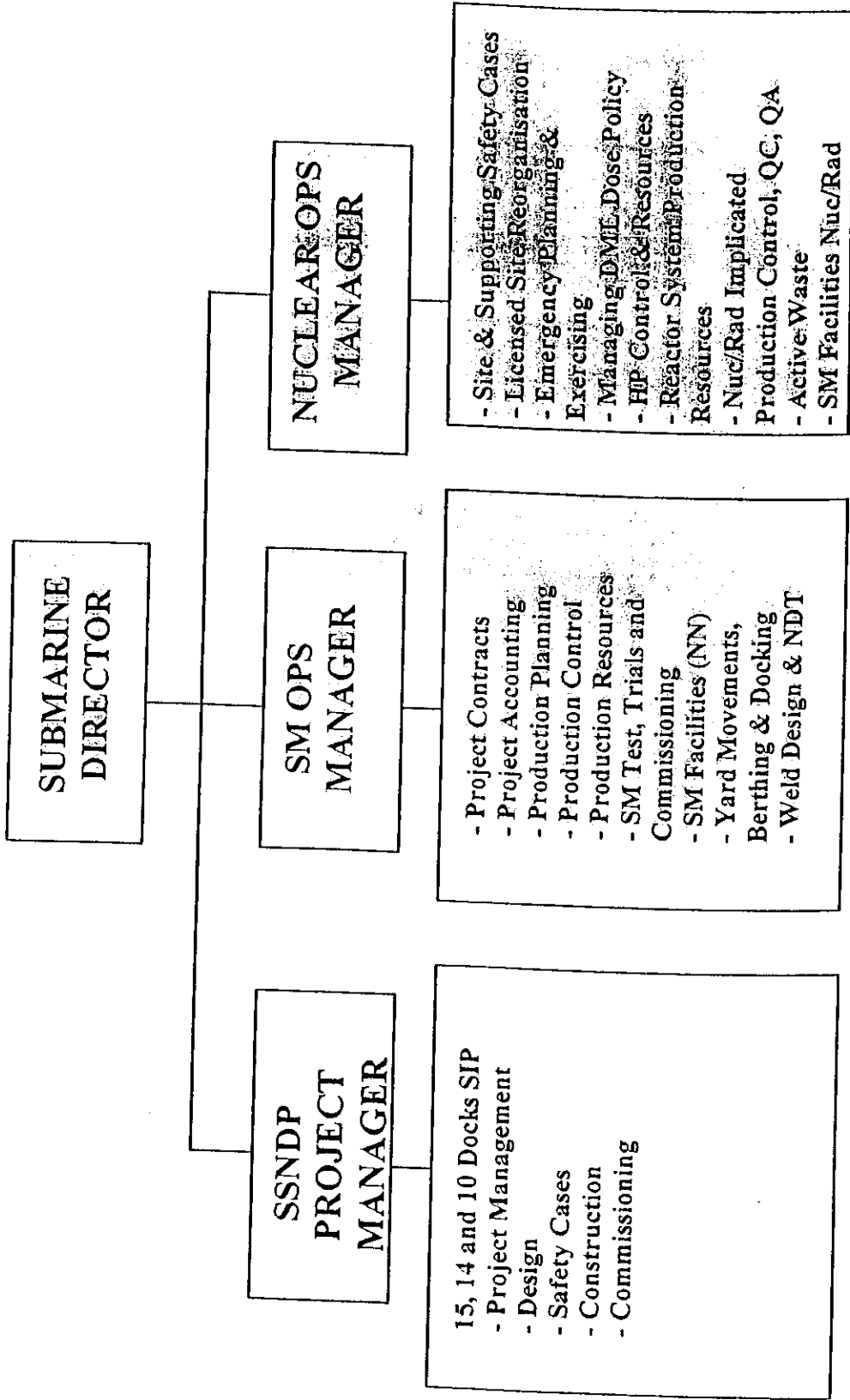


FIGURE 8

EVALUATION TASK PLAN (S. 40)

MANAGEMENT TOPIC	SUB-TOPICS	CO-ORDINATOR	LEAD REVIEWER	DML SPONSOR
Corporate Issues	Organisation/Structure	██████████	██████████	██████████
	Licensability			
	Corporate/Strategic Planning			
	Financial Stability			
	Relationships with MoD			
Interface Management	Stakeholder Map/All Sides	██████████	██████████	██████████
	Resources			
	Responsibilities & Authority			
	Capabilities & Competencies			
	Change Control			
	Quality Assurance			
	Risk			
Design Management	Specification	██████████	██████████	██████████
	ARM			
	Life Cycle Costs			
	Acceptance & Operation			
Nuclear Safety Case Management	Generation of the Safety Case	██████████	██████████	██████████
	Understanding & Control by the Operator			
	Understanding of Approval Process			
	Presentation to Regulators			
Construction Management (inc Off-Site Manufacture)	Operator's Statement of Requirements	██████████	██████████	██████████
	Site Management			
	• Security			
	• Administration			
Acceptance & Commissioning Management	• Logistics	██████████	██████████	██████████
	• Approvals			
	• Industrial Relations			
	Site Safety (CDM)			
	Setting to Work			
Commercial/Contract	Inactive Commissioning	██████████	██████████	██████████
	Active Commissioning			
	Handover Documentation			
	Training & Maintenance			
Commercial/Contract	As Built Information	██████████	██████████	██████████
	Commercial/Contract - Roving Commission			

PERFORMANCE INDICATORS

EXCELLENT: Highly acceptable, thoroughly comprehensive and little else desired.

GOOD: Acceptable, comprehensive, generally does not require additional information, clarification or discussion.

FAIR: A minimum acceptable level of expertise or knowledge. Requires additional information or discussion.

POOR: Below a minimum acceptable level. Requires improvement.

VERY POOR: Well below a minimum acceptable level. Requires considerable improvement.
