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DESIGN AND ENGINEERING PRACTICE



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PREFACE

DEP (Design and Engineering Practice) publications reflect the views, at the time of publication, of:

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and other Service Companies.

They are based on the experience acquired during their involvement with the design, construction, operation and maintenance of processing units and facilities, and they are supplemented with the experience of Group Operating companies. Where appropriate they are based on, or reference is made to, national and international standards and codes of practice.

The objective is to set the recommended standard for good design and engineering practice applied by Group companies operating an oil refinery, gas handling installation, chemical plant, oil and gas production facility, or any other such facility, and thereby to achieve maximum technical and economic benefit from standardization.

The information set forth in these publications is provided to users for their consideration and decision to implement. This is of particular importance where DEPs may not cover every requirement or diversity of condition at each locality. The system of DEPs is expected to be sufficiently flexible to allow individual operating companies to adapt the information set forth in DEPs to their own environment and requirements.

When Contractors or Manufacturers/Suppliers use DEPs they shall be solely responsible for the quality of work and the attainment of the required design and engineering standards. In particular, for those requirements not specifically covered, the Principal will expect them to follow those design and engineering practices which will achieve the same level of integrity as reflected in the DEPs. If in doubt, the Contractor or Manufacturer/Supplier shall, without detracting from his own responsibility, consult the Principal or its technical advisor.

The right to use DEPs is granted by SIOP, SIEP or SIC, in most cases under Service Agreements primarily with companies of the Royal Dutch/Shell Group and other companies receiving technical advice and services from SIOP, SIEP or SIC. Consequently, three categories of users of DEPs can be distinguished:

- 1) Operating companies having a Service Agreement with SIOP, SIEP, SIC or other Service Company. The use of DEPs by these Operating companies is subject in all respects to the terms and conditions of the relevant Service Agreement.
- 2) Other parties who are authorized to use DEPs subject to appropriate contractual arrangements.
- 3) Contractors/subcontractors and Manufacturers/Suppliers under a contract with users referred to under 1) or 2) which requires that tenders for projects, materials supplied or - generally - work performed on behalf of the said users comply with the relevant standards.

Subject to any particular terms and conditions as may be set forth in specific agreements with users, SIOP, SIEP and SIC disclaim any liability of whatsoever nature for any damage (including injury or death) suffered by any company or person whomsoever as a result of or in connection with the use, application or implementation of any DEP, combination of DEPs or any part thereof. The benefit of this disclaimer shall inure in all respects to SIOP, SIEP, SIC and/or any company affiliated to these companies that may issue DEPs or require the use of DEPs.

Without prejudice to any specific terms in respect of confidentiality under relevant contractual arrangements, DEPs shall not, without the prior written consent of SIOP and SIEP, be disclosed by users to any company or person whomsoever and the DEPs shall be used exclusively for the purpose for which they have been provided to the user. They shall be returned after use, including any copies which shall only be made by users with the express prior written consent of SIOP and SIEP. The copyright of DEPs vests in SIOP and SIEP. Users shall arrange for DEPs to be held in safe custody and SIOP or SIEP may at any time require information satisfactory to them in order to ascertain how users implement this requirement.

All administrative queries should be directed to the DEP Administrator in SIOP.

NOTE: In addition to DEP publications there are Standard Specifications and Draft DEPs for Development (DDD). DDDs generally introduce new procedures or techniques that will probably need updating as further experience develops during their use. The above requirements for distribution and use of DEPs are also applicable to Standard Specifications and DDDs. Standard Specifications and DDDs will gradually be replaced by DEPs.

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1. INTRODUCTION

1.1 SCOPE

This DEP formalises policies and provides rules and guidelines for the initiation, generation and maintenance of Design and Engineering Practices (DEPs). It also provides guidelines regarding the relationship between DEPs and OU-generated standards and with related external standards. This DEP is a revision of the DEP of the same number dated December 1994.

This DEP is not applicable retroactively.

The detailed requirements relating to the authorisation to receive or purchase DEPs are covered by separate SIOp procedures.

The production of Standard Drawings is outside the scope of this DEP and is covered by SIOp Report MF 93-1510.

1.2 DISTRIBUTION, INTENDED USE AND REGULATORY CONSIDERATIONS

Unless otherwise authorised by SIOp and SIEP, the distribution of this DEP is confined to companies forming part of the Royal Dutch/Shell Group or managed by a Group company, and to Contractors nominated by them (i.e. the distribution code is "C", as described in Appendix 1;3.2).

This DEP is intended for use by all involved in the creation, maintenance and use of DEPs.

If national and/or local regulations exist in which some of the requirements may be more stringent than in this DEP, the Contractor shall determine by careful scrutiny which of the requirements are the more stringent and which combination of requirements will be acceptable as regards safety, environmental, economic and legal aspects. In all cases the Contractor shall inform the Principal of any deviation from the requirements of this DEP which is considered to be necessary in order to comply with national and/or local regulations. The Principal may then negotiate with the Authorities concerned with the object of obtaining agreement to follow this DEP as closely as possible.

1.3 DEFINITIONS

1.3.1 General definitions

The **Contractor** is the party which carries out all or part of the design, engineering, procurement, construction, commissioning or management of a project, or operation or maintenance of a facility. The Principal may undertake all or part of the duties of the Contractor.

The **Manufacturer/Supplier** is the party which manufactures or supplies equipment and services to perform the duties specified by the Contractor.

The **Principal** is the party which initiates the project and ultimately pays for its design and construction. The Principal will generally specify the technical requirements. The Principal may also include an agent or consultant authorised to act for, and on behalf of, the Principal.

The word **shall** indicates a requirement.

The word **should** indicates a recommendation.

1.3.2 Specific definitions

Action Items	Indications in the margin of the DEP that a position has to be clarified during the specification phase of a project or an order.
Administrator	Person responsible for the administration of the DEP system. NOTE: The Administrator is currently SIOP, OGBE/4. For DEPs whose Custodian is in SIEP, the activities of the Administrator may be delegated to SIEP, EPT-MS.
Auditable (requirement)	Requirement which is observable, measurable, is neither vague nor ambiguous, and has finite acceptance/rejection criteria.
Author	Person responsible for writing a DEP. The Author acts as the focal point for questions relating to the content and meaning of a DEP.
Custodian	Line manager of the Author, or the relevant senior discipline specialist (if different), responsible for the approval of a DEP within the originating discipline, and ultimately responsible for the contents of the DEP.
DEP Circular	Letter used to inform DEP users about the issue, revision, amendment or withdrawal of a DEP. This letter is uniquely numbered.
External standard	Standard (e.g. ISO, EN, ANSI, BS, API, etc.) issued under the auspices of a non-Group body.
Group Common Addendum	Standard (DEP) for a subject or item considered suitable for use by multiple OUs and Servcos, with the objective of minimising the extent of OU Variations (see Figure 1).
Group Common Base Standard	Combination of the external standard and the Group Common Addendum (see Figure 1).
OU Variation	Supplement to a Group Common Base Standard, generated by an Operating Unit (OU) to reflect the regional/local requirements of that OU, subject to a technical and commercial authorisation process (see Figure 1).
Project Variation	Supplement to a Group Common Base Standard (whether amended or not by OU Variations), generated by a project to reflect the specific requirements of that project, subject to a technical and commercial authorisation process (see Figure 1).
Servco	Service Company of the Royal Dutch/Shell Group.
Standard	Document, established by consensus and approved by a recognised body, that provides, for common and repeated use, rules, guidelines or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context. NOTE: From ISO/IEC Guide 2.
Standard Drawing	Standard, primarily pictorial, representing an item or configuration and considered to have wide applicability in the Royal Dutch/Shell Group. Standard Drawings are indexed in DEP 00.00.06.06-Gen.

1.4 ABBREVIATIONS

CD-ROM	Compact Disk Read Only Memory
CMT	Catalogue Management Tool (replacement of the MESC system)
DEP	Design and Engineering Practice
MESC	Materials and Equipment Standards and Code.
OP	Oil Products
OP-SBS	Oil Products - Strategy and Business Services
OU	An Operating Unit of the Royal Dutch/Shell Group
SI	Shell International
SSI	Shell Services International
SIC	Shell International Chemicals
SIEP	Shell International Exploration and Production
SIOP	Shell International Oil Products
SSSC	Shell Standardization Steering Committee; a committee composed of senior representatives from SIOP, SIEP, SIC, SSI and OP-SBS

1.5 CROSS-REFERENCES

Where cross-references to other parts of this DEP are made, the referenced section number is shown in brackets. Other documents referenced by this DEP are listed in (8).

2. POLICY

2.1 GROUP POLICY ON STANDARDS

Group standards are generated with the specific aim of providing a means to :

- carry out business efficiently and cost effectively;
- enhance technical integrity;
- transfer knowledge.

It is Group policy:

- to rely to the maximum possible extent on external standards;
- to aim for minimum additional requirements (variations) in Group, OU and project standards;
- to apply the proper commercial and technical authorisation processes whereby variations are justified, for both business and technical reasons;
- to constantly improve the quality of Group standards by creating and maintaining feedback loops between users and Custodians of standards;
- to influence external standards bodies, thereby increasing the number and improving the quality of external standards applicable to Group use.

2.2 TRANSPARENT STANDARDS STRUCTURE

The transparent standards structure is illustrated in Figure 1. This reflects the Group's decentralised organisation and recognises that OU Variations and Project Variations to a Group Common Base exist and are required.

The objectives of the structure are to provide:

- transparency of the essential requirements;
- cost efficiency through maximum focus on the external world;
- a clear management structure to control variations and to obtain feedback of knowledge;
- a reduction in administrative effort by significantly decreasing the volume of paper.

The main elements of the transparent standards structure for a particular standard are:

- the **external standard** (where available);
- the Group Common Addendum (**DEP**) which supplements the external standard to reflect the minimum additional Group requirements;
- **OU Variations**, which supplement the Group Common Base Standard to reflect the regional and local requirements of that OU;
- **Project Variations**, which supplement the Group Common Base Standard (whether amended or not by the OU Variation) to reflect the specific requirements of a project.

The Group Common Base Standard is the combination of the external standard and the Group Common Addendum. It is the responsibility of the Servco (normally SIOP/SIEP) to maintain the Group Common Base Standard.

It is the responsibility of the technical management of the OU to maintain the OU Variations and Project Variations. These should be subject to a technical and commercial authorisation process to demonstrate that they contain only the minimum additional requirements to the Group Common Base Standard, whilst still enabling the introduction of innovation.

DEPs shall make maximum use of external standards. The preferred method of achieving this is to **base** the DEP directly on such a standard, in which case the DEP shall be written in the form of amendments to the external standard. This will not be possible if a suitable external standard does not exist, or if basing the DEP on one would necessitate substantial amendments (this is at the discretion of the Author and Custodian; as a guide, if more than

half of the external standard's paragraphs require amendment, it may be considered impractical as a base standard).

DEPs, whether or not **based** on an external standard, shall make maximum use of external standards by referencing them for subjects within the DEP.

The order of preference for the selection of an external standard on which to base the DEP, or to reference in a DEP, shall be as follows unless a lower standard in the hierarchy is considered technically more suitable:

- International;
- Regional;
- National;
- Industry.

2.3 SSSC

The SSSC is the standardization process owner for SIEP, Oil Products, SIC and SSI on behalf of all Group companies. The objective of the SSSC is to direct the Servcos' activities in the provision and maintenance of technical standards and to promote the effective application of those standards in Group Companies.

The SSSC issues an annual standards plan which identifies the DEPs to be created or revised over the coming five years and identifies how these DEPs relate to external standards. The SSSC uses this plan to monitor progress.

The SSSC actively pursues appropriate Group representation on key external standards committees.

2.4 TYPES OF DEP

DEPs are separated into five types as follows, and are identified by the code M, T, P, R or F in DEP 00.00.05.05-Gen.:

MANUAL (M) - Manuals give guidance for the way a particular aspect is to be approached, and the resultant practice or method is outlined.

TECHNICAL SPECIFICATION (T) - Technical specifications provide a basis for understanding between the Principal, Contractor and Manufacturer/Supplier, stipulating detailed requirements to be satisfied by a product, material or process and indicating the criteria whereby compliance is assessed.

PROCEDURAL SPECIFICATION (P) - Procedural specifications describe formalised ways of doing things to achieve a sound result.

REQUISITION (R) - Requisitions provide the engineering information required for the procurement of equipment and materials.

STANDARD FORM (F) - Standard forms are documents used to present information in a consistent manner.

NOTE: The codes M, T and P are intended to identify the predominant nature of a DEP. They are not intended to preclude a DEP from satisfying more than one criterion. For example, a Technical Specification may also contain procedural requirements.

Standard Drawings are not part of the DEP system, but are indexed in DEP 00.00.06.06-Gen.

In addition to the DEP system there is the CMT system, which is controlled by SSI and provides technical specifications and coding for materials and equipment.

2.5 PHASES IN DEP PROCESSING

The three phases in processing a DEP are:

- initiation;
- generation;
- maintenance (revision, reaffirmation or withdrawal).

This sequence of events is shown in Figure 2. There is a feedback loop from maintenance to initiation. Each of these phases is described in sections (3,4,5) respectively. The creation of new DEPs is covered in (3). The withdrawal of DEPs is covered in (5).

2.6 OU INVOLVEMENT

Effective OU involvement in the DEP process is critical. OUs shall be involved in each of the three phases in processing a DEP (2.5). Specifically:

- OUs provide input to the generation of the annual plan (3.2);
- OU standards are used as an input for creating or revising DEPs, and OU staff may be involved in the drafting process (4.2);
- OU input is solicited during the DEP comment round (4.3);
- OUs prepare their own OU Variations and Project Variations, and these are used as feedback input into subsequent DEP revisions (5.3.3).

2.7 STRUCTURE OF A DEP

Except for Requisitions and Standard Forms, every DEP shall be structured as follows:

PRELIMINARY PAGES

- front cover
- title page
- preface
- table of contents

INTRODUCTION

- scope
- distribution, intended use and regulatory considerations
- definitions
- abbreviations (if applicable)
- action items (if applicable)
- cross-references (if applicable)

MAIN TEXT

REFERENCES (if applicable)

TABLES (if applicable)

FIGURES (if applicable)

APPENDICES (if applicable)

Layout and basic content of the above elements, except the main text, tables, figures and appendices, are standard and are further detailed in (Appendix 1). The basic requirements for the editorial and typographical requirements are given in (Appendix 2). Word processor settings are described in (Appendix 3).

2.8 SPECIFIC RULES FOR DEP CONTENTS

Specific policies on the following topics are detailed in section (6):

- Clarity of meaning
- Minimum requirements
- Referenced standards
- Mixing of external standards

- Commercial statements
- Copyright
- Trade-names and Company Names
- Proprietary or licensable information
- Cross-references within a DEP
- Values and tolerances
- Units.

2.9 CONTROLS

The DEP process includes the following controls:

- the issue and monitoring of the annual plan (3.2);
- two audits of each DEP during its generation phase, to assess compliance with this DEP (4.2 and 4.3);
- the comment round (4.3);
- the approval round (4.4);
- annual application review initiated by the SSSC (5.2.6).

3. INITIATION OF A DEP

3.1 GENERAL

The flowchart for the events describing the initiation of a DEP is shown in Figure 3.

There are two reasons for initiating work on a DEP. The first is when an existing DEP needs revision, and the second is when a new DEP is required.

The factors leading to identification of the need to revise an existing DEP are described in the maintenance section of this DEP (5).

The identification of the requirement for a new DEP is facilitated through the annual issue of a five-year standards programme. See (3.2) below.

3.2 ANNUAL ISSUE OF FIVE-YEAR STANDARDS PROGRAMME

Each year a five-year standards programme should be issued under the signature of the chairman of the SSSC, detailing:

- the firm plan for standards work in the following year (the first year of the plan); and
- a preliminary plan for standards work in the subsequent four years.

External standards work plans shall be taken into account in formulating the plan.

The plan shall be issued and widely circulated in the Servcos and OUs in order to:

- manage the firm plan;
- allow comment on the preliminary plan from Servcos and OUs, such that the next firm annual plan can be agreed; and
- allow OUs to indicate which documents they wish to comment on when drafted.

3.3 PROPOSAL FOR DEP WORK

In approving the first year of the plan (3.2) the SSSC may require, for any particular DEP, the submittal of Part 1 of the form shown as typical in (Appendix 4). The responsibility for submittal to the SSSC shall lie with the Custodian. The form requires the Custodian to identify the type (see 2.4) and scope of the DEP and to address its need in terms of:

- purpose;
- multiple OU request;
- health, safety, and environment;
- commercial opportunity;
- extent of intended application;
- regulatory pressure or changes in regulations;
- need for a Group Common Base Standard;
- changes in external standard(s).

For a new DEP a provisional DEP number will be assigned by the Administrator. This number will become final upon issue of the DEP. For revision of existing DEPs the original DEP number shall be used unless a change in scope warrants the allocation of a different number.

3.4 AUTHORISATION BY THE SSSC

The SSSC authorisation will be reflected in the issued plan (3.2). If submittal of a proposal form was specified by the SSSC (3.3), the proposal is considered by the SSSC and either accepted with or without comments or rejected, using Part 2 of the form shown as typical in (Appendix 4). The role of the SSSC is to decide whether the need exists for the document to become a Group Common Base Standard. For example, although it may appear

reasonable that a certain item be described by a DEP, individual users (OUs) could need to generate substantial local variations to the DEP to suit their needs. Similarly, it may be determined that the DEP will not have wide applicability across the Group. In such cases the SSSC may reject the proposal.

3.5 ACTIVATION OF AN ACCOUNT CODE - TIME ACCOUNTING

Once the proposal is approved by the SSSC, the Custodian is responsible for obtaining or activating a time-writing account number. Only one DEP should be processed on any account number. This number is then used by all authorised staff involved in the work on the DEP. The Administrator may use a general account number.

Separate account numbers should be used for participation in external standards committee work.

4. GENERATION OF A DEP

4.1 GENERAL

The flowchart for the events describing the generation of a new or revised DEP is shown in Figures 4a and 4b.

The form of the DEP will depend on whether or not external standard(s) exist covering the subject matter.

The Group Common Base Standard should, wherever possible, be an external standard, without further modification. In this situation a "one page" DEP is prepared endorsing the external standard.

If an external standard is available, but does not fully cover the Group Common requirements, then the DEP will amend the external standard to form the Group Common Addendum. Similarly, the DEP may be used to confirm requirements left optional in the external standard.

If an external standard is not available, or if it is considered impractical as a base standard, the DEP is the compilation of the minimum common Group requirements.

- NOTES:
1. DEP Indices, being administrative rather than technical documents, need not follow the requirements of section (4.).
 2. In exceptional cases an extensive revision may be necessary for primarily editorial changes (e.g. due to organisational changes which require reference indicators to be amended). At the discretion and agreement of the Custodian and the Administrator, the changes may be made as a DEP revision but need only meet the requirements for a DEP Circular amendment (5.4).

4.2 INITIAL DRAFT

4.2.1 Draft DEP produced by Author

The Author should solicit OU input in preparing the draft DEP. Ways of achieving this are:

- review of existing OU standards;
- review of OU Variations;
- review of OU comments on existing DEP being revised;
- soliciting OUs for preliminary comments on the draft DEP prior to completion;
- preparing the draft DEP in a "workshop" attended by selected OUs.

It is useful to contact the Administrator at an early stage during the drafting of a DEP in order to avoid difficulties at a later stage.

The draft DEP should be circulated within the Author's department for informal comments prior to completion.

4.2.2 Draft DEP reviewed by Custodian

The completed draft shall be reviewed by the Custodian prior to submission to the Administrator for auditing (4.2.3). A key function of this review is to assure that any requirements included by the Author which deviate from recognised International, Regional, National or Industry standards are justified in terms of health, safety, environment and life-cycle cost.

4.2.3 First audit of DEP

Upon receipt by the Administrator the draft DEP is audited to assess compliance with this DEP and to ensure it is presentable when sent on the comment round (4.3.2). For DEPs authored by the Administrator, this audit should be delegated to another person.

4.2.4 Draft DEP amended by Author

The first audit results are discussed with the Author and the draft DEP amended accordingly.

4.3 COMMENT ROUND

4.3.1 List of commentators compiled

The Author shall provide to the Administrator a suggested list of all those with a major interest in the subject concerned. The list shall include all relevant disciplines and at least one OU. As noted in (3.2), specific OUs may have indicated a wish to comment during their annual review of the five-year standards programme. If appropriate, the list should include non-Group parties such as Contractors and Manufacturers/Suppliers.

The Administrator may add extra names to the list to ensure appropriate coverage.

4.3.2 DEP sent on comment round

The DEP is sent on a formal comment round by the Administrator using the form shown as typical in (Appendix 5).

The comment round distribution is designed to reach a representative selection of interested parties. It is the responsibility of those invited to comment to solicit comments from others, as may be considered appropriate. All comments will be taken as coming from the primary source unless clearly indicated to the contrary.

Comments shall be of a constructive nature and documented.

Comments need not be given on editorial points, grammar, spelling or punctuation (unless they affect the meaning), since the DEP will be formally edited before publication.

Comments of substance should be accompanied by clear reasoning so that changes can be properly documented by the Author.

Commentators should bear in mind the intended use of the DEP as indicated in its introduction.

The final form of the DEP depends on the input and comments from the responsible parties. A period of four weeks (plus estimated mailing time) is allowed for comments. If comments are not forthcoming it will be recorded that the requested commentator did not comment on the draft DEP.

The Administrator passes all comments on to the Author for consideration to incorporate in the final draft.

4.3.3 Incorporation of comments

All comments of substance shall be taken into account by the Author. Should there be any reason for disregarding a substantial comment, this shall be discussed and resolved between the Author and the commentator, if necessary with facilitation by the Custodian and the Administrator, and recorded (see 4.6). In this context, it is reiterated that the Custodian is ultimately responsible for the contents of the DEP.

NOTE: To speed up the process, a "workshop" can be held, attended by the principal commenting parties, in order to arrive at an agreed document.

The draft with comments incorporated shall be returned to the Administrator. Extensive comments resulting in major reconstruction of the DEP may necessitate generating a second draft for comment (4.3.2).

4.3.4 Drawings completed

The Author shall be responsible for converting any drawings for the DEP into their final form. For drawings produced electronically, the file format should be as specified by the Administrator. For this work, the same account number (3.5) should be used.

4.3.5 Second audit of DEP

Once the agreed comments (4.3.3) have been incorporated by the Author, a second audit shall be performed by the Administrator to assess compliance with this DEP. For DEPs authored by the Administrator, this audit should be delegated to another person. The intensity of this audit will depend on the extent of the first audit (4.2.3) and the number of comments incorporated (4.3.3).

4.3.6 DEP amended by Author

The Author is responsible for the resolution of the audit results.

4.4 APPROVAL ROUND

The finished DEP is then sent on the approval round by the Administrator using the form shown as typical in (Appendix 6). The list of approval parties shall include:

- an editor (at the discretion of the Administrator);
- the Administrator (or, for DEPs authored by the Administrator, the person who performed the first audit);
- the Author;
- the Custodian (this approval also confirms that the DEP contents have been justified both technically and commercially);
- the Custodian's line manager;
- General Manager.

The approval indicates that the DEP has followed the requirements of this DEP.

4.5 DISTRIBUTION

After the DEP has final approval, the Administrator arranges for distribution.

In cases where the DEP refers to other standards (e.g. other DEPs) the DEP shall not be issued unless such documents either already exist or have been approved for issue (4.4).

Each DEP is issued under cover of a DEP Circular prepared by the Administrator. This letter is signed by the Administrator to indicate that the DEP has undergone the correct procedures with regard to distribution for comments, editing, auditing and approval.

- NOTES:
1. DEPs are issued in paper form and on CD-ROM. The DEP CD-ROM need not include the DEP Circulars (cover letters) that are used for announcing new, revised and withdrawn DEPs but shall include or incorporate the DEP Circulars that are used for interim DEP amendments (5.4.2).
 2. The media, timing and methods of DEP distribution shall be as decided by the Administrator and are subject to change.

4.6 RECORDS

It is the responsibility of the Author to ensure that a clear record is prepared during the generation of a new or revised DEP.

The history shall be recorded in two parts:

4.6.1 Part 1 of the record

Part 1 is produced by the Author and contains the reasoning behind certain specific requirements in the DEP. It may also explain the main reasons for making or revising the DEP.

The principal purpose of this is to assist a future Author in making the next revision of the DEP and in answering possible future requests for interpretation of the DEP. Further, it may also be used to explain to certain users, including, for example, the authors of OU Variations, the rationale behind requirements and recommendations which may not otherwise be apparent.

Part 1 should include the justification for the inclusion in the DEP of requirements that have a significant commercial impact, e.g. requirements that are more stringent than an otherwise equivalent external standard.

Part 1 should also include the reasons why substantial comments (4.3.3) had not been incorporated.

Part 1 should be typed and should relate logically to the item in the DEP which is being explained, e.g. by paragraph number. The Custodian shall retain this first part of the record at least until issue of the next revision of the DEP.

- NOTES:
1. The Custodian shall determine the extent of Part 1, depending on whether there are requirements in the DEP which merit explanation or which have a significant commercial impact.
 2. The Custodian shall determine whether to include in Part 1 the reasons why any substantial comments had not been incorporated. If the reasons are already documented in Part 2, the reasons for non-incorporation of comments need not be included in Part 1.
 3. Neither the second audit (4.3.5) nor the final approval (4.4) by the Administrator is intended to verify the existence or content of this record. This is the responsibility of the Custodian.

4.6.2 Part 2 of the record

Part 2 contains administrative records and is produced by the Administrator and the Author.

The main purpose of Part 2 is to provide objective evidence that this DEP has been followed with respect to the comment and approval rounds. Comments emanating from the comment round, normally on a marked-up copy of the draft DEP, shall be retained by the Custodian or, if agreed, by the Administrator. The signed form for final approval, shown as typical in (Appendix 6), shall be retained by the Administrator. Part 2 shall be retained until issue of the next revision of the DEP.

4.7 PROGRESS AND EXPENDITURE MONITORING

The Administrator is responsible for overall progress monitoring. On a regular basis, at least every six months, the current status of the DEPs which are on that year's programme shall be indicated. The Administrator monitors progress by means of milestones.

Each Custodian is responsible for monitoring expenditure on the DEPs under his custody.

5. MAINTENANCE OF A DEP

5.1 GENERAL

The flowchart for events describing the maintenance of a DEP is shown in Figure 5. Separate detailed flowcharts describe the:

- application and maintenance of OU Variations and Project Variations (Figure 5a);
- requirements for revising DEPs (Figure 5b);
- procedure for processing interim revisions (Figure 5c);
- procedure for reaffirmation or withdrawal of unrevised DEPs (Figure 5d).

5.2 APPLICATION AND MAINTENANCE OF OU VARIATIONS

DEPs may be supplemented by OU Variations, which in turn may be supplemented by Project Variations, if considered essential. The events describing the maintenance of these variations are described in Figure 5a.

5.2.1 Revision or preparation of OU Variation

Having received the DEP, the OU senior discipline engineer reviews it against the existing OU standard. As required, he is responsible for revising the existing OU Variation or drafting a new OU Variation. The number of the OU Variation should be identical to the DEP number with the exception of the postscript. The "-Gen" postscripts of the DEP should be of the form "-OUname" (e.g. "-SSB"). The principles in building the OU Variation on the DEP are the same as the principles in building the DEP on the external standard.

The number of additional requirements to the DEP in the OU Variation should be minimised and should include only requirements that are dictated by local regulations or requirements that can be proved to add value.

The OU Variation should be written in the form of transparent amendments/supplements to the DEP. Methods of presenting this are:

1. Writing a separate document which states the amendments/supplements by referring to specific sections/paragraphs of the DEP.
2. Making an integrated document, modifying the DEP and highlighting the amendments/supplements by typographical techniques such as:
 - for added text, use shading or double underline
 - for deleted text, use a strike-out.

5.2.2 Approval of OU Variation

The OU Variation shall be approved by the OU's technical management, the principal issue being to ensure that the OU Variation contains only the minimum additional requirements to the DEP.

The OU Variation should be sent to the Custodian of the DEP, for the purpose of, wherever possible, integrating it into the DEP at the next revision.

5.2.3 Preparation of Project Variation

For a particular project, a supplement to the DEP and its OU Variation may be required. This Project Variation should be prepared by the project discipline engineer and agreed with the senior discipline engineer. The principles in building the Project Variation on the OU Variation are the same as the principles in building the OU Variation on the DEP, and building the DEP on the external standard.

The number of additional requirements to the OU Variation in the Project Variation should

be minimised and should include only requirements that can be proved to add value.

The Project Variation should be written in the form of transparent amendments/supplements to the DEP (amended or not by OU Variations). Methods of presenting this are the same as for OU Variations (5.2.1).

5.2.4 Approval of Project Variation

The Project Variation shall be approved by the OU's technical management, the principal issue being to ensure that the Project Variation contains only the minimum additional requirements to the OU Variation. The OU should ensure that approval of Project Variations is consistent with approval of OU Variations (5.2.2).

5.2.5 Application of standards and review of Project Variations

Experience obtained from the application of the standards should be routinely reviewed by the OU. One possibility would be for project close-out reports to include a section on problems encountered in the application of standards.

Requirements which are commonly specified in Project Variations should be incorporated in the OU Variation.

5.2.6 Application review

The SSSC shall initiate an annual review to assess effective application of DEPs by OUs, and gauge the extent to which the DEPs meet OU requirements. This review may be accomplished by holding a workshop, by issuing a questionnaire or by other methods. This review, covering at least one OU, shall include:

- verification of receipt of DEPs;
- extent of OU Variations and Project Variations;
- OU satisfaction.

5.3 REQUIREMENTS FOR REVISING A DEP

The various reasons for which a DEP may require revision are shown in Figure 5b, and described below.

5.3.1 Change to regulations

Changes to applicable international, regional, national or local regulations may result in the requirement to review the DEP. Changes to international regulations should be reflected in changes to the external standard and/or the DEP, whilst changes to regional, national or local regulations will be reflected in the OU Variation.

5.3.2 Change to external standard

The Custodian of a DEP is responsible for keeping track of changes to external standards referenced by the DEP, particularly if the DEP is **based** on an external standard. Changes to the external standard on which the DEP is based should result in the requirement to review the DEP.

NOTE: In itself, it is not necessarily incorrect for a DEP to be based on a version of an external standard that becomes superseded. The existing DEP, even when based on a superseded version of the external standard, **remains valid** as the current Group Common Addendum. It is recognised that this could cause problems in the situation where an OU may have committed itself, e.g. in its quality system, to using only the latest version of a particular external standard, or if a local regulation demands this. In this situation, the OU should use the DEP with an OU or Project Variation.

Group members of external standard committees should seek to incorporate into the external standard the relevant additional requirements currently in the DEP.

5.3.3 Review of OU Variations

Requirements which are commonly specified in OU Variations should be routinely reviewed by the Custodian, with the objective of incorporating these in the DEP, if justified.

5.3.4 Findings of technical audits

Technical audits are carried out on the design and operation of Group company facilities. One of the objectives of these audits is to determine conformance to standards. If an audit reveals that the stated requirement is suspect and cannot be resolved by an OU Variation, or where it is clear that there are Group implications, then the Custodian shall be advised.

5.3.5 Change in technology

Changes in available technology or equipment should result in the requirement to review the DEP.

5.3.6 Commercial reasons

A reason for review is if the commerciality of the DEP comes into question.

Examples of this are:

- significant cost increase when compared to an external standard or a manufacturer's standard product;
- the need to improve variety control.

5.3.7 Other changes

Changes other than those resulting from the above shall be reported by DEP users to the Custodian if they are considered sufficient to warrant reviewing the DEP for possible revision.

5.4 PROCEDURE FOR PROCESSING INTERIM REVISIONS

The procedure for reviewing the reasons for revising a DEP with respect to the urgency for change is shown in the flowchart in Figure 5c, and described below.

5.4.1 Receipt of comments and identification of requirement for change

The requirements for revising the DEP were identified in (5.3). These shall be brought to the attention of the Custodian, who shall keep a record. DEP users may send comments to the Administrator, who shall pass a copy to the Custodian.

5.4.2 Health, safety, environment, life-cycle cost or integrity implications

If the identified change impacts significantly on these areas, and the changes are relatively straightforward, then the DEP shall be amended through the issue of a DEP Circular.

If the changes are of a minor or an editorial nature, no urgency will be placed on their implementation.

If the changes are of a major nature but not straightforward, then the DEP shall be revised following the procedures described in (3) and (4), but with urgency.

NOTE: In exceptional cases, the amendments may be too extensive to issue them in the form of a DEP Circular, but not sufficiently extensive to warrant full compliance with (3) and (4). At the discretion and agreement of the Custodian and the Administrator, the changes may be made as a DEP revision but need only meet the requirements for a DEP Circular.

5.4.3 Approval of amendment

The amendment shall be approved by the Custodian.

5.4.4 Issue of amendment as a DEP Circular

The amendment shall be issued as a DEP Circular signed by the Administrator, and possibly also the Custodian, sent to all registered recipients of the DEP.

5.5 PROCEDURE FOR WITHDRAWAL OR REAFFIRMATION OF DEPs

The procedure for withdrawing or reaffirming DEPs whose last edition is older than five years is shown in the flowchart in Figure 5d and is described below.

5.5.1 Withdrawal or reaffirmation of a DEP

DEPs which require revision (see section 5.3) shall follow the normal sequence of events (see sections 3 and 4).

DEPs which are no longer required shall be withdrawn.

For DEPs which are more than five years old and are still required, the following procedure shall apply:

- If the Custodian considers the DEP is still valid it shall be reaffirmed for a period of up to five further years.
- If the Custodian considers the DEP is still fit for purpose but needs updating it shall be revised by a firm date agreed between the Custodian and his line manager.

5.5.2 Approval of reaffirmation or withdrawal

The reaffirmation or withdrawal shall be approved by the Custodian.

5.5.3 Notification of withdrawal by DEP Circular

The withdrawal of a DEP shall be notified through the issue of a DEP Circular signed by the Administrator, and possibly also the Custodian, sent to all registered recipients of the DEP.

5.5.4 Indication of reaffirmation

Since no changes have been made to a DEP in its reaffirmation, the issue date on the DEP remains unchanged. The date of reaffirmation and the date to which it has been reaffirmed shall be indicated in the DEP Index (DEP 00.00.05.05-Gen.). The date of reaffirmation shall be used in determining the age of the DEP.

5.6 DEP INDEX REVISION

The DEP Index (DEP 00.00.05.05-Gen.) shall be issued at least annually. It shall identify the latest edition of the indexed DEPs and whether a DEP Circular amendment has been issued. It shall state reaffirmation data, if any, and indicate whether a DEP has been withdrawn. It shall identify the current Custodian of each DEP.

6. SPECIFIC RULES FOR DEP CONTENTS

6.1 CLARITY OF MEANING

Requirements shall be auditable (1.3.2), minimising the need for interpretation. Text shall be drafted such that statements are unlikely to be misunderstood. Explanations should be clear, succinct and logical. The rationale for a requirement should not be stated unless considered essential to understand the requirement. There shall not be contradictions between one section of text and another or between one DEP and another. Requirements once specified shall not be made optional at a later stage which would then leave the reader uncertain as to the final requirement.

Information which should already be known to the intended user should not be included.

Requirements should be tabulated wherever possible. Similarly, diagrams should be used to illustrate principles when necessary. However, the use of photographs or colours should be avoided unless they are considered essential.

6.2 MINIMUM REQUIREMENTS

DEPs shall state Group minimum requirements with the objective of minimising the extent of OU Variations.

DEPs shall not state requirements which are subject to variation in different applications, unless the DEP identifies the circumstances under which the requirement is applicable. In this context, a DEP Manual or Technical/Procedural Specification should identify the options available and the DEP Requisition or Standard Form would then be the vehicle for selecting the valid option for a particular application. In such cases, at the discretion of the Custodian, the DEP may use the "Action Item" method defined in (1.3.2) and described in (Appendix 1;3.5 and Appendix 2;5.4) to identify the areas which require clarification or decision by the Principal when applying the DEP.

Similarly, DEPs should not state requirements which may vary depending on the selected supplier. An example of this is that DEPs should not fix third party or purchaser surveillance scopes since they should be sufficiently flexible to allow for differing confidence levels between suppliers. In the latter case, the purchasing documents should be the vehicle for finalising such requirements.

6.3 REFERENCED STANDARDS

Duplication of sections from external standards shall be avoided.

Duplication of sections from other DEPs should be avoided as far as practicable since there is no requirement to make each DEP a "stand-alone" document.

Standards may be referenced by "latest edition" or by "specific date". Figure 6 identifies the circumstances under which each method should be used.

When selecting an external standard as a reference, the order of preference is as follows unless a lower standard in the hierarchy is considered technically more suitable:

- International standard;
- Regional standard;
- National standard;
- Industry standard.

6.3.1 Standard invoked by "latest edition"

Only the identifying number of the referenced standard (e.g. ASTM E 709) should be quoted in the text of a DEP, without the date, title, clause, tables, etc. The title shall be given in the list of referenced standards (6.3.3).

6.3.2 Standard invoked by "specific date"

Only the identifying number and, as appropriate, the date, clause, table, etc. of the referenced standard should be quoted in the text of a DEP. The title of the referenced standard should not be quoted in the text of a DEP, but shall be given in the list of referenced standards (6.3.3).

6.3.3 List of referenced standards

Included at the end of the main text of each DEP shall be a list of referenced standards which gives the title and identifies the applicable edition (latest or specific). The references should be listed and described in the following way: firstly the Group standards, e.g. DEPs and Standard Drawings, secondly external standards arranged in alphabetical order, e.g. American, British, European, German, International etc. External standards shall be followed by the address where the standards can be obtained (it should be added that International standards, e.g. ISO, IEC, can also be obtained from national standards bodies).

All references shall start with the title followed by the number as shown in section (8) of this DEP.

- NOTES:
1. This list shall include **only** the standards which are actually referenced in the DEP and are, by nature of the context, integral with the DEP. Purely incidental references (such as the reference to ASTM E 709 in 6.3.1 above) should not be listed. Any other documents which the Author may wish to include, e.g. source documents and documents to which only informative reference is made, shall be separately listed under a heading such as "Bibliography" or "Literature".
 2. Reference shall not be made to any standard or document which is not freely available to the intended user. The "Bibliography" may contain documents that are available only to certain users of the DEP.

6.4 MIXING OF EXTERNAL STANDARDS

External standards should not be mixed within a DEP. For example, if specifying requirements or additions to an ASME code for pressure vessels, the DEP should not require welding qualification and acceptance to be in accordance with a British Standard.

NOTE: This is not intended to preclude referring to one external standard, e.g. an ASTM specification, which only defines a test method and then referring to another external standard, e.g. a British Standard, for the acceptance criteria. Nevertheless, in this example, if the British Standard covers both aspects (test method and acceptance criteria) then it should be referenced for both aspects unless there is an overriding technical justification to the contrary.

6.5 COMMERCIAL STATEMENTS

DEPs shall not stipulate commercial issues such as prices, warranties, guarantees, competitiveness, freedom of access to premises, purchasing conditions, etc.

6.6 COPYRIGHT

Material known to infringe on another party's copyright shall not be included in a DEP. If it is the intention to include such material, written permission shall be obtained from the copyright holder.

6.7 TRADE-NAMES AND COMPANY NAMES

The use of non-Shell trade-names and company names can result in a Supplier being thought the only one acceptable. Even if true, this may change. This is considered a commercial issue so requirements to use specific brands or suppliers shall not be presented in a DEP unless it is unavoidable or it is made clear that alternatives may be proposed for approval; a suitable generic name should be used instead.

Unless there is an overriding technical justification, Shell trade-names shall also be avoided since, amongst other things, it is recognised that not all Shell products may be readily available everywhere.

6.8 PROPRIETARY OR LICENSABLE INFORMATION

Information which is considered to be proprietary or licensable shall not be included within a DEP because the DEP is available to third parties and thus this information would be disseminated.

6.9 CROSS-REFERENCES WITHIN A DEP

Where cross-references to other parts of a DEP are made, the referenced section number should be shown in brackets unless this makes the text unnecessarily complicated. External references are covered in (6.3).

6.10 VALUES AND TOLERANCES

When values are specified it shall be made clear whether they are nominal, maximum or minimum values or are subject to tolerances.

6.11 UNITS

The International System of Units (SI) and DEP 00.00.20.10-Gen. should be applied in DEPs. If required, other units, e.g. Imperial, may be added in brackets, but this practice should diminish.

7. REQUISITIONS AND STANDARD FORMS

Most of these are currently not computerised and require completion by hand. Blank forms are available from the Administrator for Authors wishing to generate new Requisitions or Standard Forms. The extent to which Requisitions and Standard Forms shall follow this DEP shall be determined on a case-by-case basis by the Administrator.

When a new or revised DEP Manual or Specification is issued, the corresponding DEP Requisition(s) and/or Standard Form(s) should also be prepared, or revised if necessary.

8. REFERENCES

In this DEP, reference is made to the following publications:

NOTE: Unless specifically designated by date, the latest edition of each publication shall be used, together with any amendments/supplements/revisions thereto.

SHELL STANDARDS

Index to DEP Publications and Standard Specifications	DEP 00.00.05.05-Gen.
Index to Standard Drawings	DEP 00.00.06.06-Gen.
The Use of SI Quantities and Units (endorsement of ISO 31 and ISO 1000)	DEP 00.00.20.10-Gen.
Procedural Specification for Standard Drawings	SIOP Report MF 93-1510.

9. BIBLIOGRAPHY

NOTE: The following document is for information only and does not form an integral part of this DEP.

Standardization and related activities - General
vocabulary

ISO/IEC Guide 2

Issued by:
Central Office of the IEC
3, Rue de Varembe
CH 1211 Geneva 20
Switzerland

*Copies can also be obtained from national standards
organizations*

FIGURES

FIGURE 1	TRANSPARENT STANDARDS STRUCTURE
FIGURE 2	PHASES IN DEP PROCESSING
FIGURE 3	INITIATION OF A DEP
FIGURE 4a	GENERATION OF A DEP - Selection and drafting
FIGURE 4b	GENERATION OF A DEP - Audit/comment/approval/issue
FIGURE 5	MAINTENANCE OF A DEP
FIGURE 5a	MAINTENANCE OF OU VARIATIONS AND PROJECT VARIATIONS
FIGURE 5b	REQUIREMENTS FOR REVISING A DEP
FIGURE 5c	PROCEDURE FOR PROCESSING INTERIM REVISIONS
FIGURE 5d	PROCEDURE FOR WITHDRAWAL OR REAFFIRMATION OF DEPS
FIGURE 6	PROCEDURE FOR REFERENCING STANDARDS

FIGURE 1 TRANSPARENT STANDARDS STRUCTURE

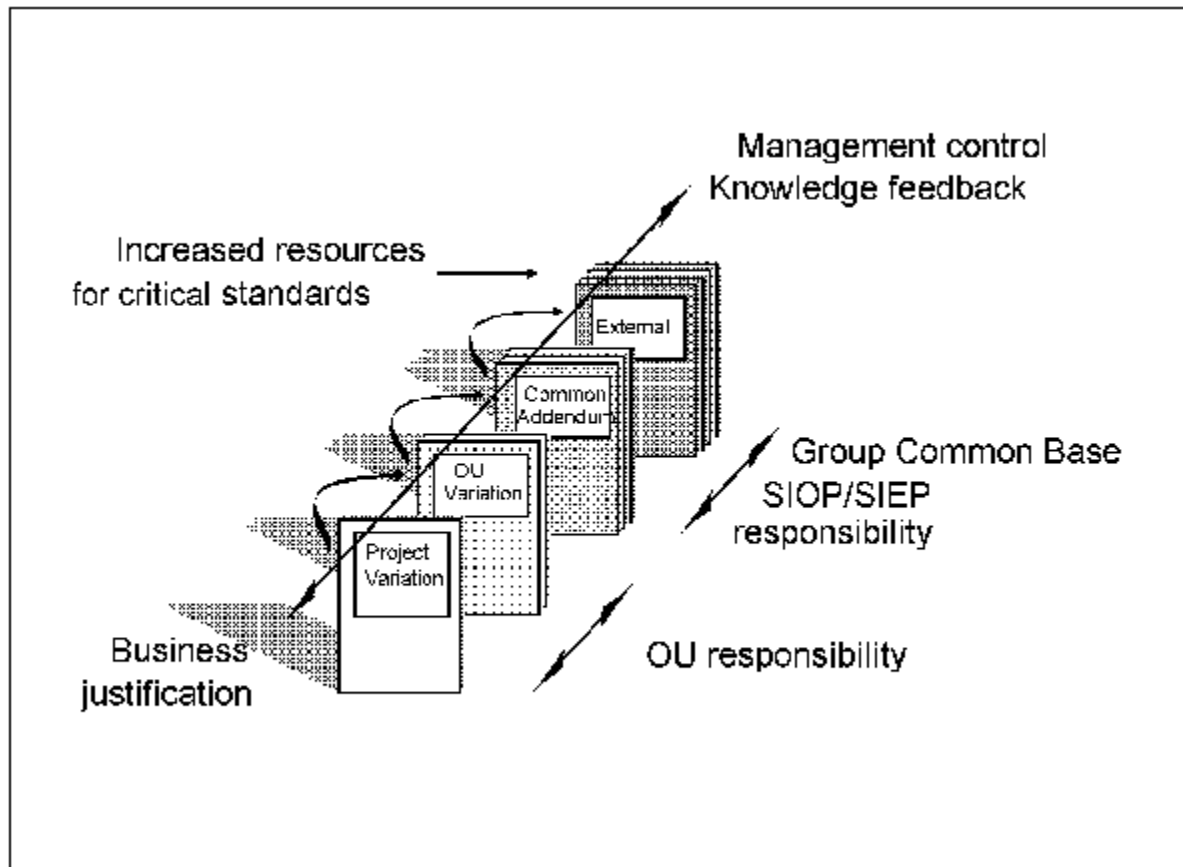


FIGURE 2 PHASES IN DEP PROCESSING

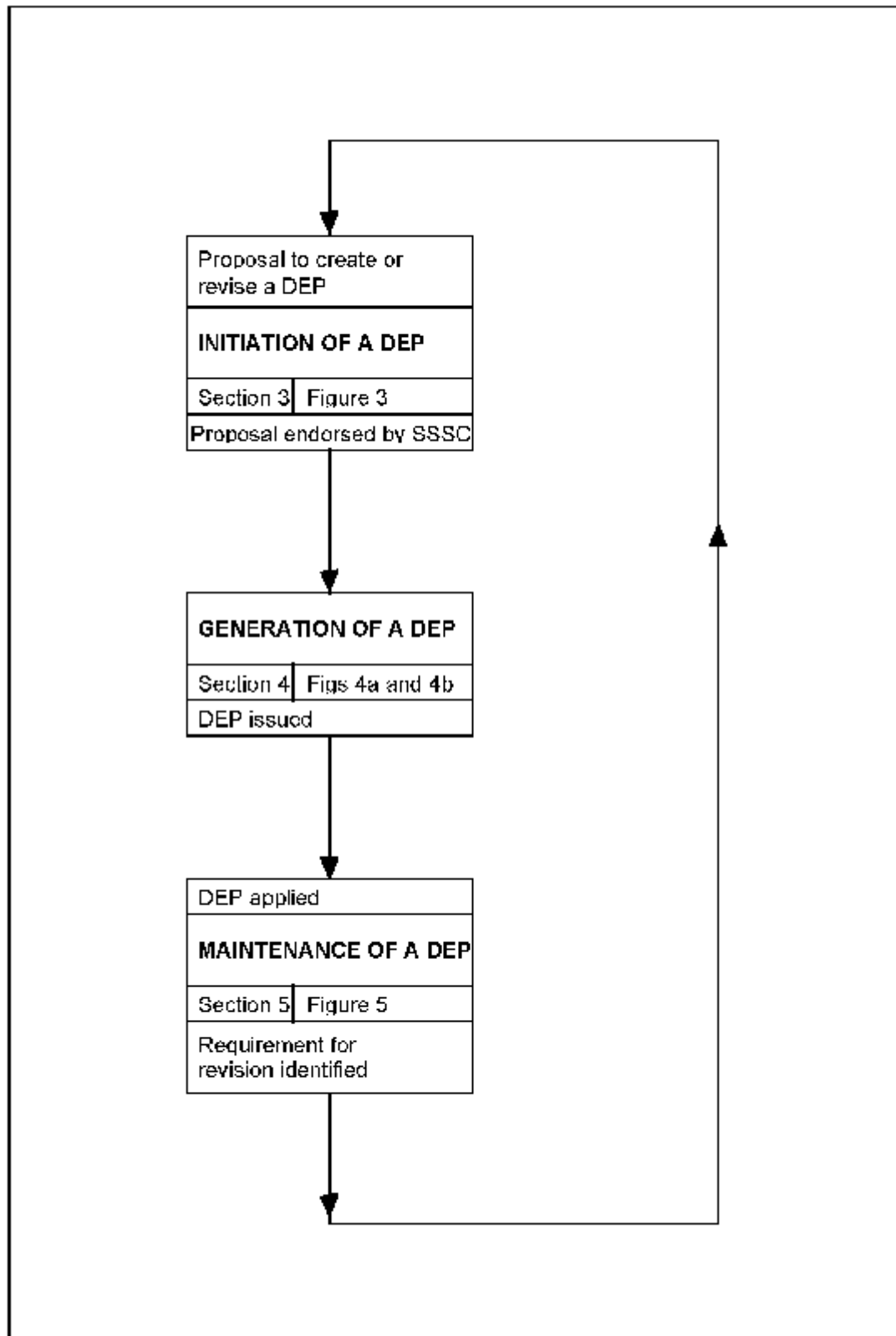


FIGURE 3 INITIATION OF A DEP

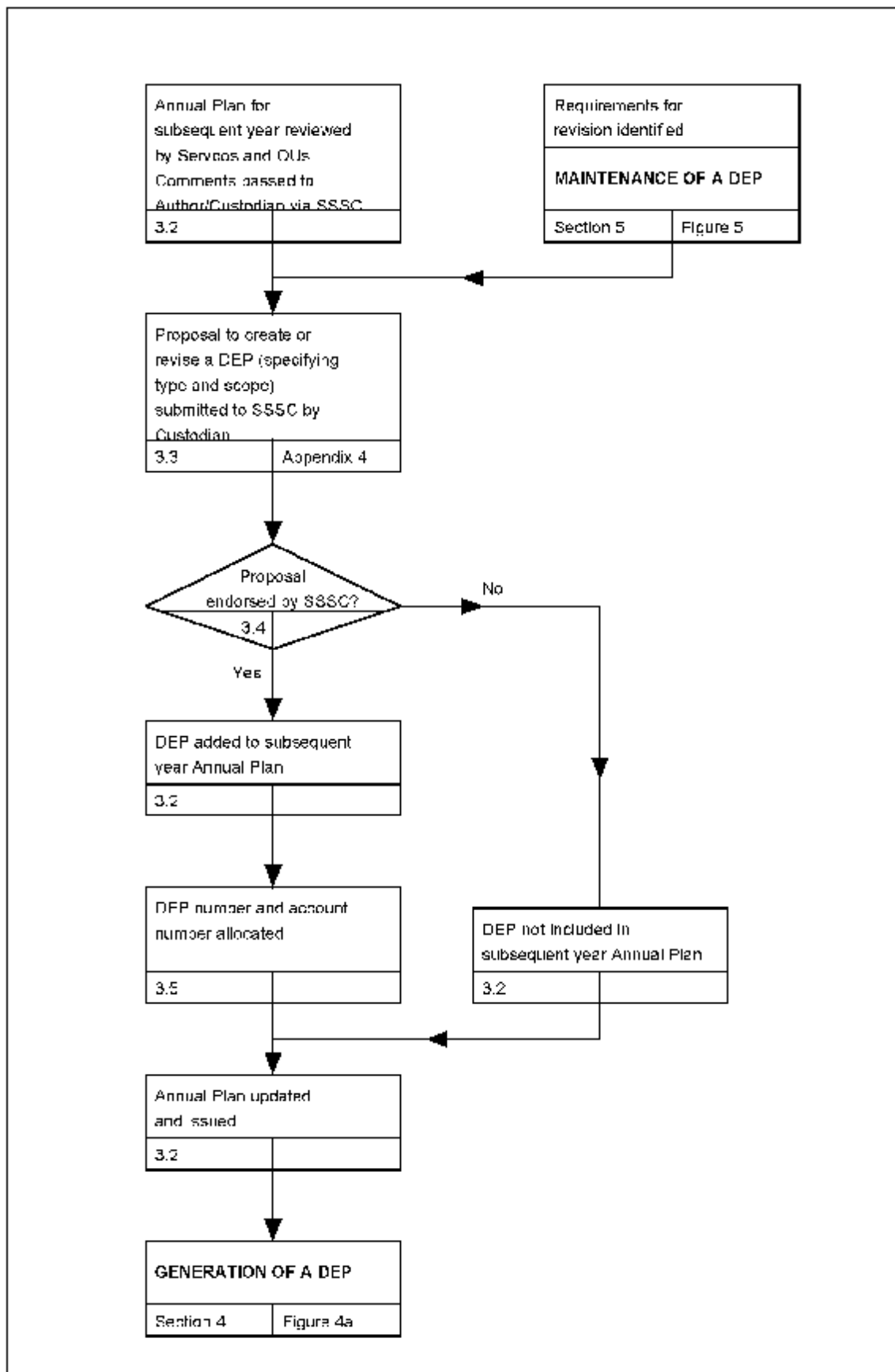


FIGURE 4a GENERATION OF A DEP - Selection and drafting

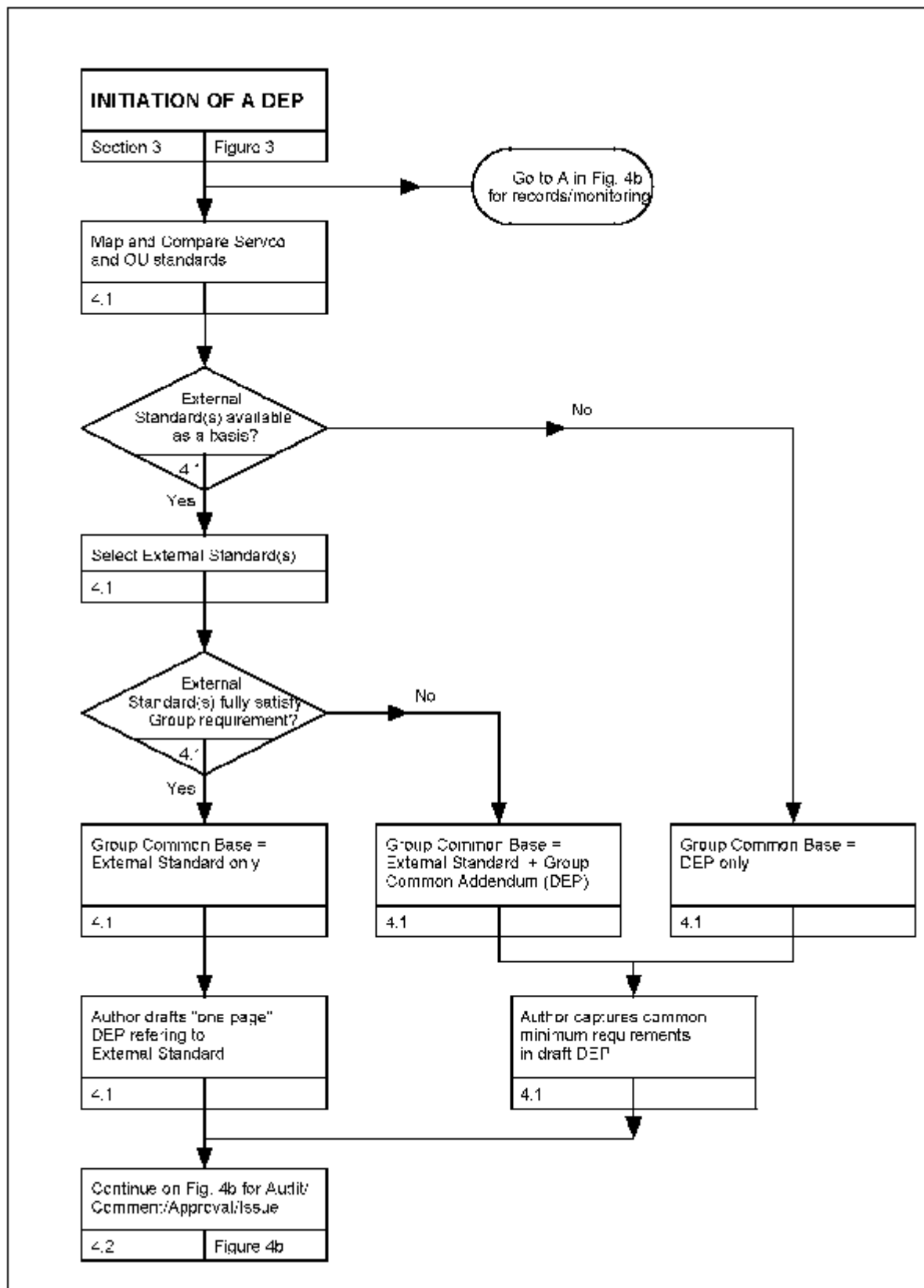


FIGURE 4b GENERATION OF A DEP - Audit/comment/approval/issue

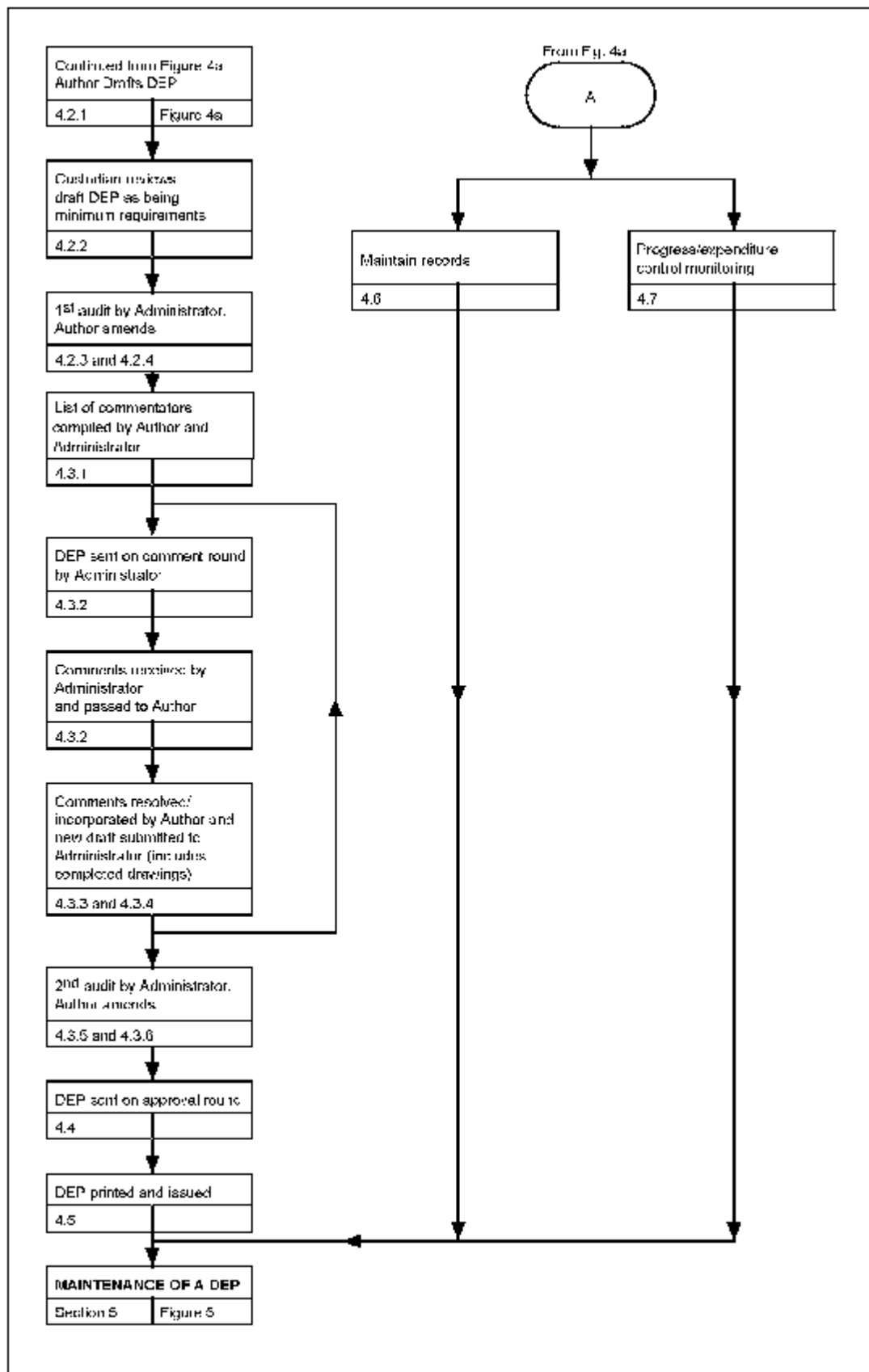


FIGURE 5 MAINTENANCE OF A DEP

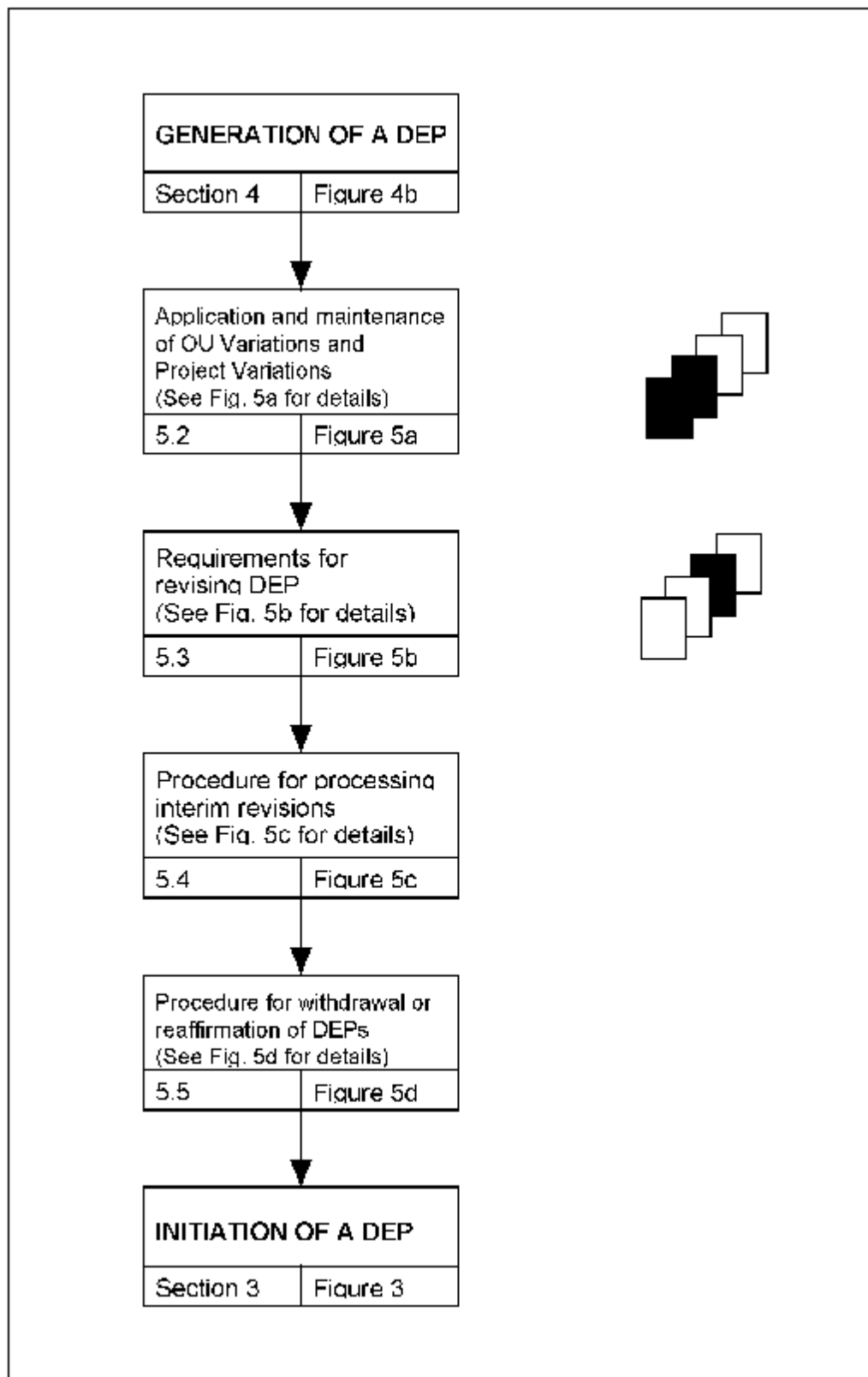


FIGURE 5a MAINTENANCE OF OU VARIATIONS AND PROJECT VARIATIONS

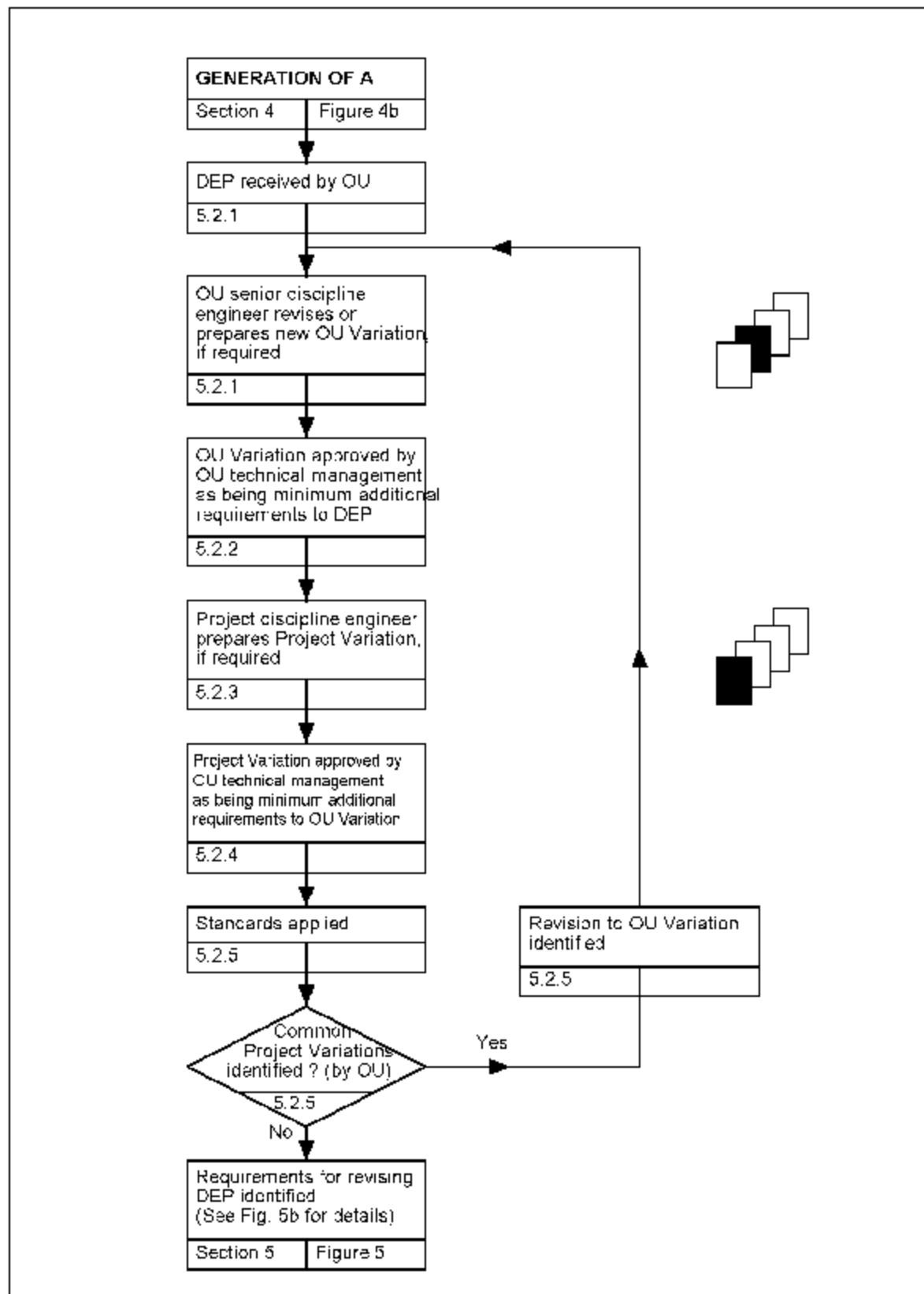


FIGURE 5b REQUIREMENTS FOR REVISING A DEP

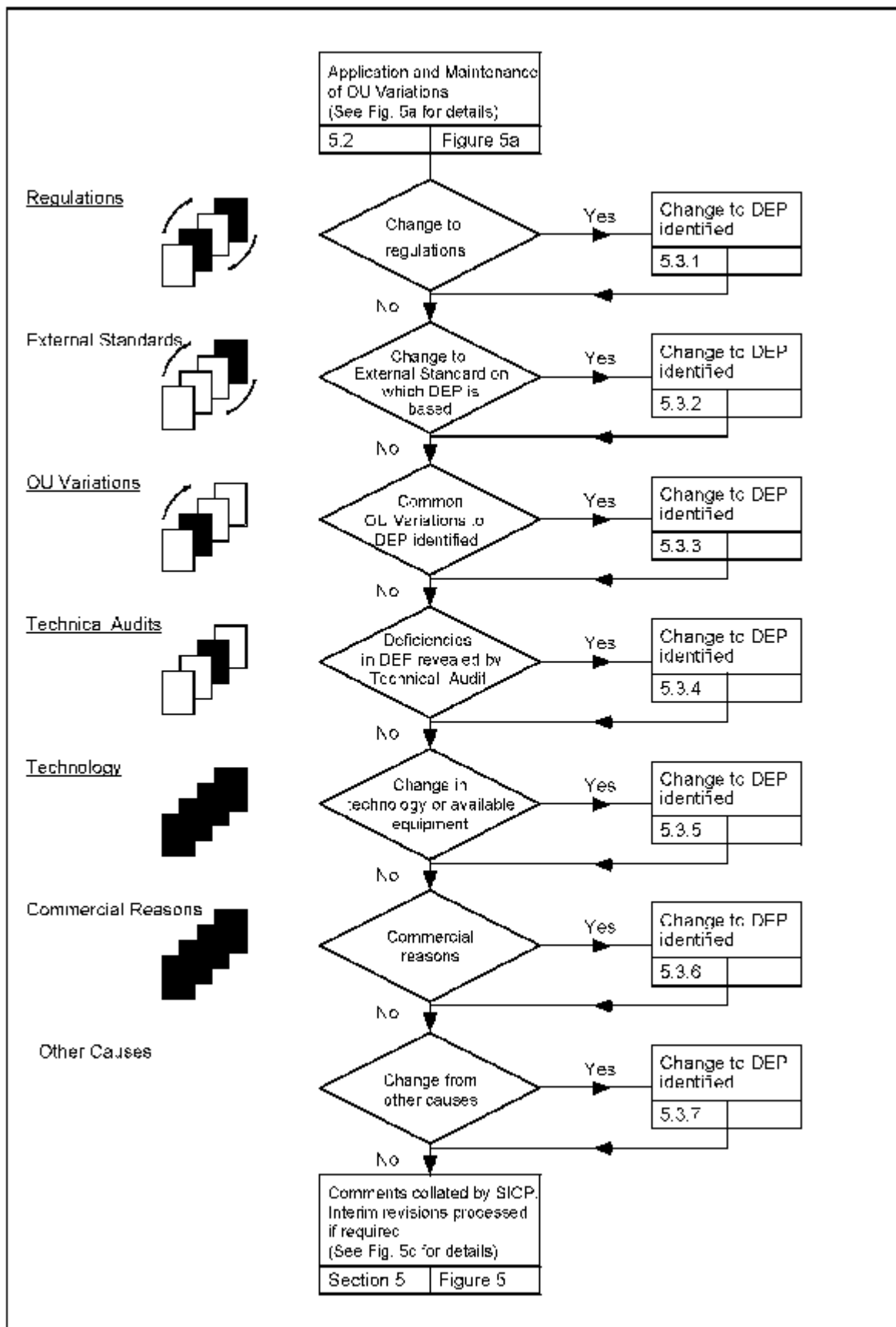


FIGURE 5c PROCEDURE FOR PROCESSING INTERIM REVISIONS

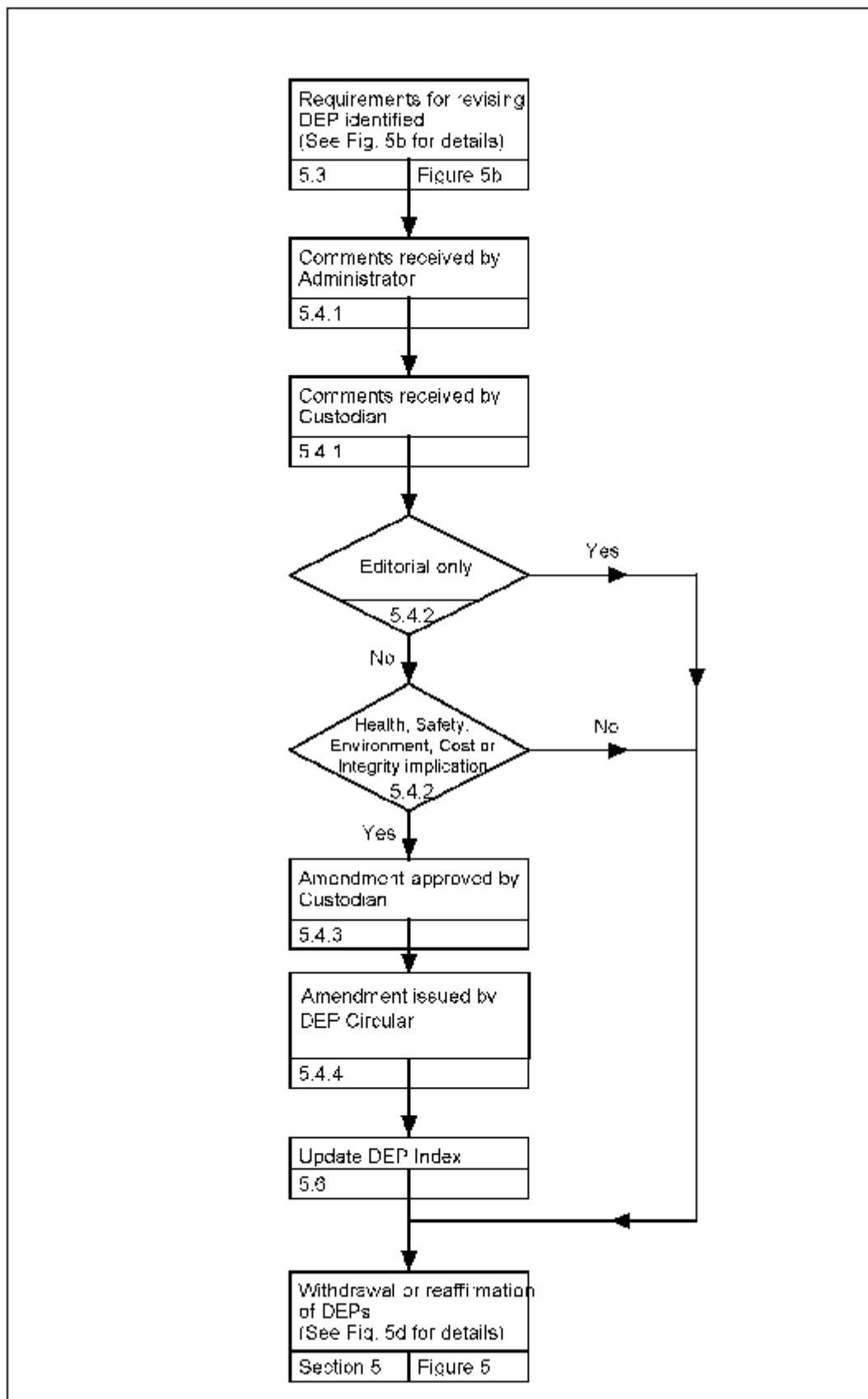


FIGURE 5d PROCEDURE FOR WITHDRAWAL OR REAFFIRMATION OF DEPS

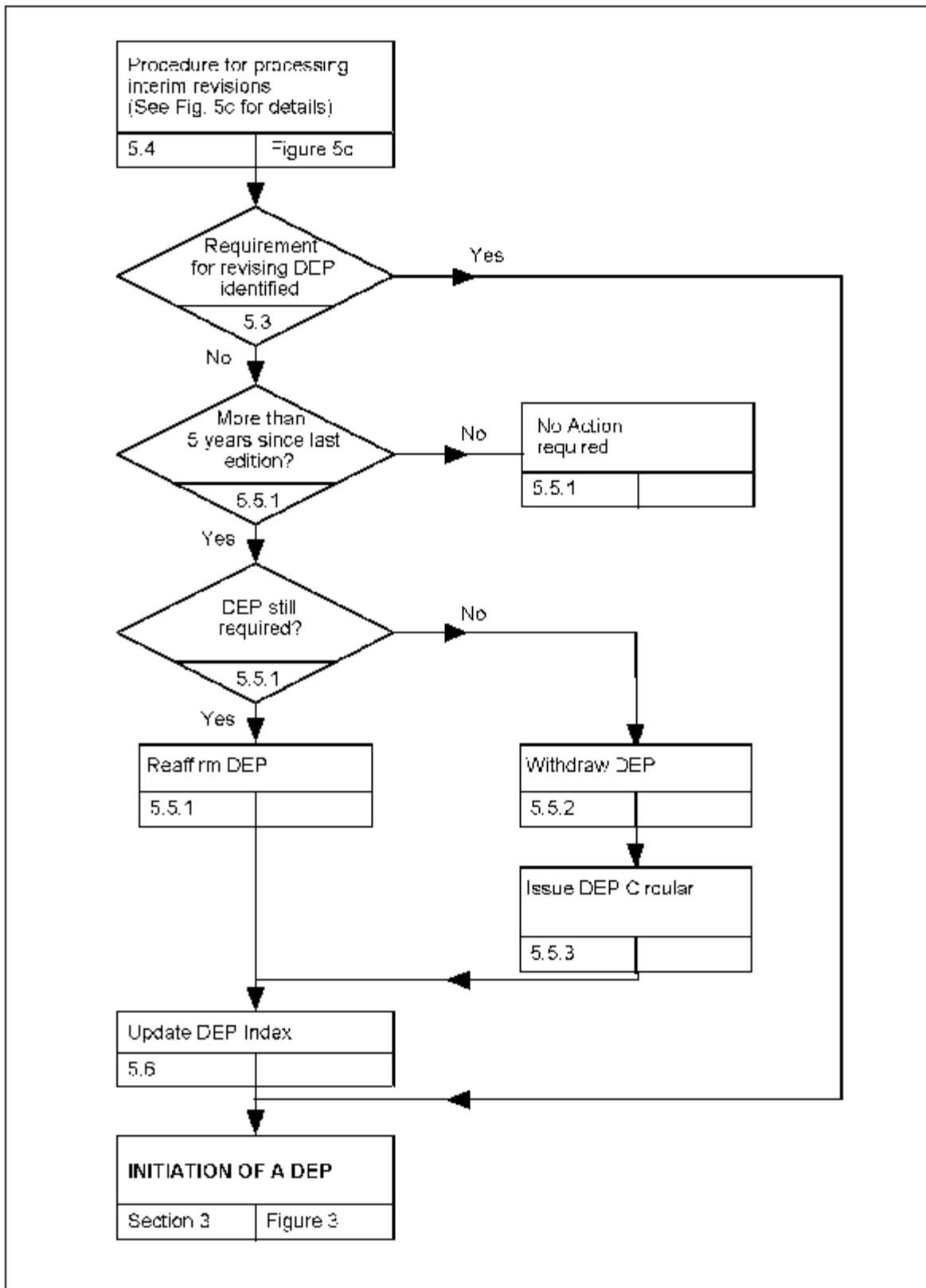
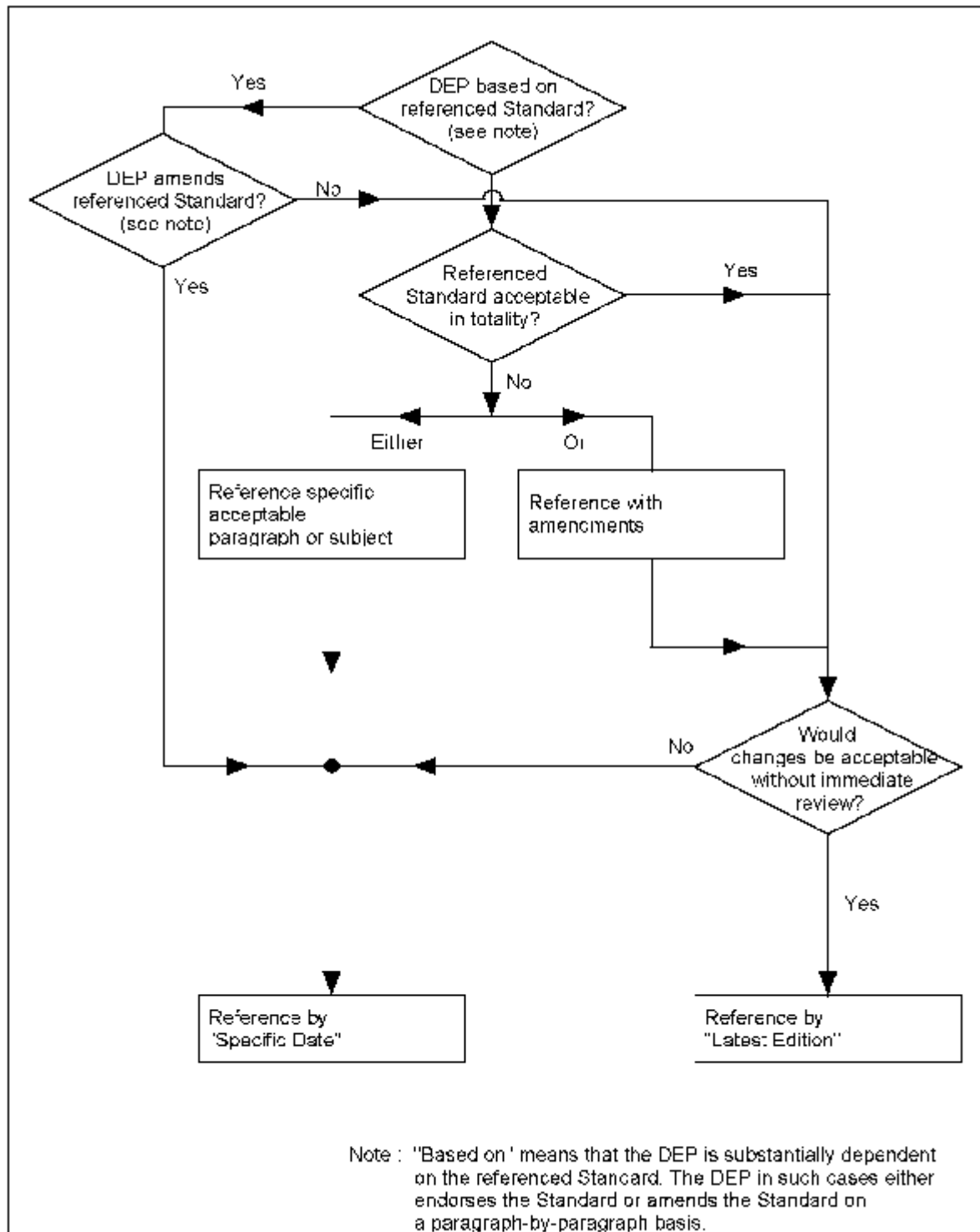


FIGURE 6 PROCEDURE FOR REFERENCING STANDARDS



APPENDIX 1 STANDARD STRUCTURE OF A DEP

1. GENERAL

DEPs shall be structured as follows:

PRELIMINARY PAGES

- front cover
- title page
- preface
- table of contents

INTRODUCTION

- scope
- distribution, intended use and regulatory considerations
- definitions
- abbreviations (if applicable)
- action items (if applicable)
- cross-references (if applicable)

MAIN TEXT

- REFERENCES (if applicable)
- TABLES (if applicable)
- FIGURES (if applicable)
- APPENDICES (if applicable)

This DEP itself serves as an example of the general structure of a DEP.

Tables and figures may otherwise be inserted in the main text or in the Appendices.

2. PRELIMINARY PAGES

2.1 TITLE PAGE

The title page indicates the DEP type (i.e. Manual, Technical Specification or Procedural Specification), DEP title, DEP number and DEP draft date (which will later be changed to show the DEP date of issue). The title page also includes a standard confidentiality and copyright statement.

For a DEP which is the Group Common Addendum to an external standard, this shall be identified in the title.

2.2 PREFACE

The preface is standard for all DEPs. It has been carefully worded and endorsed by the SI Legal Department. It shall not be changed unless agreed by the Administrator and, if necessary, endorsed by the SI Legal Department.

2.3 TABLE OF CONTENTS

The table of contents shall list sections and subsections. Sub-subsections should not be included in the table of contents if this would cause it to be too long. Figures should not normally be listed in the table of contents, but if a separate Figures section is included the Figures may be listed at the beginning of that section. Appendices should be listed in the table of contents.

3. INTRODUCTION

The introduction section shall consist of three subsections (3.1, 3.2 and 3.3) and, where

applicable, a further three subsections (3.4, 3.5 and 3.6) as shown below:

3.1 SCOPE

Every DEP shall contain a scope which shall define the function of the DEP and the extent and limitations of the subject addressed. It can therefore be significant in the event of a dispute. It should be a statement and should not contain requirements. A typical scope is as follows:

This DEP specifies requirements and gives recommendations for Applications in which the operating temperature can fall below minus 20 °C are excluded from the scope of this DEP. This DEP is a revision of the DEP of the same number dated

For a DEP which is the Group Common Addendum to an external standard, this shall be identified in the scope of the DEP.

3.2 DISTRIBUTION, INTENDED USE AND REGULATORY CONSIDERATIONS

The intended use and distribution shall be stated in each DEP. A code letter shall be assigned by the Author to indicate the intended primary (but not exclusive) user of the DEP, as follows:

'G' for Central Offices and Group companies;

'C' for Central Offices, Group companies and their nominated Contractors;

'F' for Central Offices, Group companies, their nominated Contractors and nominated Manufacturers/Suppliers.

- NOTES:
1. The above codes are used to determine **automatic** distribution of a DEP. They are not meant to restrict distribution when a DEP is requested to be provided. For example, a Contractor may be issued with a 'G' coded DEP on request. Therefore, the Author shall not use the codes to "justify" inclusion of proprietary data in a DEP (see 6.8 of the main text of this DEP).
 2. The codes shall be identified in the DEP Index (DEP 00.00.05.05-Gen.) and shall also be identified in the individual DEPs.

The following three paragraphs are standard. The first and second paragraphs should be altered as necessary to describe the distribution and the intended use of the specific DEP. The third paragraph should remain unaltered.

Unless otherwise authorised by SIOP and SIEP, the distribution of this DEP is confined to companies forming part of the Royal Dutch/Shell Group or managed by a Group company, and to Contractors and Manufacturers/Suppliers nominated by them (i.e. the distribution code is "G/C/F" as described in DEP 00.00.05.05-Gen.)

This DEP is intended for use in oil refineries, gas plants, chemical plants, oil and gas production facilities, and supply/marketing installations.

If national and/or local regulations exist in which some of the requirements may be more stringent than in this DEP, the Contractor shall determine by careful scrutiny which of the requirements are the more stringent and which combination of requirements will be acceptable as regards safety, environmental, economic and legal aspects. In all cases the Contractor shall inform the Principal of any deviation from the requirements of this DEP which is considered to be necessary in order to comply with national and/or local regulations. The Principal may then negotiate with the Authorities concerned with the object of obtaining agreement to follow this DEP as closely as possible.

3.3 DEFINITIONS

3.3.1 General definitions

The definitions below shall be included if the words defined are used in the DEP:

*The **Contractor** is the party which carries out all or part of the design, engineering, procurement, construction, commissioning or management of a project, or operation or maintenance of a facility. The Principal may undertake all or part of the duties of the Contractor.*

*The **Manufacturer/Supplier** is the party which manufactures or supplies equipment and services to perform the duties specified by the Contractor.*

*The **Principal** is the party which initiates the project and ultimately pays for its design and construction. The Principal will generally specify the technical requirements. The Principal may also include an agent or consultant authorised to act for, and on behalf of, the Principal.*

*The word **shall** indicates a requirement.*

*The word **should** indicates a recommendation.*

3.3.2 Specific definitions

Definitions of words (normally technical terms) which are used in the DEP and need defining shall be included here. Words which are only used in a limited part of the DEP should be defined at the first place of use rather than here.

3.4 ABBREVIATIONS

A list of abbreviations not in common use should be provided. These may be combined with the specific definitions (3.3.2). If the abbreviations are only used in a limited part of the DEP they should be defined at the first place of use rather than here.

3.5 ACTION ITEMS

If the DEP is constructed such that a list of Action Items is considered necessary, a description of what these mean shall be provided.

A typical clause would be:

In applying this DEP, items which require information to be provided or a decision to be made are identified by the letter 'A' and a number in the left hand margin. A summary list of all such 'action items' is given in

3.6 CROSS-REFERENCES

If the DEP contains cross-references to other parts of the DEP, a paragraph similar to the following shall be included. A cross-reference to a section of an appendix should indicate the appendix number and the section number. For example, this section would be cross-referenced as (Appendix 1;3.6).

Where cross-references to other parts of this DEP are made, the referenced section number is shown in brackets. Other documents referenced in this DEP are listed in (-).

4. **MAIN TEXT**

Specific rules for DEP contents are given in section (6) of the main text of this DEP.

Editorial and typographical requirements are stated in (Appendix 2).

When **basing** a DEP on an external standard, it should be constructed such that the section numbers of the external standard are retained, and the DEP shall be written in terms of additions to, deletions from, or replacements of those sections.

5. **REFERENCES**

Requirements regarding the listing of references are given in section (6.3.3) of the main text of this DEP.

The following standard clause should precede the list of referenced standards:

In this DEP, reference is made to the following publications:

NOTE: Unless specifically designated by date, the latest edition of each publication shall be used, together with any amendments/supplements/revisions thereto.

If Standard Drawings are referenced by latest edition, the following additional standard note should also be added:

NOTE: The latest editions of Standard Drawings are identified in DEP 00.00.06.06-Gen.

If international or regional standards are listed (e.g. ISO, IEC, CEN), the following additional standard clause should be added after the address:

Copies can also be obtained from national standards organizations.

6. **BIBLIOGRAPHY**

Requirements regarding bibliographic references are given in section (6.3.3) of the main text of this DEP.

The following standard clause should precede the list of bibliographic references :

NOTE: The following documents are for information only and do not form an integral part of this DEP.

7. **APPENDICES**

Appendices should be used for material which, if included in the main text, would make the DEP less easy to follow. This also applies to drawings and to material (e.g. figures, tables, etc.) which are referenced in different parts in the main text.

APPENDIX 2 EDITORIAL AND TYPOGRAPHICAL REQUIREMENTS

1. GENERAL

This appendix describes the editorial and typographical requirements for a DEP.

All DEPs are issued by the Administrator using a selected word processing program. DEPs should be presented to the Administrator in this program. If this is not practicable, the Author may draft the DEP using any word processing program, but should check that it can be converted to the program used by the Administrator. See (Appendix 3) for word processor settings.

2. NUMBERING OF SECTIONS

Unless the DEP is based on an external standard and therefore observes the same numbering style, section numbering and further divisions of the section shall be carried out in the following way:

Sections	1., 2., 3., etc.
Subsections	1.1, 1.2, 1.3, etc.
Sub-subsections	1.1.1, 1.1.2, etc.
Sub-sub-subsections	1.1.1.1, 1.1.1.2, 1.1.1.3, etc.

Paragraphs which do not have a title should not be numbered, unless required in order to follow an external standard which uses this practice.

3. PAGE BREAKS

Sections should start on a new page unless this would create unnecessarily large gaps between sections.

4. TYPE STYLE FOR SECTION HEADINGS

The type style for headings shall be as follows:

Sections 1., 2., 3., etc.	IN CAPITALS AND IN BOLD TYPE
Subsections 1.1, 1.2, 1.3, etc.	IN CAPITALS BUT NOT IN BOLD TYPE
Sub-subsections 1.1.1, 1.1.2, etc.	In lower case and in bold type
Sub-sub-subsections 1.1.1.1, etc	In lower case but not in bold type

5. TYPOGRAPHICAL LAYOUT

For the purposes of this section the left margin shall be considered as the datum point (zero cm). This shall be set to give a print position of 2.6 cm.

5.1 MARGINS

The section number shall be placed on the left margin. Paragraphs and further typing shall start at position 1.5 cm. Other indents, e.g. column format, etc., are left to the Author's discretion. The right margin shall be set at position 15.8 cm from the left margin.

5.2 PARAGRAPHS

The first line of a paragraph shall be set to full measure, i.e. an indent is not required at the beginning of a paragraph. An extra half-line should be inserted between paragraphs.

5.3 NOTES ADDED TO TEXT

If a note is required, it should immediately follow the relevant subject or clause; care is required in this respect, otherwise it may not be clear to which clause or subject the note refers.

Notes should be introduced by the word "NOTE(S):" in capital letters, point size 8, not in bold type. If more than one note appertains to a subject, the notes should be numbered. The numbers of multiple notes, or the text of a single note, should start at position 3 cm. An example is shown below.

NOTE: The font of the note should be point size 8. If the Author is using a word processing program different from that used by the Administrator, he may leave NOTES in normal font size for later conversion by the Administrator.

5.4 ACTION ITEM INDICATION

- A1 Action items shall be indicated as shown at the beginning of this line. Different letters may be used to indicate the type of action, e.g. S = specify, A = approve. The indication should be placed at position 0.75 cm, alongside the relevant point in the paragraph concerned. Action items should be numbered consecutively if it is intended to make a summary list of them in the DEP.

5.5 PAGE NUMBERING

Page numbering shall start on the page containing the preface (page 2).

5.6 HEADERS

As shown at the top of the pages in this DEP, headers shall be right-aligned and shall contain the DEP number, date of issue, and page number.

5.7 TABLES, FIGURES AND ILLUSTRATIONS

All tables, figures and illustrations shall be referenced in the text. Such references should be made by use of the number without the description, e.g. "see Figure x.x.x".

All tables, figures and illustrations should be given a title. They may be placed either within the text, or as appendices, or combined in a section after the main text. The choice of location should be decided by the requirement for ease of reference and readability.

The methods of numbering can vary from a straight sequential number to a number which takes its root from the section number, as is the case in many external standards. The Author should formulate the numbering of the tables and figures to suit the subject.

5.8 DRAWINGS

Standard Drawings should not be included in a DEP. When reference is made to Standard Drawings, their number and title shall be included in the list of referenced standards (Appendix 1;5.).

For other drawings to be included in a DEP, the electronic file format should be as specified by the Administrator.

5.9 FORMULAE

Formulae should be constructed bearing in mind that the primary aim is to achieve maximum clarity to assist the reader in comprehension. Therefore simplified forms of notation and layout should always be considered.

The word processing program used by the Administrator is able to present complex formulae. Authors using other word processing programs should present formulae to the Administrator in the most efficient manner (hand-written, if desired).

5.10 CHEMICAL SYMBOLS

The use of chemical symbols (e.g. H₂O, H₂S, FeS, O₂, N₂, etc.) in the text should be minimised. Chemical compounds should be written out in full, except when used in formulae.

5.11 REVISION MARKING

Text or sections that have changed since the previous issue of a DEP should not be marked (e.g. by a vertical line in the margin) since most DEP revisions are comprehensive and revision marking would be so extensive as to cause confusion. If the revision is not extensive and the Author wishes to highlight the main changes, this may be done by including a summary of the changes in the Introduction section of the DEP.

In cases of amendment by DEP Circular (5.4.2), i.e. limited changes, the sections that have been changed are identified in the DEP Circular itself (and by annotation on DEPs published on CD-ROM). For the version of a DEP going on comment round (4.3.2) the DEP may include revision marks.

6. GRAMMATICAL STYLE

6.1 CAPITALISATION

Other than for proper nouns, capitals should be avoided except where desired in the titles, headings and tables etc. A word or term which has been uniquely defined in the DEP may commence with a capital letter if thought useful to the user and if by so doing the text remains readable.

6.2 HYPHENATION

There are no fixed rules for hyphenation in English. Hyphens should be used only if there is otherwise a danger of misinterpretation.

6.3 WORD DIVISION

Words shall not be broken (hyphenated) at the end of a line since breaking of words causes problems in removal when the text is converted between word processors. Many word processors allow this to be done automatically, and therefore this automatic hyphenation function should be set to "off".

6.4 SPELLING

British (rather than American) spelling shall be used. Where alternative spelling of words with the same meaning is possible, one spelling should be used consistently within a DEP.

APPENDIX 3 WORD PROCESSOR SETTINGS

1. STANDARD SETTINGS

An overview of the settings used for the word processing program used by the Administrator is given below. All the detailed settings and a number of the standard features, e.g. the automatic generation of preliminary pages and placement of headers and text, have been incorporated into a standard template which is available from the Administrator for Authors using the same word processing program.

The following parameters are a brief description of the settings in the template:

- Page size A4 (21 x 29.7 cm)
- Font Arial ("True type" font, almost identical to the Helvetica proportional font)
- Point size 10 for text
- Point size 8 for NOTES
- Left margin set at 2.6 cm
- Right margin set at 2.6 cm (i.e. 15.8 cm from the left margin)
- Text justified (left and right)
- Top margin (i.e. first typing line) set at 3 cm
- Bottom margin (i.e. last typing line) set at 2.5 cm
- Gutter set at 0 cm

Sections are positioned by placing the section number at the left margin, and the section title indented by 1.5 cm:

Heading Level	Setting
1	0 lines before, 0 lines after. Manually insert 1 line if next block is text rather than a heading level 2
2	1 line before, 0.5 lines after
3	0.5 lines before, 0.5 lines after
4	0.5 lines before, 0.5 lines after
5	0.5 lines before, 0.5 lines after

Header settings:

- Different first page
- Distance from top edge 1.1 cm
- Right justified

2. OTHER WORD PROCESSORS

For word processors other than that used by the Administrator the following practice shall be followed:

- Sections shall be numbered as indicated in (Appendix 2;2.), followed by a tab and the section title typed in the correct type style.
- The text should be typed directly under the title (i.e. without an extra line feed).
- All titles and text shall be placed at the left margin (i.e. indent set to zero).
- Hyphenation shall be set to "off", i.e. do not automatically hyphenate text at the end of a line.

The inclusion of the preliminary pages and placement of headers is not required.

Complex tables can be formatted in the word processing program used by the Administrator. Authors should not spend unnecessary time formatting tables when using other word processing programs. Text which forms the content of such a table should be left as plain text with each "cell" separated by a tab to facilitate conversion and subsequent layout.

The file should be submitted to the Administrator in the standard word processor format. If this is not possible it shall be submitted to the Administrator in the original word processor format, Document Content Architecture (DCA), Revisable Form Text (RFT), American Standard Code for Information Interchange (ASCII) or Rich Text Format (RTF).

APPENDIX 4 FORM FOR SSSC PROPOSAL AND APPRAISAL (typical)

SSSC SHELL STANDARDIZATION STEERING COMMITTEE		PROPOSAL/APPRAISAL OF GROUP STANDARDS WORK <div style="border: 1px solid black; padding: 5px; text-align: center;"> Part 1: Proposal Serial number: </div> <p>(Allocated by the Administrator)</p>	
Proposer (DEP Custodian)	Reference indicator	Telephone number	
Title of the Standard (Existing/New):			
DEP No: DEP Type: (Manual or Technical/Procedural Spec.)			
Scope of the Standard:			
Functional applicability: Manufacturing (SIOP) Yes <input type="checkbox"/> No <input type="checkbox"/> Supply/Marketing (OP-SBS) Yes <input type="checkbox"/> No <input type="checkbox"/> Chemicals (SIC) Yes <input type="checkbox"/> No <input type="checkbox"/> Exploration & Production (SIEP) Yes <input type="checkbox"/> No <input type="checkbox"/> Is/can this standard (be) based on an external standard (if Yes, specify) Yes <input type="checkbox"/> No <input type="checkbox"/>			
Why is this standard, or revision to standard, needed and what are the expected benefits? Regulatory pressure (if Yes , specify) Yes <input type="checkbox"/> No <input type="checkbox"/> OU request (if Yes , specify) Yes <input type="checkbox"/> No <input type="checkbox"/> Purchasing/commercial opportunity (if Yes , explain) Yes <input type="checkbox"/> No <input type="checkbox"/> Change in base External standard Yes <input type="checkbox"/> No <input type="checkbox"/> Multiple OU standards exist (if Yes , state which) Yes <input type="checkbox"/> No <input type="checkbox"/>			
Drafting and time scale When could the first draft be available? Date: What are the estimated man-hours to prepare this standard? Man-hours: Will the standard depend on research and development work current or yet to be started? (if Yes , give details) Yes <input type="checkbox"/> No <input type="checkbox"/>			

SSSC SHELL STANDARDIZATION STEERING COMMITTEE	PROPOSAL/APPRAISAL OF GROUP STANDARDS WORK Part 2: Appraisal (for SSSC use only)
<p>The SSSC, in its meeting of , has discussed the above proposal for standards work and has concluded that it:</p> <p style="margin-left: 150px;"><input type="checkbox"/> is Supported</p> <p style="margin-left: 150px;"><input type="checkbox"/> is Not Supported (See remarks)</p> <p style="margin-left: 150px;"><input type="checkbox"/> requires further clarification (See remarks)</p> <p>Remarks:</p> <div style="height: 150px; border: 1px solid black; margin-top: 10px;"></div>	
<p>Signed : (Chairman, SSSC)</p> <p>Date :</p>	

APPENDIX 5 FORM FOR DEP COMMENT ROUND (typical)

**DESIGN AND ENGINEERING PRACTICE (DEP)
COMMENT ROUND**

TITLE:

DEP NUMBER: (New/Revised)

SUPERSEDES: Dated:

CUSTODIAN: ACCOUNT CODE:
(SIOP/SIEP personnel only)

AUTHOR:

COMMENTS REQUESTED FROM:		COMMENTS REQUESTED FROM:	
Name	Reference Indicator	Name	Reference Indicator
1.		6.	
2.		7.	
3.		8.	
4.		9.	
5.		10.	

May we please have your co-operation in commenting on the attached draft DEP. The above distribution is designed to reach a representative selection of interested parties. If you consider another party is more appropriate, please solicit their comments. Such comments will be considered as coming from you as the primary source, unless clearly indicated to the contrary.

Please note that the latest date for returning comments is stated at the bottom of the page. If we have not received your comments by this date, we shall record that no comments were received from you.

.....(the Administrator) Date:

Comments marked on draft DEP: Yes/No

Comments attached: Yes/No

Comments:

Signed: Date:

FINAL DATE FOR RECEIVING COMMENTS:

Please return this sheet with the attached DEP to: _____

APPENDIX 6 FORM FOR DEP APPROVAL ROUND (typical)

**DESIGN AND ENGINEERING PRACTICE (DEP)
FINAL APPROVAL OF A DEP PUBLICATION**

TITLE:

DEP NUMBER: (New/Revised) Dated:

SUPERSEDES: Dated:

CUSTODIAN:

COMMENTS WERE REQUESTED FROM:		COMMENTS WERE REQUESTED FROM:	
Name	Reference Indicator	Name	Reference Indicator
1.		6.	
2.		7.	
3.		8.	
4.		9.	
5.		10.	

	Name	Reference indicator	Signature/Initials Date
Editing:		
Audit:		
Approved by:	Author:		
	Custodian:		
	(See note below)		
Department Head:		

Note: Custodian's approval confirms that requirements contained in this DEP have been justified both technically and commercially.

Approved for publication by: General Manager

Signature: Date:

Please return the completed form to: