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AUSTRALIAN ATOMIC ENERGY COMMISSION

RESEARCH ESTABLISHMENT

LUCAS HEIGHTS RESEARCH LABORATORIES

AAEC INIS
ONLINE USER MANUAL

by

T.J. RUGG
S.C. WONG

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AUSTRALIAN ATOMIC ENERGY COMMISSION
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A A E C I N I S
O N L I N E U S E R M A N U A L

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T.J. RUGG
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ABSTRACT

The Australian Atomic Energy Commission's INIS computer database has been opened for online searching. INIS, which stands for International Nuclear Information System, contains over 725 000 references to the world's nuclear literature published since 1972, and is growing at the rate of 75 000 new entries each year. The information retrieval programs used to select the data were designed by the AAEC. This manual describes the organisation of the database and how to search it effectively. All the elements involved in the formulation of a successful search strategy are explained. The available search commands are discussed in detail and examples of their use given.

CONTENTS

1. INTRODUCTION

The INIS database, available online from the AAEC, contains over 725 000 online references to the world's nuclear literature published since early 1972. The main scope of the information is described as 'nuclear science', but areas as diverse as physics, cosmology, radiation chemistry, metallurgy, nuclear controversy, industrial and medical uses of radioisotopes and radiation, uranium mining, enrichment, environmental aspects and waste disposal are extensively covered.

INIS, which stands for International Nuclear Information System, has a worldwide coverage of information through its fortnightly intake from 48 countries and international organisations. About one third of the references are research reports, the bulk of the database consisting of journal articles, conferences, books and patents. Computer programs, maps and films are also included. Approximately 75 000 new items are added to the database each year.

The database provides three methods of subject searching, plus the facility to search numerous other document fields. The primary method of searching is by the selection of keywords taken from the hierarchical INIS Thesaurus (see Section 4.3.3). It is also possible to search for any significant word in the document title. In this way, documents can be retrieved which contain proper names and new words not yet used in the Thesaurus. Searching by subject category is also possible, using the codes described in Section 4.3.1. A list of INIS subject category headings is given in Appendix A. Other searchable fields include, author, corporate author, language, Atomindex volume, document type and literary content.

The span of INIS (at present 12 years) is broken up into six 2-year periods plus the latest update file. Upon entry to the system the user is required to specify one of the periods, i.e. '7273', '7475', '7677', '7879', '8081', '8283' , or 'LSTM'. When a satisfactory search strategy is arrived at, it can be automatically executed against any other periods. Besides reducing output to manageable proportions, this feature overcomes the need to specify date ranges as users do not always want to search the whole 12 years of data. A sample INIS search session is given in Appendix B.

AAEC INIS is one of the largest online public databases in Australia and, as such, has presented considerable disk storage problems on the AAEC's IBM 3033S computer. To mount the whole database, including abstracts, for free-text searching, would be a costly exercise, requiring an unjustifiable amount of computer resources (upwards of 2500 megabytes of disk storage).

The present database occupies only 400 megabytes of disk storage, including indexes, but to accommodate this space reduction some features familiar to librarians and information specialists have had to be discarded. A decision was made not to provide full free-text searching, and to remove the abstract and keyword fields on all but the latest documents. These economies, combined with the development of fast retrieval programs which should be familiar to most users of document retrieval systems today (e.g. STAIRS, DIALOG), have resulted in a highly efficient and effective online database.

The absence of abstracts on retrieved items was at first thought to be a problem, but experience has shown that the relevance of a retrieved item is usually evident from the title, given the specific nature of most database items. Locations of INIS Atomindex abstracts, the hard-copy equivalent of the database, are given in Section 6.

Brief descriptions of most of the system features and search commands are available online, using the 'help' feature described in Section 4.2.9.

Document backup services provided by the LHRL Library are described in Section 7.

2. ACCESSING INIS

The INIS database uses an IBM 3033S computer located at the Lucas Heights Research Laboratories. The computer is generally available 24 hours a day, except for maintenance every second Monday morning from 0700 to 1000 hours. Advice on maintenance times is posted several days in advance.

2.1 Direct Dialling

Direct dial access is available at 30 characters-per-second (300 baud) by dialling the following Sydney number:

(02) 543-1581	- four lines available.

Terminals should be set in full-duplex mode.

When a connection is made, the user depresses the 'space' bar on the terminal to bring up the password prompt ':'. The monthly password is then typed in followed by a carriage return; the user number is entered when the prompt 'ID:' appears. The computer will respond by typing '$'. Should all four ports be engaged, the caller should try again later. Several more ports will become available when the LHRL computer is connected to CSIRONET in mid-1983.

Note: When passwords are being entered, the character '*' is echoed at the user's terminal to preserve password security.

2.2 CSIRONET Access

When a CSIRONET micronode is installed at the LHRL (due mid 1983), a relatively inexpensive communications link will become available to remote users of INIS. The CSIRONET subsystem code for the LHRL computer is SGL. Applications for CSIRONET access should be directed to the nearest CSIRONET office.

2.3 Logging On and Off

The INIS database is accessed simply by typing the characters '#inis' in response to the '$' prompt. Any INIS news is displayed along with a request for the user to specify a database period (see Section 4.2.5). The HELP feature can be invoked at this stage if required, or indeed at any other time during the session. After a period has been specified, the system prompt character ':' appears. The database can then be searched. Dialogue may be in either upper or lower case.

Logging off is done by typing 'end' or 'e' at any time. When the '$' prompt re-appears the user can either go back into INIS or exit by typing a carriage return <CR>. An example of logging on and off is given below. The underlined words are those keyed in by the searcher.

```
:********
ID: ********
$#INIS
AAEC INIS Database, 1972-1983(February)
---------------------------------------
Help available, (help or h)

Select database period(7273,....,8283, or LSTM)
Period :8283
INIS 8283 DATABASE

:
:
:   (Your search)
:
:
:
:e
(approximate charges given)
END OF INTERACTION
END:INIS
$<CR>
END-SESSION
```

Note: Output to a user's terminal, for example during BROWSE, FIND or HELP, can be stopped, or interrupted at any time by typing a question mark. When the system prompt appears, the user can either continue the output by typing a carriage return, or stop the output completely by typing any other recognised search command.

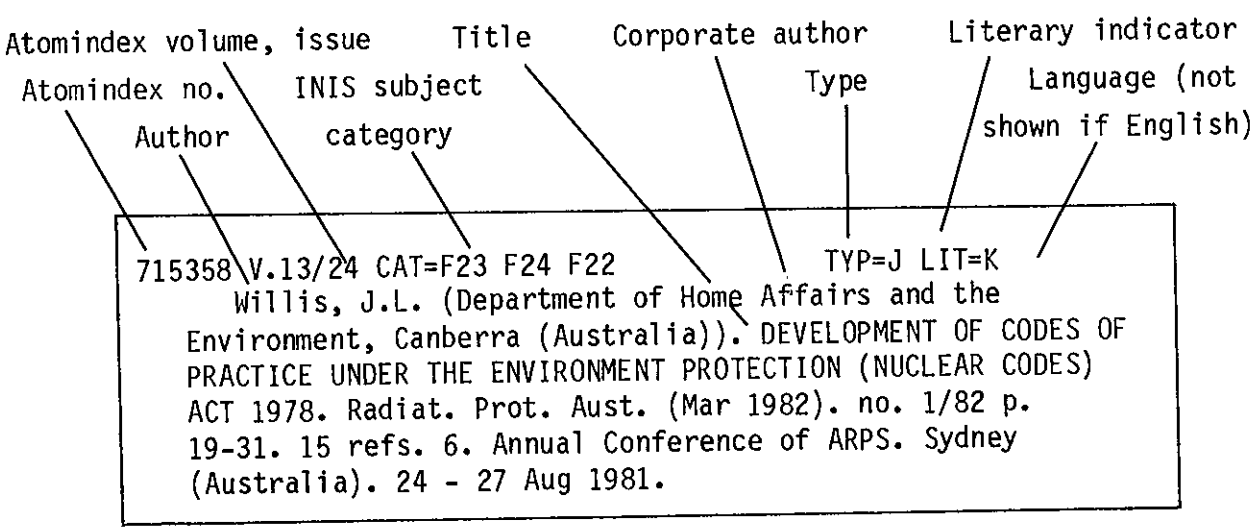
3. INIS RECORD FORMATS

INIS supports a special character set including superscripts, subscripts, Greek letters and mathematical symbols. These characters are suppressed during online searching and appear as blanks on the screen, but they appear in hard-copy printouts. Journal title abbreviations used in the database are taken from:

INIS: Authority List for Journal Titles. IAEA-INIS-11(Rev.11). International Atomic Energy Agency, Vienna, Austria. January 1983.

3.1 Main Database

As discussed in Section 1, the bulk of the database does not contain abstracts or keywords. These database records have the format shown below. The searchable fields are indicated (see also Section 4.3.1).



Occasionally a record appears as the comment '(See record above - linked group)'. This results from the INIS 'linked group' philosophy whereby a record may be given several sets of index terms if it covers more than one subject area. The comment above means that the previously displayed record had more than one linked group that was retrieved as a result of the user's search strategy. The comment need not be displayed; its only purpose is to prevent the number of hits from being different to the number of records browsed or printed.

3.2 Latest Month

Records in the LSTM (latest month) section of the database contain all the bibliographic details given in INIS Atomindex abstracts. (The LHRL Library runs SDI profiles against this database each month. The Reader Services Librarian should be contacted on (02)543-0111 if a regular profile is required.)

735253 V.14/06 CAT=A15 TYP=J LIT=K

Hampel, W. (Max-Planck-Institut fur Kernphysik, Heidelberg, West Germany). LOW-ENERGY NEUTRINOS IN ASTROPHYSICS. CONF-8006136--. Ettore Majorana Int. Sci. Ser.: Phys. Sci. ISSN 0270-188X. (1982). v. 12 p. 61-79. International conference on neutrino physics and astrophysics. Erice (Italy). 23 - 27 Jun 1980.

Neutrinos play an important role in astrophysics. In connection with their extremely weak interaction with matter, they are able to escape from the interior of stars and to reach earth through large amounts of otherwise nontransparent matter. The current status of low energy neutrino astrophysics is considered, taking into account the latest results of the Brookhaven Solar Neutrino Experiment, standard solar model calculations, and a comparison of measured and theoretical values. Attention is also given to recent progress concerning the preparation of new solar neutrino detectors, and the prospects for the observation of neutrino radiation from collapsing stars.

ASTROPHYSICS; CONSERVATION LAWS; ENERGETIC SOLAR PARTICLES; GRAVITATIONAL COLLAPSE; HADRONS; LEPTONS; NEUTRAL CURRENTS; NEUTRINO DETECTION; NEUTRINOS; NUCLEAR REACTIONS; STELLAR RADIATION.

4. SEARCHING THE DATABASE

Condensed information on most aspects of INIS searching is available online using the 'help' feature described in Section 4.2.9.

4.1 Search Strategy

A search strategy consists of one or more query lines (maximum 40), each one starting with a unique user-assigned line number followed by a space, e.g.

```
1 uranium mines
```

- query line 1 refers to all documents containing the thesaurus term 'URANIUM MINES'.

A query line consists of combinations of search terms, line numbers and any of the logical operators 'and', 'or', 'not', (which may be abbreviated to '&', '+', '-'). Search terms may be truncated from the right, left and centre, enabling particular character strings to be matched. An asterisk is the truncation symbol, e.g.

```
2 environment* and 1
```

- query line 2 refers to all documents containing thesaurus terms beginning with the string 'ENVIRONMENT' as well as terms contained in line 1.

Permissible search terms are either keywords from the INIS Thesaurus (see Sections 4.2.4 and 4.3.3), or field identifiers from such INIS fields as subject category, language, title etc. (see Section 4.3.1), e.g.

```
3 lan=russian or typ=j
4 2 not 3
```

The only syntactic rule is that all logical operators and query line numbers must be separated from other elements of the query line by at least one space.

There is no limit to the number of nested parentheses allowed in a query line. e.g.

```
5 4 or ((in-situ processing or leaching) not (solution* or lan=russian))
```

A query line may be overwritten at any time by typing the appropriate line number followed by the new query. Any query lines which refer to the overwritten line will be automatically re-executed. For example, if the searcher realises that journal articles should not have been included in line 3, then it could be changed as follows:

```
3 lan=russian
```

-immediately after the change, lines 4 and 5 will be automatically re-executed and a new hitlist supplied.

An example of a typical INIS search is given in Appendix B.

4.2 Search Commands

In the following discussion '[ ]' means compulsory and '( )' means optional.

4.2.1 BROWSE

The BROWSE command lists on the terminal the results of any query line.

Format: [browse or b] (n)(/n1-n2)

where: -'n' is the query line number to be browsed;
-'n1-n2' is the range of hits to be browsed;
-if no 'n' is given, the default is the previous query line;
-if neither n1 nor n2 is given, default is 'all hits';
-if either n1 or n2 is given, that hit number is displayed.

For example:

b	-will list all the hits of the previous line;
b 4	-will list all the hits of query line 4;
b 4/1-10	-will list the most recent 10 hits of line 4;
b /1	-will list the first hit of the previous line.

During a browse the system prompt (:) re-appears after each item. At this stage, browsing may be terminated by entering another command, or the next item may be browsed by entering a carriage return. The character 's' can also be typed to send the single item just browsed to the printer. In this way a hitlist can be browsed printing only those items needed. The word 'Done' appears when all items have been browsed.

It is possible to jump to the next item during a browse by typing a question mark (to stop the listing), followed by 'j' or 'jump' when the system prompt appears. This is useful when a long item, such as most LSTM items, is being listed on the terminal. When enough of it has been seen, the user can skip to the next item quickly using the 'j' command.

4.2.2 PRINT

The PRINT command produces a hard-copy printout of any query line and responds with the word 'Done' to verify the request.

Format: [print or p] (n)(/n1-n2)

where: -'n' is the query line number to be printed;
-'n1-n2' is the range of hits to be printed;
-if no 'n' is given, the default is the previous query line;
-if neither n1 nor n2 is given, default is 'all hits';
-if either n1 or n2 is given, that hit number is printed.

For example:

p	-will print all hits of the previous line;
p 4	-will print all the hits of query line 4;
p 4/1-10	-will print the most recent 10 hits of line 4;
p /1	-will print the first hit of the previous line.

4.2.3 DISPLAY

The DISPLAY command displays the user's search strategy.

Format: [display or d] (n1-n2)

where: - 'n1-n2' is the range of query lines to be displayed;
- if neither n1 nor n2 is given, default is the whole strategy;
- if either n1 or n2 is given, that line number is displayed.

For example:

d	-displays the whole strategy;
d 9	-displays query line 9;
d 6-9	-displays query lines 6 to 9.

4.2.4 FIND

The FIND command looks up a combination of the INIS Thesaurus and of all other indexed fields to verify that character strings given by the user are searchable keywords.

Format: [find or f] [word]

where 'word' is any string of characters. The word may be left, right and centre truncated.

For example:

f waste*	-will display such thesaurus terms as WASTES, WASTE MANAGEMENT, WASTE DISPOSAL, etc.;
f * micropr*	-will display such thesaurus terms such as ELECTRON MICROPROBE ANALYSIS, ION MICROPROBE ANALYSIS, etc.;
f lan=*	-will display all the languages indexed in the language field;
f ti=synroc*	-will verify that 'SYNROC' has been used in the title field;

f typ=*	-will display all the possible values of the 'type' field;
f au=robin*	-will display the surnames and initials of all indexed author names starting with 'robin'.

When INIS Thesaurus terms are displayed using the FIND command, broader and narrower terms, and any 'related term' and 'used for' references are also given. The first number to the right of the thesaurus term indicates the number of times the term has been used in the whole database , the second number gives the number of times the term plus all its narrower terms have been used. Reference should be made to the INIS Thesaurus for instructions on the use of thesaurus terms. After each thesaurus item retrieved with a FIND command is displayed, a carriage return should be entered to display the next item. The message 'Done' is given when all items have been displayed. An example of output from the FIND command is found in Appendix B.

When items contained in the author, title or corporate affiliation fields are displayed using the FIND command, the number to the right of the term indicates the number of times the term has been used in the current database period , i.e. the period from which the searcher issued the FIND command.

4.2.5 YEARS

The YEARS command specifies the part of the database to be searched.

Format: [years or y] [yryr]

where 'yryr' is one of the following:

- 7273, 7475, 7677, 7879, 8081, 8283, or LSTM

For example:

y 8283	-to search the 1982/83 database period;
y LSTM	-to search the latest monthly update.

The present 12-year span of INIS is broken up into six 2-year periods plus the latest update, LSTM. Upon entry to the system the user is required to specify a period. When satisfied with the search strategy, and after any

PRINT or BROWSE commands, typing of the above command plus the year range will automatically result in the user's strategy being executed against the new period.

4.2.6 TITLE

The TITLE command gives the user's search strategy a title.

Format: [title or t] [abcde...]

where 'abcde...' is a user-assigned comment which will appear at the beginning of the user's search strategy.

For example:

```
t INIS search for J. Bloe 1/2/83
```

The title can be up to 72 characters long.

4.2.7 CLEAR

The CLEAR command clears all or any part of the user's search strategy.

Format: [clear or c] (n1-n2)

where:
- 'n1-n2' is the range of query lines to be cleared;
- if neither n1 nor n2 is given, default is the whole strategy;
- if either n1 or n2 is given, that line number is cleared.

For example:

c	-clears the whole strategy;
c 9	-clears query line 9;
c 5-9	-clears query lines 5 to 9.

4.2.8 NEWS

The latest system news can be displayed simply by typing 'news'. The command 'help oldnews' will list the most important database news items of the previous twelve months.

4.2.9 HELP and ?

A user may obtain instructions on how to search the INIS database by typing either a question mark or the word 'help'. The former will result in a brief summary of available commands, as shown in Section 4.2.9(a) below. The word 'help', or the letter 'h', will result in a display of the contents of Section 4.2.9(b), from which the user can ask for more information on a particular search command or system feature.

(a) Assistance given in response to '?':

Enter one of the following:

A query line - (for details of query line format type 'help strategy');
browse/b - to browse results of any query line(s);
single/s - to send a single item to printer (only during a browse);
jump/j - to jump to the next item (used only during a browse);
display/d - to display the search strategy, or parts of it;
print/p - to print hardcopy results of any query line(s);
clear/c - to clear query line(s);
find/f - to find a searchable term in the online thesaurus;
years/y - to select new database period, e.g. 'y 8081 or 'y lstm';
title/t - to give the search strategy a title;
news/n - to list the latest INIS news;
help/h - gives a menu of help commands;
$ - to list the amount charged so far.

(b) Assistance given in response to 'help' or 'h':

HELP: Details of any of the database features can be obtained by typing 'help' then a feature from the following list:

General features: OVERVIEW, STRATEGY, FIELDS, EXAMPLES, LOCATION, CHARGES, OLDNEWS.
Search features : BROWSE, PRINT, DISPLAY, CLEAR, FIND, YEARS, TITLE.

e.g.: 'help strategy' for details of search strategy guidelines.
'help browse' for instructions on how to list the search.

- The command 'help all' will list all database features.
- Output can be stopped at any time by typing a question mark. A carriage return will continue the output.

4.3 Additional Search Features

4.3.1 Field identifiers

As well as INIS Thesaurus terms, other fields within INIS documents may be searched using identifiers. These identifiers include:

(a) vol= To identify a particular INIS Atomindex volume or issue, e.g.

vol=13/22	-identifies volume 13, issue 22.
vol=13	-identifies all of volume 13.

(b) cat= To identify a particular subject area. See "INIS: Subject Categories and Scope Descriptions" (IAEA-INIS-3), e.g.

cat=c	-general life sciences category, includes all sub-categories beginning with 'c', e.g. c10, c22 etc.
cat=c6	-less general sub-category on radiation and nuclear techniques in medicine, includes all sub-categories beginning with 'c6', e.g. c60, c61, c62 etc.
cat=c61	-specific subject category dealing with external radiation in medical diagnosis.

(c) typ= To identify a particular document type, such as a patent, report or journal etc. The full list is as follows:

typ=b	-book	typ=j	-journal article
typ=d	-drawing	typ=p	-patent
typ=f	-film	typ=r	-report
typ=g	-map	typ=t	-computer medium
typ=h	-sound recording	typ=i	-miscellaneous

Documents with 'typ=i', (miscellaneous), are not commercially available. They are usually microfilmed and made available as INIS-mf microfiches. If not, an availability note appears in INIS Atomindex.

(d) lit= To identify documents having certain literary characteristics such as a conference or thesis. The full list is as follows:

lit=k	-conference	lit=z	-bibliography
lit=l	-dictionary or encyclopedia	lit=y	-progress report
		lit=q	-legislation
lit=n	-numerical data	lit=e	-summary/abstract only
lit=u	-thesis	lit=x	-item not available from INIS
lit=w	-standard		

(e) lan= To identify documents written in a particular language, e.g.

```
lan=english
lan=french
```

A full list can be obtained using the FIND command ('f lan=*').

(f) au= To search for a particular author, e.g.

```
au=jones, a.b.
```

Unless truncation is being used, the form of the author identifier must be as above, i.e., surname followed by a comma and space, then the initials separated only by full stops.

(g) co= To search for corporate authors and author affiliations. Seven digit codes taken from "INIS: Authority List for Corporate Entries", (IAEA-INIS-6), are used, e.g.

```
co=0675000
```

-is the code for the AAEC.

(h) ti= All significant words in the title can be searched. This is useful when searching for words not in the INIS Thesaurus, such as proper names or newly-coined words which have not yet been given the status of a thesaurus term, e.g.

```
ti=westinghouse
```

It should be noted that title searching is restricted to single words ONLY (hyphenated words such as 'SYNROC-B' are classed as single words). For example, a title search for publications concerning the West Valley waste repository in New York might include the following terms:

```
ti=west and ti=valley and ti=york
```

A stoplist of title words which are not indexed is given in Appendix C.

4.3.2 Truncation

All search terms may be truncated using the symbol '*'. Truncation may be from the right, left, centre, or any combination of these. This feature may be used to retrieve any particular character string, e.g.

three mile*	-either of the thesaurus terms THREE MILE ISLAND-1 REACTOR or THREE MILE ISLAND-2 REACTOR.
* 14 reactions	-nuclear reactions involving nuclides with a mass number of 14, e.g. CARBON 14 REACTIONS or NITROGEN 14 REACTIONS.
sclero	-terms such as SCLEROPROTEINS and ARTERIOSCLEROSIS.
chand*theory	-all items concerning CHANDRASEKHAR THEORY.
ti=*astronom*	-all items containing words in the title such as radioastronomy, astronomical, etc.

It should be noted that although there may be any number of truncation symbols in a search term, search times may be several seconds longer than normal when complex truncations are requested. Left truncation in particular requires a longer search time.

4.3.3 Thesaurus

A thesaurus is a terminological control device used in translating from the native language of authors, indexers or users into a more constrained 'system language'. It is also "... a controlled and dynamic vocabulary of semantically and generically related terms which covers a specific domain of knowledge." The INIS Thesaurus fits this UNESCO definition - see Guidelines for the Establishment and Development of Monolingual Thesauri. SC/WS/555, UNESCO, Paris, September 1973.

There are approximately 17 000 terms in the INIS Thesaurus; with each entry, a 'word block' containing all of the terms associated with that particular entry is displayed. In the word block, terms which have a hierarchical relationship to the entry are identified by the symbols BT (broader term) and NT (narrower term); those with an affinitive relationship are identified by RT (related term); and those with a preferential

relationship are identified by USE or SEE and the reciprocals UF (used for) and SF (seen for). A typical thesaurus entry is shown in Appendix B.

When thesaurus terms are used in a search strategy, they must be entered in exactly the same way as they appear in the INIS Thesaurus. Thesaurus terms have a maximum length of 30 characters; any terms originally longer than this have been abbreviated to this length and must be used in the abbreviated form.

All narrower terms are automatically included when a search is made for the thesaurus term. This is an extremely valuable feature which saves search time and improves recall. For example, without this feature, a search for uranium deposits in Australia would require that every state be included in the strategy in order that an item such as "uranium prospects in NSW and Victoria" be retrieved. Using the hierarchical nature of the thesaurus all that is necessary is that the term 'AUSTRALIA' be used (along with terms for uranium mining). This is because an item containing the index terms 'NSW' or 'VICTORIA' is automatically 'up-posted' by INIS to include any broader thesaurus terms such as 'AUSTRALIA', 'AUSTRALASIA' and 'DEVELOPED COUNTRIES'. Similarly, a search for 'DEVELOPED COUNTRIES' and the appropriate uranium mining terms would also retrieve the above item.

A very small number of INIS Thesaurus terms contain one of the operators AND, OR, or NOT, e.g. 'RESEARCH AND TEST REACTORS'. When searching for these terms they should be enclosed in quotes to avoid confusion, e.g.

```
1 "research and test reactors" + accident*
```

It is advisable to keep an INIS Thesaurus handy during search sessions. The source of copies is given in Section 5.

5. SEARCH AIDS (HARD COPY)

The publications referred to in this section are produced by the International Atomic Energy Agency in Vienna. The sole Australian agent for these publications is:

Hunter Publications
58A Gipps Street
COLLINGWOOD
Victoria, 3066

If any difficulty is experienced in obtaining them, please contact the Reader Services Librarian at the LHRL Library; a limited number of superseded copies are available for distribution.

5.1 INIS Thesaurus

The INIS Thesaurus is completely revised annually, the latest revision being

INIS Thesaurus. IAEA-INIS-13(Rev.22). International Atomic Energy Agency, Vienna, Austria. January 1983. Price $36.

Updates to the thesaurus are distributed quarterly.

5.2 Subject Categories

A full description of the INIS subject categories, introduced in Section 4.3.1, is given in

INIS: Subject Categories and Scope Descriptions. IAEA-INIS-3(Rev.5). International Atomic Energy Agency, Vienna, Austria. November 1978. Price $4.

A list of INIS subject category headings is given in Appendix A.

5.3 Corporate Author Codes

The following publication contains the codes by which all corporate affiliations may be retrieved:

> INIS: Authority List for Corporate Entries and Report Number Prefixes. IAEA-INIS-6(Rev.16). International Atomic Energy Agency, Vienna, Austria. April 1983." Price $21.

This publication is also revised annually.

6. INIS ATOMINDEX LOCATIONS

The hard-copy abstract journal equivalent to the INIS database is INIS Atomindex. On occasions when the information contained in a retrieved reference is not sufficient to determine its relevance, the Atomindex abstract may be consulted. Australian locations of copies of INIS Atomindex can be listed during an online search session by typing 'help state', where 'state' is one of the following: NSW, VIC, QLD, WA, SA, ACT, TAS, or NT. Alternatively, the LHRL Library will provide photocopies of these abstracts, should any user have difficulty in locating Atomindex.

The complete list of INIS Atomindex locations is given below:

6.1 New South Wales

(i) The Library
Lucas Heights Research Laboratories
Private Mail Bag
SUTHERLAND, NSW 2232

(ii) The Library
Australian Atomic Energy Commission
549 Gardeners Road
MASCOT, NSW 2020

(iii) Central Library
University of New South Wales
KENSINGTON, NSW 2033

(iv) Central Library
Macquarie University
NORTH RYDE, NSW 2113

(v) Fisher Library
University of Sydney
SYDNEY, NSW 2006

6.2 Australian Capital Territory

(i) National Library of Australia
CANBERRA, ACT 2600

(ii) Research School of Physical Sciences
Mathematics Building
Australian National University
CANBERRA, ACT 2600

6.3 Victoria

(i) The Library
Materials Research Laboratory
P.O. Box 50
ASCOT VALE, VIC 3032

(ii) Central Library, CSIRO
314 Albert St.
EAST MELBOURNE, VIC 3002

(iii) Baillieu Library
University of Melbourne
PARKVILLE, VIC 3052

(iv) The Library
CSIRO Division of Mineral Chemistry
P.O. Box 124
PORT MELBOURNE, VIC 3207

(v) Hunter Publications
58A Gipps St.
COLLINGWOOD, VIC 3066

6.4 Queensland

(i) Central Library
University of Queensland
ST. LUCIA, QLD 4067

(ii) Central Library
James Cook University of Northern Queensland
TOWNSVILLE, QLD 4811

6.5 South Australia

(i) Barr Smith Library
University of Adelaide
ADELAIDE, SA 5001

6.6 Western Australia

(i) Central Library
Western Australian Institute of Technology
Hayman Rd.
BENTLEY SOUTH, WA 6106

(ii) Central Library
Murdoch University
MURDOCH, WA 6153

(iii) The Reid Library

University of Western Australia
NEDLANDS, WA 6009

(iv) The Library
Department of Public Health
60 Beaufort St.
PERTH, WA 6000

(v) Library Board of Western Australia
102 Beaufort St.
PERTH, WA 6000

There are no INIS Atomindex locations in either Tasmania or the Northern Territory.

7. LHRL DOCUMENT BACKUP SERVICE

Approximately one third of items in the INIS database (mainly reports) are available as microfiches. The LHRL Library subscribes to this series, consequently microfiche copies are available from the Library via the usual inter-library loan network. A large part of the remainder, i.e. journal articles, conferences, etc., is also available from the Library on inter-library loan.

8. CHARGES

The charges for the use of the INIS database as of February 1983 are:

CONNECT: $25 per hour connect hour,
PRINTS : 1972-1983 files, 3 cents per printed item, minimum charge $3,
LSTM file, 5 cents per printed item, minimum charge $5.

The AAEC accounts department has a bi-fortnightly accounting period. Invoices should therefore be received approximately every four weeks, and not at the end of each month.

The charges accumulated during any search session may be displayed at any time by typing the character '$'. The total charge for the session is displayed immediately following logoff. These amounts are only approximate and may differ from those appearing on invoices by a very small amount. The difference is due to the cost of computer processing between password entry and database period selection during logon, and between a request to end a search session and disconnection from the computer.

9. INDEX

APPENDIX A.

INIS SUBJECT CATEGORIES

A00 - PHYSICAL SCIENCES
- **A10 - GENERAL PHYSICS**
  - **A11** - Theoretical Physics
  - **A12** - Atomic and Molecular Physics
  - **A13** - Solid State and Fluid Physics
  - **A14** - Plasma Physics and Thermonuclear Reactions
  - **A15** - Astrophysics and Cosmology, Cosmic Radiation
  - **A16** - Direct Energy Conversion
  - **A17** - Low-Temperature Physics
- **A20 - HIGH ENERGY PHYSICS**
  - **A21** - Elementary Particles (Theory)
  - **A22** - Elementary Particles (Experimental)
- **A30 - NEUTRON AND NUCLEAR PHYSICS**
  - **A31** - Neutron Physics
  - **A32** - Radiation Physics
  - **A33** - Nuclear Theory
  - **A34** - Nuclear Properties and Reactions

B00 - CHEMISTRY, MATERIALS AND EARTH SCIENCES
- **B10 - CHEMISTRY**
  - **B11** - Chemical and Isotopic Analysis
  - **B12** - Inorganic, Organic and Physical Chemistry
  - **B13** - Radiochemistry and Nuclear Chemistry
  - **B14** - Radiation Chemistry
  - **B15** - Corrosion
  - **B16** - Fuel Processing and Reprocessing
- **B20 - MATERIALS**
  - **B21** - Metals and Alloys (Production and Fabrication)
  - **B22** - Metals and Alloys (Physical Properties and Structure)
  - **B23** - Ceramics and Cermets
  - **B24** - Other Materials
  - **B25** - Radiation Effects on Physical Properties of Materials
- **B30 - EARTH SCIENCES**
  - **B31** - Land
  - **B32** - Water
  - **B33** - Atmosphere

C00 - LIFE SCIENCES
- **C10 - ALL EFFECTS AND VARIOUS ASPECTS OF EXTERNAL RADIATION IN BIOLOGY**
  - **C11** - Effects of External Radiation on Biochemicals and Cell Tissue Cultures
  - **C12** - Effects of External Radiation on Microorganisms
  - **C13** - Effects of External Radiation on Plants
  - **C14** - Effects of External Radiation on Animals
  - **C15** - Effects of External Radiation on Man
- **C20 - RADIONUCLIDE EFFECTS AND KINETICS**
  - **C21** - Toxicology, Tissue Distribution, Metabolism, and Removal of Radionuclides
  - **C22** - Radionuclide Ecology
- **C30 - TRACER STUDIES IN LIFE SCIENCES**
  - **C31** - Novel Tracer Techniques
- **C40 - APPLIED LIFE SCIENCES**
  - **C41** - Plant Cultivation and Breeding
  - **C42** - Pest and Disease Control
  - **C43** - Food Protection and Preservation
  - **C44** - Animal Husbandry
  - **C45** - Other Applications of Radiations and Radioisotopes in the Life Sciences
- **C50 - HEALTH, SAFETY AND ENVIRONMENT**
  - **C51** - Actual Radiation Accidents
  - **C52** - Radiation Hazards and Safety Evaluations of Nuclear Installations
  - **C53** - Radiation Protection Standards
  - **C54** - Radiation Protection Procedures
  - **C55** - Personnel Dosimetry and Monitoring
- **C60 - RADIATION AND NUCLEAR TECHNIQUES IN MEDICINE**
  - **C61** - External Radiation in Medical Diagnosis
  - **C62** - Unsealed Radionuclides in Medical Diagnosis
  - **C63** - External Radiation in Medical Therapy
  - **C64** - Unsealed Radionuclides in Medical Therapy

D100 - ISOTOPES, ISOTOPE AND RADIATION APPLICATIONS
- **D10 - ISOTOPES AND RADIATION SOURCES**
  - **D11** - Production of Enriched Uranium
  - **D13** - Other Isotope Production and Enrichment
  - **D14** - Radiation Sources
  - **D15** - Radiation Source Metrology
- **D20 - ISOTOPE AND RADIATION APPLICATIONS**
  - **D21** - Power Production
  - **D22** - Industrial Applications, Radiometric
  - **D23** - Industrial Applications, Radiation Processing
  - **D24** - Tracer Techniques

E00 - ENGINEERING AND TECHNOLOGY
- **E10 - ENGINEERING**
  - **E11** - Thermodynamics and Fluid Flow
  - **E12** - Cryogenics
  - **E13** - Structure and Equipment
  - **E14** - Nuclear Explosions
  - **E15** - Facilities for Handling of Radioactive Materials
  - **E16** - Accelerators and Storage Rings
  - **E17** - Materials Testing
- **E20 - NUCLEAR REACTORS (GENERAL)**
  - **E21** - Reactor Theory and Calculation
  - **E22** - Reactor Components and Accessories
  - **E23** - Reactor Fuels
  - **E24** - Reactor Control Systems
- **E30 - REACTOR TYPES**
  - **E31** - Power Reactors, Non-Breeding, Light-Water Moderated, Boiling Water Cooled
  - **E32** - Power Reactors, Non-Breeding, Light-Water Moderated, Non-Boiling Water Cooled
  - **E33** - Power Reactors, Non-Breeding, Graphite-Moderated
  - **E34** - Power Reactors, Non-Breeding, Otherwise Moderated or Unmoderated
  - **E35** - Power Reactors, Breeding
  - **E36** - Research and Test Reactors, including Experimental and Training Reactors
  - **E37** - Production Reactors and Irradiation Reactors
  - **E38** - Mobile, Propulsion, Transportable and Package Reactors
- **E40 - INSTRUMENTATION**
  - **E41** - Particle and Radiation Detection and Measuring Instruments and Methods
  - **E42** - Other Nuclear Instrumentation and Methods of Measurement
  - **E43** - Radiation Effects on Instruments, Components or Electronic Devices
- **E50 - WASTE MANAGEMENT**
  - **E51** - Waste Treatment
  - **E52** - Waste Disposal

F00 - OTHER ASPECTS OF NUCLEAR ENERGY
- **F10 - ECONOMICS**
  - **F11** - Nuclear Power Economics
  - **F12** - Reactor Fuel Economics
- **F20 - NUCLEAR LAW**
  - **F21** - Radioactive Materials
  - **F22** - Nuclear Installations
  - **F23** - Radiation Health
  - **F24** - Transport and Storage of Radioactive Materials
  - **F25** - Liability for Nuclear Damage
  - **F27** - Organization and Administration of Nuclear Activities
  - **F28** - Nuclear Disarmament and Safeguards
- **F30 - NUCLEAR DOCUMENTATION**
  - **F31** - Data Handling
  - **F32** - Literature Handling
- **F40 - SAFEGUARDS AND INSPECTION**
  - **F41** - Technical Aspects
  - **F42** - Non-Technical Aspects
- **F50 - MATHEMATICAL METHODS AND COMPUTER CODES**
  - **F51** - Nuclear Computation and Simulation
- **F60 - MISCELLANEOUS**
  - **F61** - General Relevant Documents

APPENDIX B.

SAMPLE SEARCH SESSION

The following search was performed in response to a request for information on nuclear power plant siting. The requestor and the searcher collaborated during search strategy development. It should be noted that only terms contained in the hierarchical INIS Thesaurus and in the language and subject category fields were used in this search. A colon denotes the system prompt and an asterisk is used for the truncation symbol. The underlined words are those keyed in by the searcher.

```
:********
ID: ********
$#INIS
AAEC INIS Database, 1972-1983(February)
---------------------------------------
Help available, (help or h)

Select database period(7273,...,8283,or LSTM)
Period :8283

INIS 8283 Database

:1 nuclear power plants                                    ..(1)
            1444 hits

:find site *                                               ..(2)
        SITE APPROVALS [48; 48]
          RT    LICENSES
          RT    NUCLEAR FACILITIES
          RT    REACTOR SITES
          RT    SITE SELECTION
        :
        SITE SELECTION [2167; 2167]
          (See also descriptors for
          concepts involved in site
```

(1) The first query is for items containing INIS Thesaurus term 'nuclear power plants' and associated narrower terms.

(2) The online thesaurus is used to find which keywords contain the strings 'site....' and '....sites'.

```
          selection, such as
          ENVIRONMENT, SEISMOLOGY and
          SOILS plus LIQUEFACTION.)
          UF   -REACTOR SITING
          RT    ACCIDENTS
          RT    ENVIRONMENT
          RT    LAND USE
          RT    LICENSING
          RT    METEOROLOGY
          RT    OFFSHORE NUCLEAR POWER PLANTS
          RT    OFFSHORE SITES
          RT    PLANNING
          RT    REACTOR SAFETY
          RT    REACTOR SITES
          RT    SITE APPROVALS
        :
        Done

:2 site *                                                    ..(3)
             201 hits

:find * sites                                                ..(4)
         ABANDONED SITES [68; 68]
           RT    LAND RECLAMATION
         :
         INSTALLATION SITES [0; 0]
           (If appropriate,use one of the
           specific types of facilities.)
           USE   NUCLEAR FACILITIES
         :
         NUCLEAR INSTALLATION SITES [0; 0]
           (If appropriate,use one of the
           specific types of facilities.)
           USE   NUCLEAR FACILITIES
         :
         OFFSHORE SITES [119; 119]
           RT    COASTAL WATERS
           RT    ESTUARIES
           RT    OFFSHORE NUCLEAR POWER PLANTS
           RT    REACTOR SITES
           RT    SEAS
           RT    SHORES
           RT    SITE SELECTION
           RT    TERRITORIAL WATERS
         :
```

(3) Terms beginning with 'site' are introduced into the strategy.

(4) Terms ending in 'sites' are also introduced with the exclusion of 'abandoned sites'.

```
REACTOR SITES [2177; 2177]
  UF   -SITES (REACTOR)
  RT    ENVIRONMENT
  RT    OFFSHORE NUCLEAR POWER PLANTS
  RT    OFFSHORE SITES
  RT    SITE APPROVALS
  RT    SITE SELECTION
  RT    UNDERGROUND NUCLEAR STATIONS
:
Done
```

```
:display                                                    ..(5)
0001  NUCLEAR POWER PLANTS
              1444 hits
0002  SITE *
               201 hits

:3 * sites not abandoned sites
               93 hits

:d
0001  NUCLEAR POWER PLANTS
              1444 hits
0002  SITE *
               201 hits
0003  * SITES NOT ABANDONED SITES
               93 hits

:4 regional analysis                                        ..(6)
               53 hits

:5 1 and (2 or 3 or 4)                                      ..(7)
              106 hits

:browse /1-10                                               ..(8)

          708889 V.13/22 CAT=E33                    TYP=J
               Pexton, A.F. (South of Scotland Electricity Board,
             Glasgow (UK)). THE JUSTIFICATION FOR TORNESS. Nucl. Eng.
             Int. ISSN 0029-5507. (Mar 1981). v. 26(310) p. 38-42.
```

(5) A recap of the strategy so far is given in response to the command 'display', or 'd'.

(6) The requestor then decides to have the term 'regional analysis' included.

(7) The first Boolean combination of keywords is executed.

(8) A sample of the hitlist is examined for relevance.

:

708802 V.13/22 CAT=E30 TYP=B LIT=K
Watabe, M. (Ministry of Construction, Tsukuba, Ibaraki (Japan). Structural Engineering Dept.); Tanaka, H. (Tokyo Electric Power Co., Inc. (Japan). Nuclear Power Construction Dept.); Kato, M. (Japan Atomic Power Co., Tokyo. Construction Dept.); Tohdo, M. (Toda Construction Co., Ltd., Tokyo (Japan). Nuclear Power Div.). SEISMIC DESIGN OF NUCLEAR POWER PLANTS IN JAPAN WITH CONSIDERATION OF STANDARDIZATION. vp.
Societe Francaise d'Energie Nucleaire (SFEN), 75 - Paris; Commission of the European Communities, Brussels (Belgium). STRUCTURAL MECHANICS IN REACTOR TECHNOLOGY. VOL. K(B). Seismic response analysis of nuclear power plant systems. ISBN 0 444 86264 1. Amsterdam, Netherlands. North-Holland Publishing Co. 1981. 400 p.

:

708089 V.13/22 CAT=C52 TYP=J
Tikhomirov, F.A.; Kasparov, S.V.; Moiseev, I.T. (Moskovskij Gosudarstvennyj Univ. (USSR)). PROBLEMS OF RADIOIODINE CHEMISTRY IN SOIL. (In Russian). Voprosy pochevnnoj khimii radioioda. Pochvovedenie. (1981). (no.6) p. 38-47.

:

708083 V.13/22 CAT=C52 TYP=J
Knott, S. SEISMIC TESTING. EPRI J. ISSN 0362-3416. (Oct 1981). v. 6(8) p. 14-19.

:

706463 V.13/21 CAT=F23 C22 F22 TYP=B LIT=K
Brosche, D. (Bayernwerk A.G., Muenchen (Germany, F.R.)). LEGAL PROBLEMS IN THE CONCRETISATION OF THE FUNDAMENTAL REQUIREMENTS ON RADIATION PROTECTION. 4. PAPER. (In German). Rechtsfragen im Zusammenhang mit der Konkretisierung der Strahlenschutzgrundsaetze. 4. Referat. p. 131-147.
Lukes, R. (ed.). 6. GERMAN SYMPOSIUM ON ATOMIC ENERGY LAW. Proceedings. 6. Deutsches Atomrechts-Symposium. Referate and Diskussionsberichte. ISBN 3-452-18797-7. Koeln, Germany, F.R. Heymanns. 1980. 457 p.
Recht-Technik-Wirtschaft Schriftenreihe.

:

706435 V.13/21 CAT=F22 TYP=J
Kroencke, D. THE LICENSING OF NUCLEAR POWER PLANTS SUBJECT TO CONSTRUCTION PLANNING LEGISLATION. (In German). Die planungsrechtliche Zulaessigkeit von Kernkraftwerken.

```
      Umw. Planungsrecht. (Jan 1982). v. 2(1) p. 10-13.
:

  706399 V.13/21 CAT=F22 C52                    TYP=I
      Dorset County Council, Dorchester (UK). CONTROLS ON THE
    BUILDING AND RUNNING OF NUCLEAR POWER STATIONS. 1981. 8 p.
      Nuclear Power Stations information paper. no.1.
:

  705656 V.13/21 CAT=C52                        TYP=B
      Ehjchkholz, D. SITE SELECTION FOR NUCLEAR POWER PLANTS.
    (In Russian). Vybor ploshchadki dlya AEhS. p. 14-23.
      Rast, D.; Viver, L. (eds.). Georgia Inst. of Tech.,
    Atlanta (USA). NUCLEAR POWER SAFETY. Bezopasnost' yadernoj
    ehnergetiki. Moscow. Atomizdat. 1980.
    Translation from English.
:

  705573 V.13/21 CAT=C52 B30                    TYP=I
      Bruessermann, K.; Eschhaus, M.; Kreymborg, A.; Muenster,
    M.; Schommer, N. Gesellschaft fuer Umweltueberwachung
    m.b.H., Aldenhoven (Germany, F.R.). DEVELOPMENT OF AN
    EDV-SUPPORTED DECISION INSTRUMENT FOR SITE-PRE-SELECTION OF
    NUCLEAR POWER PLANTS. EDV-SUPPORTED INSTRUMENT FOR
    CALCULATION OF THE SPACE DISTRIBUTION OF THE COLLECTIVE DOSE
    RATE AND AREA CONTAMINATION. VOL. 2. (In German).
    Entwicklung eines EDV-unterstuetzten
    Entscheidungsinstruments zur Standortvorauswahl von
    Kernenergieanlagen. EDV-Instrumentarium fuer die Berechnung
    der raeumlichen Verteilung der Kollektivdosis und
    Flaechenkontamination. Bd. 2. Bevoelkerung und Infrastruktur
    an Standorten von Kernenergieanlagen in der Bundesrepublik
    Deutschland. Dec 1980. 264 p.
:

  703505 V.13/20 CAT=E32 F61                    TYP=J
      Hughes, N. WILL THERE BE ENOUGH FUEL TO FEED KOEBERG.
    Eng. Week. (22 Jul 1982). v. 4(28) p. 8, 17.
:
Done

:d
0001  NUCLEAR POWER PLANTS
          1444 hits
0002  SITE *
           201 hits
0003  * SITES NOT ABANDONED SITES
            93 hits
0004  REGIONAL ANALYSIS
```

```
                53 hits
0005  1 AND (2 OR 3 OR 4)
               106 hits

:6 lan=russian or offshore* or underground*                    ..(9)
            12804 hits

:7 5 not 6
                81 hits

:clear 6                                                       ..(10)
   1 line(s) cleared

:6 lan=russian or offshore* or underground* or cat=e32
            13900 hits
0007  5 NOT 6                                                 ..(11)
                74 hits

:d
0001  NUCLEAR POWER PLANTS
              1444 hits
0002  SITE *
               201 hits
0003  * SITES NOT ABANDONED SITES
                93 hits
0004  REGIONAL ANALYSIS
                53 hits
0005  1 AND (2 OR 3 OR 4)
               106 hits
0006  LAN=RUSSIAN OR OFFSHORE* OR UNDERGROUND* OR CAT=E32
             13900 hits
0007  5 NOT 6
                74 hits
```

(9) The requestor decides after further browsing that Russian language items or items on offshore or underground plants are not required, so line 6 is introduced to restrict the search. The hitlist from line 5 is reduced by using the Boolean NOT operator (equivalent to AND NOT) in line 7.

(10) The searcher also suggests that included in the restrictions of line 6 should have been items containing subject category E32, the retrieval of which was lowering the search precision. So line 6 is cleared and resubmitted. (The searcher could have produced a separate line containing this restriction followed by a more complex Boolean combination.)

(11) The system automatically updates query lines that refer to other lines that have been changed in any way. In this case, line 7 is instantly updated by the system.

```
:print 7                                                    ..(12)
Done

:year 7879                                                  ..(13)
INIS 7879 Database
0001  NUCLEAR POWER PLANTS
                3474 hits
0002  SITE *
                 410 hits
0003  * SITES NOT ABANDONED SITES
                 242 hits
0004  REGIONAL ANALYSIS
                 130 hits
0005  1 AND (2 OR 3 OR 4)
                 261 hits
0006  LAN=RUSSIAN OR OFFSHORE* OR UNDERGROUND* OR CAT=E32
               36006 hits
0007  5 NOT 6
                 207 hits

:print 7/1-100                                              ..(14)
Done

:y lstm                                                     ..(15)
INIS LSTM Database
0001  NUCLEAR POWER PLANTS
                 163 hits
0002  SITE *
                  17 hits
0003  * SITES NOT ABANDONED SITES
                   8 hits
0004  REGIONAL ANALYSIS
                   4 hits
0005  1 AND (2 OR 3 OR 4)
                   9 hits
0006  LAN=RUSSIAN OR OFFSHORE* OR UNDERGROUND* OR CAT=E32
                1598 hits
0007  5 NOT 6
```

(12) The results of line 7 are directed to the line printer.

(13) The successful strategy is saved and automatically submitted against an earlier part of the database, by using the command 'year' or 'y' followed by the date range.

(14) The user decides that there is no need to go so far back in the database, so asks for the printout to be limited to the most recent one hundred items.

(15) The latest additions to the database ('lstm' stands for last month) are also searched in a similar way to 14).

7 hits

:b 7/1

708889 V.13/22 CAT=E33 TYP=J

Pexton, A.F. (South of Scotland Electricity Board, Glasgow (UK)). THE JUSTIFICATION FOR TORNESS. Nucl. Eng. Int. ISSN 0029-5507. (Mar 1981). v. 26(310) p. 38-42.

By bringing Torness on line before it is needed to meet load growth, substantial savings in system costs and a more rational use of fossil fuels will be achieved. The Scottish generating capacity and maximum demand into the 1990s is discussed. Torness was found to be a suitable site from the engineering viewpoint and its capability to accommodate further capacity when the need arises. The experience of AGR's in Scotland with regard to operating experience with Hunterston B is reviewed. Lost output due to some stator and windings in the gas circulators is mentioned with on-load refuelling problems and steel corrosion, the latter leading to restriction of output below design value during early operation. (U.K.).

BLOWERS; CORROSION; HUNTERSTON-B REACTOR; NUCLEAR POWER PLANTS; PERFORMANCE; REACTOR COMPONENTS; REACTOR FUELING; SITE SELECTION; TORNESS REACTOR.

:print
:end

END-TASK