APPENDIX I: Summary of RIPL Files

I.1 On-line Access

Numerical files of the Reference Input Parameter Library (RIPL Starter File) are stored at the DEC Alpha server of the Nuclear Data Section, IAEA Vienna. Access, restricted to read only, can be achieved via the Web interface or by using FTP (File Transfer Protocol).

1. Web access
   - http://www-nds.iaea.org/ripl/
2. FTP access
   - ftp iaeand.iaea.org
   - username: ripl

   with no password required.

I.2 Directory Tree

The structure of directories of the RIPL Starter File is shown below in a form of a tree. The main directory is ripl, there are altogether 8 basic directories, including readme and 7 segments with actual numerical data. Each segment (for densities each of 3 subsegments) has 2 subdirectories, for recommended files and for other files.

```
Main Directory  Basic Directory  Subdirectory  Subdirectory
--------------  ---------------  ------------  ------------
                README
                ...............  ............  ............
                MASSES                         RECOMMENDED
                                               OTHER_FILES
                ...............  ............  ............
                LEVELS                         RECOMMENDED
                                               OTHER_FILES
                ...............  ............  ............
                RESONANCES                     RECOMMENDED
                                               OTHER_FILES
                ...............  ............  ............
                OPTICAL                        RECOMMENDED
                                               OTHER_FILES
                ...............  ............  ............
 RIPL                            TOTAL         RECOMMENDED
                                               OTHER_FILES
                                 ............  ............
                DENSITIES        FISSION       RECOMMENDED
                                               OTHER_FILES
                                 ............  ............
                                 PARTIAL       RECOMMENDED
                                               OTHER_FILES
                ...............  ............  ............
```

```
                GAMMA                          RECOMMENDED
                                               OTHER_FILES
                ...............  ............  ............
                ANGULAR                        RECOMMENDED
                                               OTHER_FILES
--------------  ---------------  ------------  ------------
```

The above tree shows the sequence of directories in a way the RIPL Handbook is arranged, rather than in the alphabetical sequence generated automatically by the DEC Alpha computer.

I.3 Directory Names

The RIPL Starter File is located at the disk No 4, therefore the full name of the main directory, as generated by the Open VMS operating system, is UD4:[RIPL]. In the following, we will skip this full notation and indicate plain names only. These names will be sufficient for users, particularly for those accessing the library via the Web interface.

The names of basic directories and subdirectories are as follows:

Basic directory	Comment
README	RIPL readme and RIPL Handbook
MASSES	1st Segment, Masses and Deformations
LEVELS	2nd Segment, Discrete Level Schemes
RESONANCES	3rd Segment, Average Neutron Resonance Parameters
OPTICAL	4th Segment, Optical Model Parameters
DENSITIES	5th Segment, Level Densities (Total, Fission, Partial)
GAMMA	6th Segment, Gamma-Ray Strength Functions
ANGULAR	7th Segment, Continuum Angular Distributions

Each basic directory makes between recommended files and other files by providing two subdirectories

Subdirectory	Comment
*.RECOMMENDED	For recommended files
*.OTHER_FILES	For other files

I.4 Structure of File Names

As a rule, file names are created by coupling together 3 words, yielding full names with the structure

`originator_explanation.type`

As *originator* we use the name of a laboratory if the file came from a participant of the RIPL Coordinated Research Project (CRP). In (a few) cases where files came from individuals outside the CRP, names of these individuals are used. The *ripl* is used for files generated by the whole RIPL team. Thus, the main *originators* are *beijing, bologna, bombay, budapest, jaeri, livermore, losalamos, obninsk* and *ripl.* In addition, the individual originators are *avrigeanu, capote, iljinov, kalbach, kopecky, maslov, mengoni* and *moller.*

Explanation indicates the contents of the file. Since the name of the basic directory serves this purpose, explanation is generally omitted. However, it is always given when more than one file in one subdirectory has the same originator.

Type reflects the type of data in the file:

Type	Comment
dat	Data file
for	FORTRAN source code
gz	Compressed file using gzip (GNU distribution)
readme	Text file
tex	LaTeX file
ps	PostScript file

I.5 File Names

Listed below are files with their full names as contained in each basic directory. Each file name has its readme file, however only one readme file is provided for a group of files of the same originator in one subdirectory.

In several instances a subdirectory has its readme file as a short explanation of the contents of the subdirectory, applied to the cases where this is not self-explanatory.

README

File name	Comment
ripl.readme	Brief description of RIPL
ripl_handbook.ps	Handbook, PostScript files (complete and 9 partial files)
ripl_handbook.tex	Handbook, LaTeX files (driver and 9 input files)

1. MASSES: Atomic Masses and Deformations

File name	Comment
all.readme	Recommended file, readme for all files
audi_95.dat	Recommended file, Audi-Wapstra 1995 recommended masses
audi_95.readme	Recommended file
moller.dat	Recommended file, extensive table of Moller et al

```
moller.readme      Recommended file

all.readme         Other file, readme for all files listed below
beijing.dat        Other file, masses only
beijing.readme     Other file
jaeri_deform.dat   Other file, deformations only
jaeri.readme       Other file
```

2. LEVELS: Discrete Level Schemes

```
File name                Comment
-----------------------  ---------------------------------------------
budapest.readme          Recommended file
budapest_levels.dat      Recommended file, discrete level schemes
budapest_cumulative.dat  Recommended file, cumulative number of levels

all.readme               Other file, readme for all files listed below
beijing.dat              Other file, discrete level schemes and branchings
beijing.readme           Other file
bologna.dat              Other file, Bologna nuclear level file
bologna.readme           Other file
jaeri.dat                Other file, level schemes, restricted data set
jaeri.readme             Other file
livermore.dat            Other file, Livermore biological file (A<18)
livermore.readme         Other file
obninsk.readme           Other file
obninsk_branchings.dat   Other file, experimental branchings
obninsk_levels.dat       Other file, experimental levels schemes
```

3. RESONANCES: Average Neutron Resonance Parameters

```
File name       Comment
--------------  ---------------------------------------------
obninsk.dat     Recommended file, s-resonance parameters
obninsk.readme  Recommended file

all.readme      Other file, readme for all files listed below
beijing.dat     Other file, resonances and other parameters
beijing.readme  Other file
minsk.dat       Other file, resonance parameter for actinides
minsk.readme    Other file
```

4. OPTICAL: Optical Model Parameters

```
File name             Comment
--------------------  ---------------------------------------------
losalamos.readme      Recommended file
losalamos_omlib.dat   Recommended file, optical model potentials

all.readme            Other file, readme for all files listed below
beijing.dat           Other file, potentials collected in Beijing
beijing.readme        Other file
jaeri.dat             Other file, potentials used in JENDL evaluations
jaeri.readme          Other file
losalamos.readme      Other file
losalamos_omcode.for  Other file, utility code for losalamos_omlib.dat
```

5. DENSITIES: Level Densities

5.1. TOTAL: Total Level Densities

```
File name             Comment
--------------------  ---------------------------------------------
all.readme            Recommended file, readme for all files
beijing.readme        Recommended file
beijing_bs.dat        Recommended file, back-shifted model
beijing_gc.dat        Recommended file, Gilbert-Cameron model
obninsk.readme        Recommended file
obninsk_bcs.dat       Recommended file, superfluid (BCS) model

all.readme            Other file, readme for all files listed below
beijing.for           Other file, retrieval code for Beijing files
beijing.readme        Other file
beijing_bcs.dat       Other file, superfluid (BCS) model
bombay.readme         Other file
bombay_bs.dat         Other file, back-shifted model
bombay_gc.dat         Other file, Gilbert-Cameron model
iljinov.readme        Other file
iljinov_gc.dat        Other File, Gilbert-Cameron model, by Iljinov et al
jaeri.readme          Other file
jaeri_gc.dat          Other file, parameters used in JENDL evaluations
mengoni.readme        Other file
mengoni_gc.dat        Other File, Gilbert-Cameron model, by Mengoni et al
obninsk_bcs.for       Other file, code to calculate BCS densities
obninsk_bcs.readme    Other file
obninsk_bs.dat        Other file, back-shifted model
obninsk_gc.dat        Other file, Gilbert-Cameron model
obninsk_gc_bs.readme  Other file
```

```
moller.readme         Other file
moller_levels.gz      Other file, single-particle levels, compressed
moller_levels.for     Other file, retrieval code for moller_levels.gz
obninsk_micro.for     Other file, code, microscopic total level densities
obninsk_micro.readme  Other file
```

5.2. FISSION: Fission Level Densities

```
File name        Comment
--------------   ---------------------------------------------
maslov.dat       Recommended file, fission barriers
maslov.readme    Recommended file

all.readme       Other file, readme for all files listed below
beijing.dat      Other file, 3 compilations of fission barriers
beijing.readme   Other file
obninsk.dat      Other file, fission barriers from Obninsk
obninsk.readme   Other file
```

5.3. PARTIAL: Partial Level Densities

```
File name            Comment
-------------------  ---------------------------------------------------
avrigeanu.for        Recommended file, code with analytical formulas
avrigeanu.readme     Recommended file

all.readme           Other file, readme for all files listed below
capote_micro.for     Other file, code for microscopic densities
capote_micro.readme  Other file
moller.readme        Other file, microscopic densities, see also 5.1
```

6. GAMMA: Gamma-Ray Strength Functions

```
File name        Comment
---------------  ---------------------------------------------------------
all.readme       Recommended file, readme for all files below
beijing.readme   Recommended file
beijing_gdr.dat  Recommended file, experimental GDR parameters
kopecky.readme   Recommended file
kopecky.dat      Recommended file, exper systematics of strength functions

varlamov.readme  Other file
varlamov.dat     Other file, experimental GDR parameters by Varlamov
```

7. ANGULAR: Continuum Angular Distributions

```
File name                 Comment
------------------------  ----------------------------------------------
all.readme                Recommended file, readme for all files below
kalbach.readme            Recommended file
kalbach_systematics.for   Recommended file, code for Kalbach systematics
losalamos.readme          Recommended file
losalamos_analytical.for  Recommended file, code with analytical
                          expressions based on linear momentum approach
```

APPENDIX II

EXPERIENCE AT LOS ALAMOS WITH USE OF THE OPTICAL MODEL FOR APPLIED NUCLEAR DATA CALCULATIONS

P.G. Young

Report LA-UR-94-3104
Los Alamos National Laboratory
1994

APPENDIX III

STATUS OF OPTICAL MODEL ACTIVITIES AT LOS ALAMOS NATIONAL LABORATORY

P.G. Young

Report LA-UR-95-3654
Los Alamos National Laboratory
1995