GenPMArxs

Code for Generating the PARCS Cross Section Interface File PMArxs

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July, 2003
APPENDIX A
PMAKS and XSEC Format
(version 2.0, revision-01, 10/1/03)

PMAKS file contains XS for one set, which may have one or more history cases and burnup points. XSEC file contains XS for one or more sets. There are 3 cards, i.e. Burnup Information, History case identification and Burnup point identification, are needed in PMAKS file only. The NSET in XS Control Information means number of history cases in PMAKS and means number of XS sets. Everything else is common.

<table>
<thead>
<tr>
<th></th>
<th>Existence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 XS Control Information</td>
<td>Always</td>
</tr>
<tr>
<td>2 Branches Information</td>
<td>Optional</td>
</tr>
<tr>
<td>3 Burnup Information</td>
<td>PMAKS</td>
</tr>
<tr>
<td>XS Set/(History case) wise data</td>
<td>Always</td>
</tr>
<tr>
<td>4 XS Set identification</td>
<td>Always</td>
</tr>
<tr>
<td>5 History case identification</td>
<td>PMAKS</td>
</tr>
<tr>
<td>6 T/H invariant variable block(repeat for burnup)</td>
<td>Always</td>
</tr>
<tr>
<td>6.1 Chi, Chid, inV, Det</td>
<td>Optional</td>
</tr>
<tr>
<td>6.2 Yield</td>
<td>Optional</td>
</tr>
<tr>
<td>6.3 CDF</td>
<td>Optional</td>
</tr>
<tr>
<td>6.4 Group-wise form function</td>
<td>Optional</td>
</tr>
<tr>
<td>6.5 Beta of Delayed neutron</td>
<td>Optional</td>
</tr>
<tr>
<td>6.6 Lambda of Delayed neutron</td>
<td>Optional</td>
</tr>
<tr>
<td>6.7 Decay heat data</td>
<td>Optional</td>
</tr>
<tr>
<td>Reference state data</td>
<td>Always</td>
</tr>
<tr>
<td>7 State identification</td>
<td>Always</td>
</tr>
<tr>
<td>8 XS Data Block (repeated for burnup points)</td>
<td>Always</td>
</tr>
<tr>
<td>8.1 Principal cross sections (tr,ab,tf,kf,fi,chi,inv,xe,sm)</td>
<td>Always</td>
</tr>
<tr>
<td>8.2 Scattering cross sections</td>
<td>Always</td>
</tr>
<tr>
<td>8.3 ADF</td>
<td>Optional</td>
</tr>
<tr>
<td>8.4 Direct energy deposition and J1 factors</td>
<td>Optional</td>
</tr>
<tr>
<td>Control rod branch cases (same structure with Ref. state case)</td>
<td>IBCR&gt;0</td>
</tr>
<tr>
<td>Moderator density branch cases (same structure)</td>
<td>IBMD&gt;0</td>
</tr>
<tr>
<td>Soluble Boron branch cases (same structure)</td>
<td>IBSB &gt; 0</td>
</tr>
<tr>
<td>Fuel temperature branch cases (same structure)</td>
<td>IBTF&gt;0</td>
</tr>
<tr>
<td>Moderator temperature branch cases (same structure)</td>
<td>IBTM &gt;0</td>
</tr>
</tbody>
</table>

*The data in XS Block are original data for reference state, and partials for other branches*
1) XS Control Information
Title NSET NGROUP MDLAY MDCAY MADF MCDF MRODS MCOLA ladf lxes lded lj1f lchi
lchd linv ldet lyld lcdf lgff lbet lamb ldec/
Comment1/Comment2/coment3/comment4/comment5/

Format : (A, 8I,14L/5(A/))
Title =’GLOBAL_V’
NSET number of history cases in PMAXS.
number of XS sets in XESC.
NGROUP Number of energy groups.
MDLAY Maximum number of delay neutron groups for all XS set.
MDCAY Maximum number of decay Heat groups for all XS set.
MADF Maximum number of ADF in each group for all XS set.
MCDF Maximum number of CDF in each group for all XS set.
MRODS Maximum number of rods in computed part of assembly
for all XS set.
MCLOA Maximum number of rod columns in whole assembly for
all XS set.
The following logical flags indicate PMAXS contains the
corresponding data, if it is 'F', then default values, which are given
in following table, will be used in PARCS.
Ladf Assembly discontinuity factor
Lxes Microscopic cross section of Xe and SM
Lded Direct energy deposition fraction, default value 0
Lj1f J1 factor for minimal critical power ratio, default:1
Lchi Fission spectrum, default X(1)=1
Lchd Delay neutron fission spectrum, default Xd(i)=X(i)
Linv Inverse velocity
Ldet Detector response XS, no default
Lyld yield values of I, XE, Pm, the default yield values:
  0.06386,0.00228,0.0113
Lcdf Corner discontinuity factor, default 1
Lgff Group wise power form function, default 1
Lbet Beta, default:0.0002584,0.00152,0.0013908
  0.0030704,0.001102,0.0002584
Lamb Lambda, default: 0.0128,0.0318,0.119,
  0.3181,1.4027,3.9286
Ldec Decay heat beta and lambda, default:
  Beta: 2.35402E-02,1.89077E-02,1.39236E-02
  6.90315E-03,3.56888E-03,3.31633E-03
  Lamb:1.05345E-01,8.37149E-03,5.20337E-04
  4.73479E-05,3.28153E-06,1.17537E-11
Comment1~ Comment5 five line comments for describing content of PMAXS

2) Branches information
Title,IST,IBCR,IBMD,IBSB,IBTF,IBTM
(name,ind,CR(i), MD(i), SB(i), TF(i),TM(i), i=1,NBRA)
Format : (A8,6I4/(2x,A8,2I4,4F10.5)
If this block is default, then IBCR=IBMD=IBSB=IBTF=IBTM=0
Title =’BRANCHES’
IST Branches structure index
IBCR number of control rod branch cases.
IBMD number of moderator density branch cases.
IBSB number of soluble boron branch cases.
IBTF number of fuel temperature branch cases.
IBTM number of moderator temperature branch cases.

NBRA=1+IBCR+IBMD+IBSB+IBTF+IBTM

If NBRA=1, the late part of this block can be defaulted.

Name = 'REFE'/'CRBR'/'MDBR'/'SBBR'/'TFBR'/'TMBR'/

ind index of branches

CR control rod state.

MD Moderator density (g/cc).

SB Soluble boron concentration (ppm).

TF Fuel Temperature (K).

TM Moderator Temperature (K).

3) Burnup information

If this card is default, then NBset=1, NBP(1)=1, BURN(1,1)=0

Title, NBset/

(i, NBP(i), (Burn(j,i), j=1, NBP(i)))

Format : (A8,I4/(2I4,10F8.3/(8x,10F8.3/)))

Title = 'BURNUPS'

NBset number of Burnups sets, default=1

i index for Burnups set

NBP(i) Burnup points in Burnups set i

Burns(j,i) Burnup values.

4) XS Set identification

Title, Series, IST, NADF, NCDF, NCOLA, NROWA, NPART,

PITCH, XBE, YBE, iHMD, Dsat, ARWatR, ARByPa, ARConR

Format : (A,7I,8F)

Title = 'XS_SET'

Series XS set series number

IST Branches structure index

NADF Number of ADF in each group.

NCDF Number of CDF in each group.

NCOLA Number of rod columns in whole assembly

NROWA Number of rod rows in whole assembly

NPART Index for computed part of assembly

0/1/2/3: whole/half/quarter/eighth

See next picture

PITCH rod lattice pitch(cm)

XBE start position for first column rods

YBE start position for first row rods

iHMD initial heavy metal density (g/cc)

Dsat the saturated moderator density

ARWatR the area ration of water rods to coolant

ARByPa the area ration of bypass to coolant

ARConR the area ration of control rods to coolant
5) History case identification
   Only needed in PMAXS
   Title, HCR, HMD, HSB, HTF, HTM
   Formatted : (A8,I4,4F10.5)
   Title = 'HST_CASE'
   HCR = Control rod history
   HMD = Moderator density history (g/cc)
   HSB = Soluble boron History (ppm).
   HTF = Fuel Temperature History (K).
   HTM = Moderator Temperature History (K).

6) T/H invariant variable block
   This block contains 7 subblocks, repeats for all burnup points
   The format of T/H invariant variable block and XS block are dependent on NGROUP
   as follows:
<table>
<thead>
<tr>
<th>NGROUP</th>
<th>Format</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;3</td>
<td>8E12.5</td>
</tr>
<tr>
<td>3</td>
<td>6E12.5</td>
</tr>
<tr>
<td>4</td>
<td>8E12.5</td>
</tr>
<tr>
<td>&gt;4</td>
<td>nE12.5</td>
</tr>
</tbody>
</table>
   where n=NGROUP

6.1 Chi, Chid, inV, Det
   Chi(1..n), Chid(1..n), inV(1..n), Det(1..n) (where n=NGROUP)
   Chi fission neutron spectrum
   Chid Delay fission neutron spectrum
   inV inverse of neutron velocity
   Det Detector response parameter, it is product of cross
   section and local flux ratio.

6.2 Yield of I, Xe, and Pm
   YLDI, YLDXe, YLDPm
   YLDI Effective Iodine Yield
   YLDXe Effective Xenon Yield
   YLDPm Effective Promethium Yield

6.3 CDF
   (CDF(g,j), g=1,NGROUP, j=1,NCDF)
   CDF Corner discontinuity factor.
   For Cartesian:
   If NCDF=8: j=1/2/3/4 = NW/SW/SE/NE
              /5/6/7/8 /W /S /E /N
   If NCDF=5: j=1/2/3 = NW/SW/SE
              /4/5 /W /S
   If NCDF=4: j=1/2/3/4 = NW/SW/SE/NE
   If NCDF=3: j=1/2/3 = NW/SW/SE
   If NCDF=2: j=1/2 = corner/mid
   If NCDF=1: j=1 = corner

6.4 group-wise form function
   ((GFF(g,j), g=1,NGROUP), j=1,NRODS)
   GFF group-wise form function from left to right, from top
to bottom.

It is product of pin flux and fission cross section.

6.5 Beta of Delayed neutron
(BETA(n), n=1,NDLAY),
BETA Effective delayed neutron fraction

6.6 Lambda of Delayed neutron
(LAMBDAC, n=1,NDLAY)
LAMBDAC Decay constant of delayed neutron (/sec).

6.7 Decay heat data
(DBET(n),n=1,NDCAY)
(DLAM(n),n=1,NDCAY),
DBET Fraction of the total fission energy appearing as
decay heat for decay group i.
DLAM Decay constant of decay heat group i. [/sec]

7) State identification
Title, index, IBSET
Format : (A8, 2I4)
Title =’REFERENC’/’CRBRANCH’/’MDBRANCH’/’SBBRANCH’
/’TFBRANCH’/’TMBRANCH’/
index Branch case index
IBSET Burnups Set index

8) XS data block
This block contains 4 subblocks, repeats for all burnup points
The XS block are depend on NGROUP as following:
NGROUP Format
<3 8E12.5
3  6E12.5
4  8E12.5
>4  nE12.5 where n=NGROUP

8.1 Principal cross sections
STR(1..n),SAB(1..n),SNF(1..n),SKF(1..n),XENG(1..n),SM
NG(1..n),SFI(1..n)

STR Transport cross section
SAB Absorption cross sections.
SNF Nu-fission cross section
SKF Kappa-fission cross section
XENG Microscopic capture cross section of Xenon
SMNG Microscopic capture cross section of Samarium
SFI Fission cross section

8.2 Scattering cross sections
((SCT(j,i),j=1,NGROUP),i=1,NGROUP)
Format : (A8/(1p10E12.5/))
Title =’SCA’
SCT(\(j,i\)) scattering xs from group \(j\) to group \(i\).

### 8.3 ADF

\( (\text{ADF}(g,n), g=1, \text{NGROUP}), j=1, \text{NADF}) \)

ADF Assembly discontinuity factor.

For Cartesian:
- If NADF=4: \(j=1/2/3/4 = W/S/E/N\)
- If NADF=2: \(j=1/2 = W/S\)
- If NADF=1: \(j=1 = \text{average}\)

### 8.4 Direct energy deposition and J1 factors

DED(1..4), J1F(1..4)

Format: (8E12.5)

- DED(1) the ratio of DED fraction in coolant and its density
- DED(2) the ratio of DED fraction in water rod and its density
- DED(3) the ratio of DED fraction in bypass and its density
- DED(4) DED fraction in control rod.
- J1F(1) Local Power Peaking Factor.
- J1F(2) Inner J1 factor (for Critical Power Ratio)
- J1F(3) Side J1 factor (for Critical Power Ratio)
- J1F(4) Corner J1 factor (for Critical Power Ratio)
Appendix B

Input Manual of GenPMAXS

1. Input Description

GENPXS uses an input file, following the standard I/O rules of Windows 98/NT or UNIX system. There are several keywords to describe the in the GENPXS input file, which identify the special meaning of input followed by several data. The Table D.1 shows the keywords and the meanings of the data.

Table B.1. The keywords of GENPXS input and their meaning.

<table>
<thead>
<tr>
<th>Index</th>
<th>keyword</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>%JOB_TIT</td>
<td>Problem title</td>
</tr>
<tr>
<td>2</td>
<td>%JOB_OPT</td>
<td>The options of GENPXS program.</td>
</tr>
<tr>
<td>3</td>
<td>%DAT_SRC</td>
<td>The File contains XS data.</td>
</tr>
<tr>
<td>4</td>
<td>%HEL_FMT</td>
<td>Format of HELIOS output file.</td>
</tr>
<tr>
<td>5</td>
<td>%BRANCHE</td>
<td>Numbers of branches</td>
</tr>
<tr>
<td>6</td>
<td>%STATE</td>
<td>State information for history, reference state and all branch cases</td>
</tr>
<tr>
<td>7</td>
<td>%REPL</td>
<td>The reflector information</td>
</tr>
<tr>
<td>8</td>
<td>%JOB END</td>
<td>Job ending flag.</td>
</tr>
</tbody>
</table>

In the GENPXS inputs, there are some general rules. The basic rule is that the all data is given by free format except to the keywords.

1.1. JOB_TITLE

- Format

%JOB_TIT
  PMAXS-file, comments

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>PMAXS-file</td>
<td>Character. The name of the output PMAXS format file. The maximum length is 40.</td>
</tr>
<tr>
<td>Comments</td>
<td>Character. The tile of the problem.</td>
</tr>
</tbody>
</table>

- Example

%JOB_TIT
  PMAXS.C01 "17x17" SMART CORE FUEL ASSEMBLY "08/03/2000"
In the above example, in order to distinguish the integer and character-string, the character strings starting with a numeric data are closed by the double quotation mark. The output PMAXS format file will be created in the name of PMAXS.C01.

1.2. DAT_SRC

- Format

```
%DATA_SRC
   SRC-kind XS-file
```

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
</table>
| SRC-kind | IF -1, PMAXS file with raw cross section data  
          | IF 0, PMAXS file with derivatives  
          | IF 1, HELIOS output |
| XS-file  | Character.  
          | The XS file name for making PMAXS file |

- Example

```
%DAT_SRC
  1  ZENITH.A01
```

In the above example, the name of the source file is ZENITH.A01 and this file contains the HELIOS results.

1.3. JOB_OPTION

This card is need only for SRC-kind>0 in %DATA_SRC card.

- Format

```
%JOB_OPTION
   Ladf Lxes Lded Lj1f Lchi Lchd Linv Ldet Lyld Lcdf Lgff Lbet Lamb Ldec iups
```

The logical flags indicate write or not write corresponding data in to PMAXS file. If the flag is ‘F’, the PMAXS will not contain the corresponding data, and default values, which are given in following table, will be used in PARCS. If the values from XS file are same as default values, user may take ‘F’ to reduce computation cost.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ladf</td>
<td>Assembly discontinuity factor</td>
</tr>
<tr>
<td>Lxes</td>
<td>Microscopic cross section of Xe and SM, No default value</td>
</tr>
<tr>
<td>Lded</td>
<td>Direct energy deposition fraction, default value 0</td>
</tr>
<tr>
<td>Lj1f</td>
<td>J1 factor for minimal critical power ratio, default: 1</td>
</tr>
<tr>
<td>Lchi</td>
<td>Fission spectrum, default X(1)=1</td>
</tr>
<tr>
<td>Lchd</td>
<td>Delay neutron fission spectrum, default Xd(i)=X(i)</td>
</tr>
<tr>
<td>Linv</td>
<td>Inverse velocity, no default value, must be ‘T’ for</td>
</tr>
</tbody>
</table>
transient

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ldet</td>
<td>Detector response XS, no default</td>
</tr>
<tr>
<td>Lyld</td>
<td>yield values of I, XE, Pm, the default yield values are: 0.06386, 0.00228, 0.0113</td>
</tr>
<tr>
<td>Lcdf</td>
<td>Corner discontinuity factor, default 1</td>
</tr>
<tr>
<td>Lgff</td>
<td>Group wise power form function, default 1</td>
</tr>
<tr>
<td>Lbet</td>
<td>Beta, default: 0.0002584, 0.00152, 0.0013908, 0.0030704, 0.001102, 0.0002584</td>
</tr>
<tr>
<td>Lamb</td>
<td>Lambda, default: 0.0128, 0.0318, 0.119, 0.3181, 1.4027, 3.9286</td>
</tr>
<tr>
<td>Ldec</td>
<td>Decay heat beta and lambda, default: Beta: 2.35402E-02, 1.89077E-02, 1.39236E-02, 6.90315E-03, 3.56888E-03, 3.31633E-03, 4.73479E-05, 3.28153E-06, 1.7537E-11</td>
</tr>
<tr>
<td>iups</td>
<td>Integer</td>
</tr>
<tr>
<td>0</td>
<td>keep up scatter XS</td>
</tr>
<tr>
<td>1</td>
<td>remove up scatter XS, modify down scatter XS with HELIOS spectrum</td>
</tr>
<tr>
<td>2</td>
<td>remove up scatter XS, modify down scatter XS with infinite medium spectrum</td>
</tr>
</tbody>
</table>

- Example

```
%JOB_OPTION
T T F F F F F F F F F F 2
```

1.4.—1.7 these section are used for generate PMAXS from HELIOS output

1.4. HEL_FMT

- Format

```
%HEL_FMT
FA-kind Label Width Column XS-file
```

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA_kind</td>
<td>Integer. The flag of assembly type.</td>
</tr>
<tr>
<td></td>
<td>If 0, Side reflector.</td>
</tr>
<tr>
<td></td>
<td>IF -1, Corner reflector (see also %REFL).</td>
</tr>
<tr>
<td></td>
<td>IF 1, fuel assembly</td>
</tr>
<tr>
<td>Label</td>
<td>Integer. Width of label column in Characters.</td>
</tr>
<tr>
<td>Width</td>
<td>Integer. Width of each date columns in Characters.</td>
</tr>
<tr>
<td>Column</td>
<td>Integer. Number of date columns in one block.</td>
</tr>
</tbody>
</table>

- Example

```
%HEL_FMT
1 24 13 8
```
In the above example, the HELIOS output file contains the HELIOS results of the fuel assembly, not reflector assembly. The labels takes 24 columns, and there are at most 8 data in a row, the width for each data is 13 columns.

1.5. BRANCHES

- Format

```plaintext
%BRANCHES
  IBCR  IBMD  IBSB  IBTF  IBTM
```

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IBCR</td>
<td>Integer. Number of control rod branch cases.</td>
</tr>
<tr>
<td>IBMD</td>
<td>Integer. Number of moderator density branch cases.</td>
</tr>
<tr>
<td>IBSB</td>
<td>Integer. Number of soluble boron branch cases.</td>
</tr>
<tr>
<td>IBTF</td>
<td>Integer. Number of fuel temperature branch cases.</td>
</tr>
<tr>
<td>IBTM</td>
<td>Integer. Number of moderator temperature branch cases.</td>
</tr>
</tbody>
</table>

\[ NBRA = 1 + IBCR + IBMD + IBSB + IBTF + IBTM \]

- Example

```plaintext
%BRANCHES
  1 1 4 1 0
```

1.6. STATE

- Format

```plaintext
%STATE
  (name, ind, CR(i), MD(i), SB(i), TF(i), TM(i), i=0,NBRA)
```

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>HIST</td>
<td>Control rod state.</td>
</tr>
<tr>
<td>REFE</td>
<td>Fuel Temperature (K).</td>
</tr>
<tr>
<td>CRBR</td>
<td>Moderator density (g/cc).</td>
</tr>
<tr>
<td>MDBR</td>
<td>Soluble boron concentration (ppm).</td>
</tr>
<tr>
<td>SBBR</td>
<td>Moderator Temperature (K).</td>
</tr>
</tbody>
</table>

- Example

```plaintext
%STATE
  HIST 1 0.000000 0.456652 0.000 900.000 561.220
  REFE 1 0.000000 0.456652 0.000 900.000 561.220
  CRBR 1 1.000000 0.596226 0.000 900.000 561.220
  MDBR 1 0.000000 0.177504 0.000 900.000 561.220
  MDBR 2 0.000000 0.317078 0.000 900.000 561.220
  MDBR 3 0.000000 0.596226 0.000 900.000 561.220
  MDBR 4 0.000000 0.7358 0.000 900.000 561.220
```
1.7. REFL

- Format
  
  %REFL
  
  FA-pitch Shroud-thick

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>FA-pitch</td>
<td>Real. The fuel assembly pitch in [cm].</td>
</tr>
<tr>
<td>Shroud-thick</td>
<td>Real. The thickness of the shroud in [cm].</td>
</tr>
</tbody>
</table>

- Note
  
  If the FA-kind of %HEL_FMT is not -1, then this data is ignored.
  
  If the REFL data is not given, the correction factor becomes 1.0.

- Example
  
  %REFL
  
  21.607 2.23398

In the above example, the fuel pitch and the thickness of shroud are 21.607 and 2.23398 cm, respectively. So, the correction factor becomes 0.8966 by the Eq. (5.8).
2. The Samples input of GENPX S code

2.1. The Sample Input for HELIOS

```plaintext
%JOB_TIT
'bwr_hel.PMAX'   BWR 10X10 FUEL ASSEMBLY
%DAT_SRC
  1  'Zenith.out'
%JOB_OPT
  T  T  T  F  F  F  T  F  T  F  F  T  T F   1
!ad,xe,de,j1,ch,Xd,iv,dt,yl,cd,gf,be,lb,dc,ups
%HEL_FMT
  1 23 13 8
%BRANCH
  1  4  3  2  0
%STATE
  HIST   1  0.000000  0.456652     0.000   933.000   561.220
  REFE   1  0.000000  0.456652     0.000   933.000   561.220
  CRBR   1  1.000000  0.456652     0.000   933.000   561.220
  MDBR   1  0.000000  0.177504     0.000   933.000   561.220
  MDBR   2  0.000000  0.317078     0.000   933.000   561.220
  MDBR   3  0.000000  0.596226     0.000   933.000   561.220
  MDBR   4  0.000000  0.7358       0.000   933.000   561.220
  SBBR   1  0.000000  0.177504  1000.000   933.000   561.220
  SBBR   2  0.000000  0.456652  1000.000   933.000   561.220
  SBBR   3  0.000000  0.7358    1000.000   933.000   561.220
  TFBR   1  0.000000  0.456652     0.000   561.220   561.220
  TFBR   2  0.000000  0.456652     0.000  2000.000   561.220
%JOB_END
```

2.2. The Sample Input for convert raw cross section to partials

```plaintext
%JOB_TIT
'Assembly.PMAX'
%DAT_SRC
  -1  'Transformer.out'
```

2.3. The Sample Input for convert from old format to new format PMAXS

```plaintext
%JOB_TIT
'bwr_hel.PMAX'   BWR 10X10 FUEL ASSEMBLY
%DAT_SRC
  0  'Zenith.out'
```