Release notes for ENDF/B Development p-080_Hg_198 evaluation

December 2, 2016

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT=8031, MF= 1, MT=451 (1): Parsing stopped

     ```
     ERROR(S) FOUND IN MAT=8031, MF= 1, MT=451
        SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      192 TO     196
     ```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=8031, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT=8031, MF= 1, MT=451
        MOD =     1 OUT OF RANGE     0 -     0           RECORD NUMBER     192
     ```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=8031, MF= 3, MT= 5 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=8031, MF= 3, MT=  5
        SECTION  3/  5 NOT IN DIRECTORY                 RECORD NUMBER     252
     ```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=8031, MF= 6, MT= 2 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=8031, MF= 6, MT=  2
        SECTION  6/  2 NOT IN DIRECTORY                 RECORD NUMBER     316
     ```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=8031, MF= 6, MT= 5 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=8031, MF= 6, MT=  5
        SECTION  6/  5 NOT IN DIRECTORY                 RECORD NUMBER    4973
     ```

- `fizcon` Errors:

  1. The mass field (AWI) is incorrectly set.
     MAT=8031, MF= 1, MT=451 (1): Bad mass

     ```
     ERROR(S) FOUND IN MAT=8031, MF= 1, MT=451
         AWI SHOULD BE SET TO  9.98623E-01
     ```

  2. All probability distributions should be normalized to 1, this one isn't.
     MAT=8031, MF= 6, MT= 2 (1): Bad norm (a)

     ```
     ERROR(S) FOUND IN MAT=8031, MF= 6, MT=  2
        CHECK NORMALIZATION=   1.000533 AT E= 3.1000E+07
        CHECK NORMALIZATION=   1.011887 AT E= 5.9000E+07
        CHECK NORMALIZATION=   1.000761 AT E= 6.0000E+07
        CHECK NORMALIZATION=   1.000994 AT E= 8.0000E+07
     ... [1 more lines]
     ```

3. All probability distributions should be normalized to 1, this one isn't.
   MAT=8031, MF= 6, MT= 2 (2): Bad norm (a)

```
ERROR(S) FOUND IN MAT=8031, MF= 6, MT=  2
   CHECK NORMALIZATION=   0.998325 AT E= 8.2000E+07
   CHECK NORMALIZATION=   0.980408 AT E= 8.3000E+07
   CHECK NORMALIZATION=   0.998985 AT E= 8.5000E+07
```

- `linear` Errors:

  1. Negative cross section found
     0: Neg. Sig(E)

```
  Linearize ENDF/B Cross Sections (LINEAR 2015-1)
  -------------------------------------------------------------------------------
  Retrieval Criteria-----------        MAT
  Monitor Mode-----------------        Off
  Minimum Cross Section-------- 1.0000E-10 (Default Option)
... [42 more lines]
```