II.B.4. Direct Capture Component

An externally generated direct capture component may be added to the appropriate cross section types (capture, absorption, and total) by including the phrase

```
ADD DIRECT CAPTURE Component to capture, total, and absorption cross section
```

in the alphanumeric command section of the INPut file. When this command is present, the direct capture component for at least one of the nuclides is provided as a numerical function of energy, in a separate file (the "DRC file"). SAMMY will linearly interpolate as needed between the energy points given.

The format of the DRC file is as follows:

First line:	key word "NUClide Number", followed by an equal sign "=", followed by the nuclide number as specified in the PARameter file.
Second line:	energy (eV), value of direct capture component (barn), in 2F20 format.
Third line:	repeat second line as many times as needed.
Last line:	blank.

These lines may be repeated for each nuclide as needed. Not all nuclides need to be included, but those which are included should be given in the same order as in the PARameter file. (For example, give the direct capture component for nuclides number 2, 4, and 7, rather than 4, 7, and 2.)

The actual value of the direct capture component added to the capture (and total and absorption) cross section for any given nuclide is the product of the value determined from the DRC file and a constant (energy-independent) coefficient whose value is specified as miscellaneous parameter DRCAP. See Table VI B.2 for details.

Test case tr076 contains examples.