

**Summary**

In this unit dose point locations are specified, and any response functions which have to be folded into the calculated spectra are identified.

In cases where the output points are widely dispersed it is usually most efficient to group together points from a localised region. The importance optimisation, which is carried out for the first output point of the group, will then be applicable to all the points currently being calculated. When estimates have been obtained for all the points in the group the calculation proceeds to the next group. The importance function derived for the previous group may be used as a starting guess, if considered appropriate, using the keyword RETAIN.

**Use**

This unit must be omitted if the RANKERN/MCBEND Link Unit 10 is being used.

## Notes for flow diagram: Output Data

- 1 The co-ordinates of the output points are specified with respect to the global axes. Optimisation of the importance data will be carried out using the first output point each group of output points. The keyword MORE introduces a new group of output points. The keyword RETAIN is used to keep the optimisation data from the previous group of output points and use it as a starting guess for the next group of output points.
- 2 This keyword requests group averaging of the dose response function. The default is as defined in item 4 of unit 6 (Material Data).
- 3 NR is the number of response functions.
- 4 Requests gamma-ray or neutron flux to dose-rate conversion factors ( $\mu\text{SV}\cdot\text{h}^{-1}$ ).
- 5 This item is used to specify the data used for the dose rate conversion factors. The default, if this keyword is omitted, are the ICRP-21 values for neutron and gamma-ray response functions. The following ICRP numbers are permitted.

Gamma-ray dose rate:      NICRP = 21 or 51  
Neutron dose rate:        NICRP = 21 or 60

Earlier versions of RANKERN offered ICRP-21 values, for more information refer to the Applications Guide for Dose Conversion Factors in Anisotropic Radiation Fields. ANSWERS/MCBEND(95)18.

- 6 Optional keyword to request the dose rates to be expressed in  $\text{mR}\cdot\text{h}^{-1}$ .
- 7 Use this route if the response group cross sections are to be input directly.

Flow Diagram for Unit 8



