General Remarks on Present US Activities on Fusion Neutronics

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Integral Measurements

- Most of the effort in the past several years focused on US/JAERI collaboration on experiments at FNS.

- Presently, we are completing the documentation.

  - Major reports
  - Special issue of *Fusion Technology*

- Future effort is planned under ITER (and some under IEA). US effort will focus on:

  - Integral measurements of nuclear heating and radioactivity/decay heat in collaboration with other parties (primarily FNS)
  - Support and analysis of shield experiments performed by other parties

Nuclear Heating Codes/Libraries

- A new code to produce kerma factors with capabilities to process ENDF/B VI and to improve energy balance is being developed at UCLA (L. Zhang).

- A new complete library based on ENDF/B VI and thorough examination/selection of data and methods will be produced by end of 1994.

Radioactivity Code

- Plans for improving RAAC code are underway. The effort will involve University of Wisconsin, Argonne National Laboratory and UCLA (in response to urgent ITER request).

- No plan yet for radioactivity library.

Nuclear Data Processing/Library

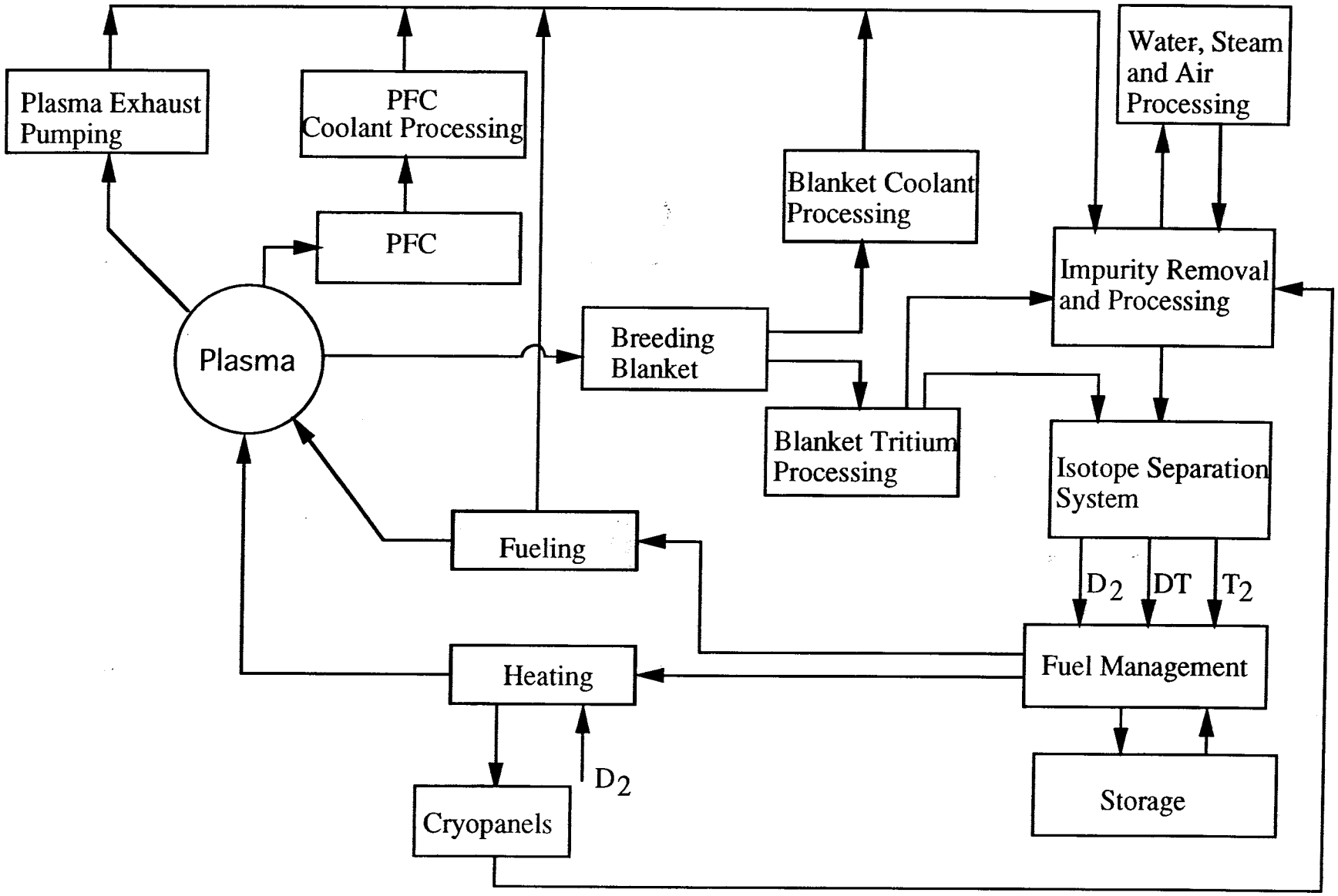
- LLNL is improving NJOY and MCNP to utilize ENDF/B VI.

- A new library of multi-group cross sections based on ENDF/B VI is being prepared.

Fuel Cycle Modelling

- Substantial effort to develop a comprehensive dynamic model and computer code for the complete fuel cycle is underway with collaboration among UCLA (W. Kuan), LLNL (S. Willms) and UC Berkeley (D. Sarigiannis).

- The code provides:
  - design of components in the fuel cycle (e.g. isotopic separation unit);
  - detailed models of tritium recovery/processing;
  - calculation of time-dependent tritium flow rates and inventories.



Fuel Cycle Block Diagram