

Appendix C

Pebble flow is like water flowing in a pipe or river. The flow resistance is highest near the walls, causing a lower velocity. But in the end the water or pebbles reach their destination, resulting merely in some pebbles circulating say four times and others eight times against the planned average of six. For fast flowing pebbles, the pebble power per cycle is lower and for slow flowing it is higher, but all are within the allowable power range.

The factors influencing pebble flow and resting position are well known and can be calculated by software originally developed for other purposes. This computer model gives the variation of packing density from top to bottom and radially and also shows small-scale deviations that are not important. It was found in experiments that after some time, a stable type of pebble lattice would form against the wall, which would not move for a long time. As a result, small dimples have been included in the walls of the THTR and follow-up reactors to break up any lattice formation.