Questionnaire on Phase II

Overall questionnaire

1. Specify the governing transport equations, assumptions and simplifications.

2. Specify the numerical algorithm used (fully implicit, fully explicit; semi-implicit).

3. Specify the two-phase models and formulations used (HEM, drift flux model, two–fluid model, etc.).

4. Specify any optimizations of the code predictions that were performed by adjusting the model parameters to the experimental database.

Phase II – Departure from Nucleate Boiling (DNB) Benchmark

Exercise 1 - Steady-State Fluid Temperature Benchmark

Participant:

Code:

1. Specify the cross-flow models used (diversion flow, void drift and turbulent mixing models).

2. Specify the flow regime map used.

3. Specify the interfacial mass, momentum and energy exchange models.

4. Specify the wall drag and heat transfer models.

5. Specify the spacer grid modeling.

6. If symmetry used, specify the symmetry applied in the model.

7. Specify the nodalization and boundary conditions used.

Phase II – Departure from Nucleate Boiling (DNB) Benchmark

Exercise 1 - Steady-State Critical Power Benchmark

Participant:

Code:

1. Specify the DNB modeling approach (mechanistic model or empirical correlation).

2. Specify the cross flow models (diversion flow, void drift and turbulent mixing models).

3. If symmetry used, specify the kind of symmetry applied in the model.

4. Specify the nodalization and boundary conditions used.

Phase II – Departure from Nucleate Boiling (DNB) Benchmark

Exercise 2 - Transient Critical Power Benchmark

Participant:

Code:

1. Specify the DNB modeling approach (mechanistic model or empirical correlation).

2. Specify the cross flow models (diversion flow, void drift and turbulent mixing models).

3. If symmetry used, specify the kind of symmetry applied in the model.

4. Specify the nodalization and boundary conditions used.