**List of topics which are proposed for**

**Task No. 6.3.1 “ EM to review progress in development of severe accident analysis model for BNPP-1”.**

1.       Modelling thermal-hydraulics

2.       Modelling core heat up

3.       Modelling core oxidation

4.       Modelling core melt progression

5.       Modelling core slumping and relocation

6.       Modelling corium in lower reactor pressure vessel head

7.       Modelling RPV melt through

8.       Modelling corium relocation to cavity including MCCI

9.       Modelling containment thermal-hydraulics and aerosols.

10.   Modelling fission product generation and transport

11.   Modelling containment failure and environmental release

12. Modeling containment by-pass

13. Modeling high-pressure melt ejection and DCH

14. Modeling hydrogen production and combustion

15. Modeling spent fuel pool damages

16. Modeling SAM strategies which result in containment pressurization and sub-atmospheric pressure

17. Validation of input models including examples representing:

17.1. Steady state and transient response

17.2. Assessment of uncertainties and Sensitivity analysis

17.3. Timing of SA events

17.5. Timing of key parameters (integral H2 production, fission product release fraction, peak temperatures and pressure, ...)

17.6. Nodalization qualification

18. Review and evaluation of SA modeling using MELCOR computer code.