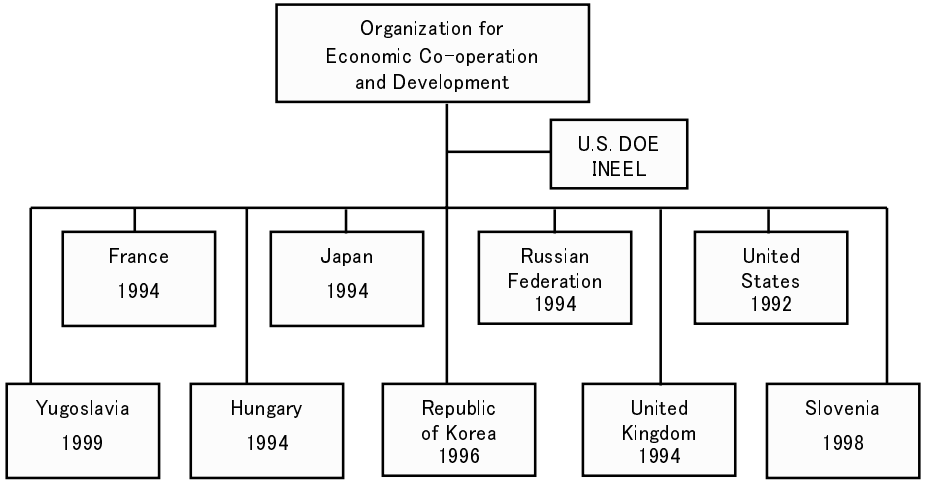


Figure 1 International Criticality Safety Benchmark Evaluation Project

Table 1.1 Distribution of Critical Configurations

System		Thermal Energy<0.625eV	Intermediate 0.625eV≦Energy≦100keV	Fast Energy>100KeV	Mixed
Pu	Metal	–	–	74	–
	Solution	347	–	–	–
	Compound	21	1	6	7
HEU	Metal	29	1	161	6
	Solution	334	2	–	–
	Compound	115	17	–	17
IEU	Metal	–	–	13	–
	Solution	4	–	–	–
	Compound	37	–	–	–

Table 1.2 Distribution of Critical Configurations

System		Thermal Energy<0.625eV	Intermediate 0.625eV≦Energy≦100keV	Fast Energy>100KeV	Mixed
LEU	Metal	13	–	–	–
	Solution	44	–	–	–
	Compound	643	–	–	–
U233	Metal	–	–	10	–
	Solution	31	–	–	–
	Compound	–	–	–	–
MIX	Meta	–	2	38	1
	Solution	42	–	–	–
	Compound	125	–	–	–
SPEC	Metal	–	–	10	–
	Solution	–	–	–	–
	Compound	–	–	–	–

Table 2 International Criticality Safety Benchmark Experiment Evaluation

Evaluation	Case	System	Geometry	Refrector	Poison	U conc. (gU/liter)	U enrichment (wt. %)
HEU-sol-therm-021	8	Homogeneous/Array (N×N×N, N=2.3.4)	Cylinder	paraffin, plexiglas	–	415	92.6
HEU-sol-therm-006	17	Homogeneous	Cylinder	air, water, nickel, borated water	B	293.4～297.8	93.06
HEU-sol-therm-014～019	35	Homogeneous	Cylinder	water	Gd	70～400	89.04
LEU-sol-therm-004	7	Homogeneous	Cylinder	water	–	225.3～310.1	9.97
LEU-sol-therm-007	5	Homogeneous	Cylinder	bare	–	241.9～313.0	9.97
LEU-sol-therm-008	4	Homogeneous	Cylinder	concrete	–	239.8～241.1	9.97
LEU-sol-therm-009	3	Homogeneous	Cylinder	borated concrete	–	244.7～245.2	9.97
LEU-sol-therm-010	4	Homogeneous	Cylinder	polyethylene	–	242.1～243.3	9.97

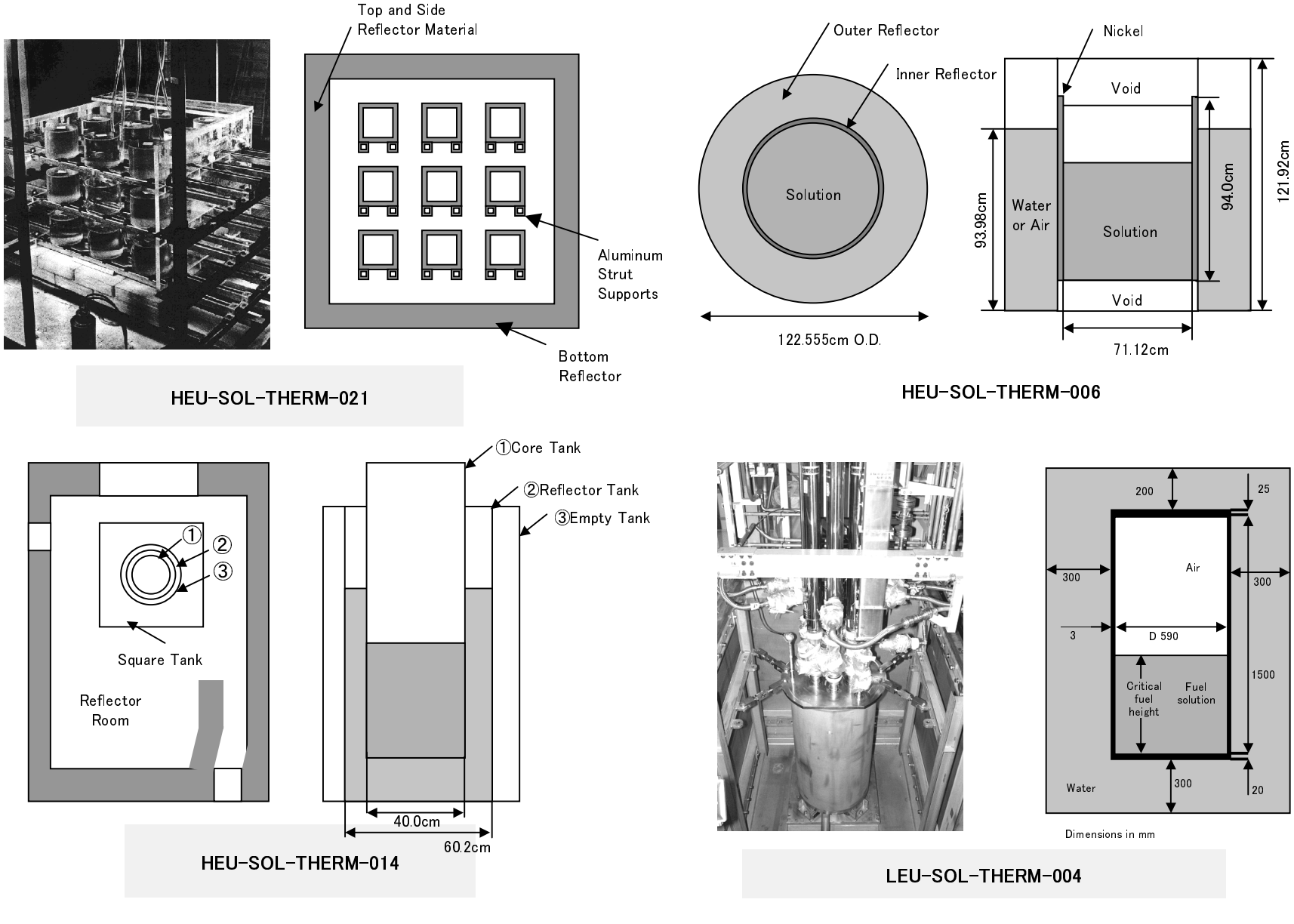
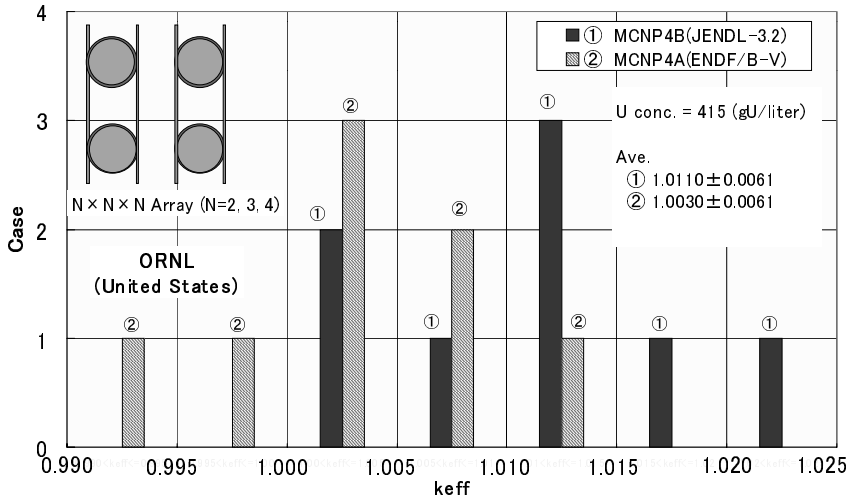
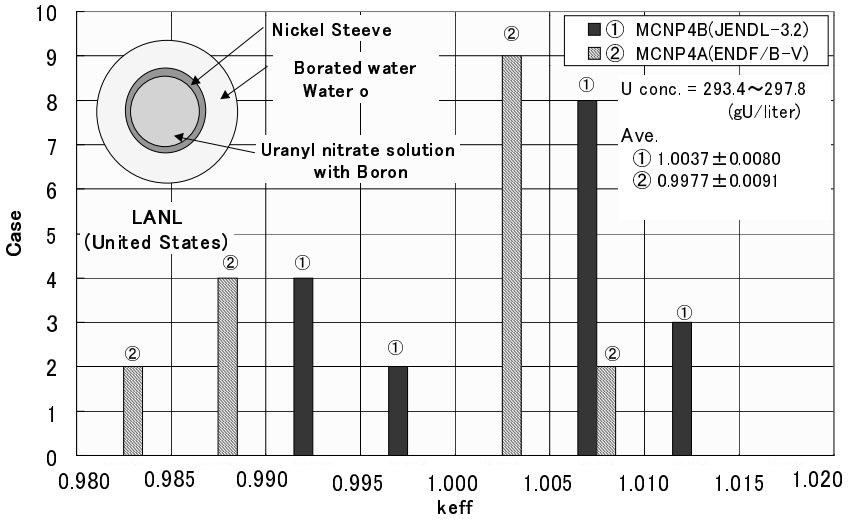


Figure 2　Core Configuration



HEU-sol-therm-021



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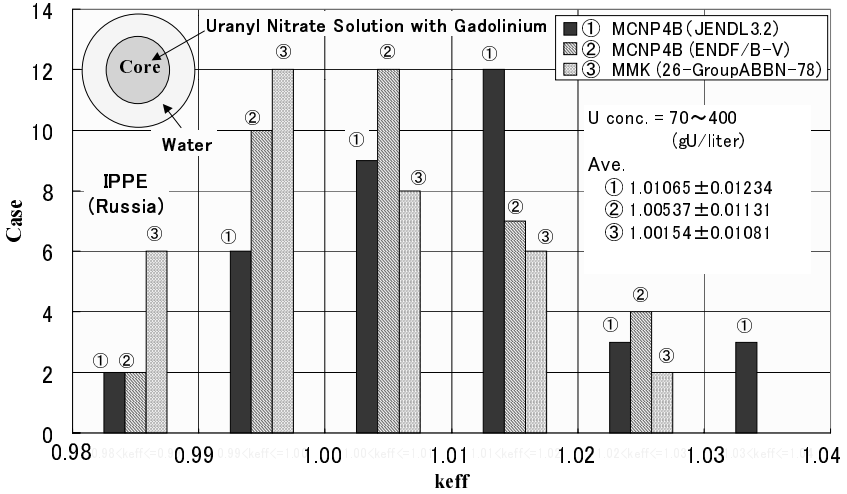
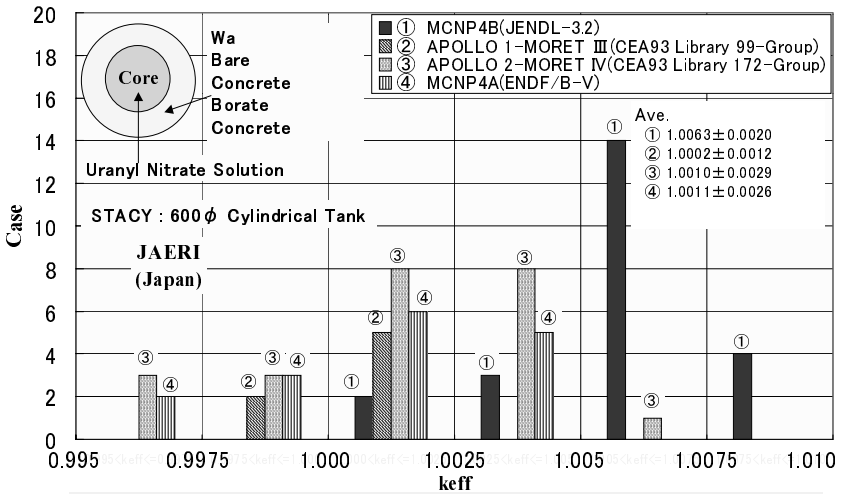


HEU-sol-therm-014 ～019



LEU-sol-therm-004, 007～010

Figure 3　Histogram of Calculation Results