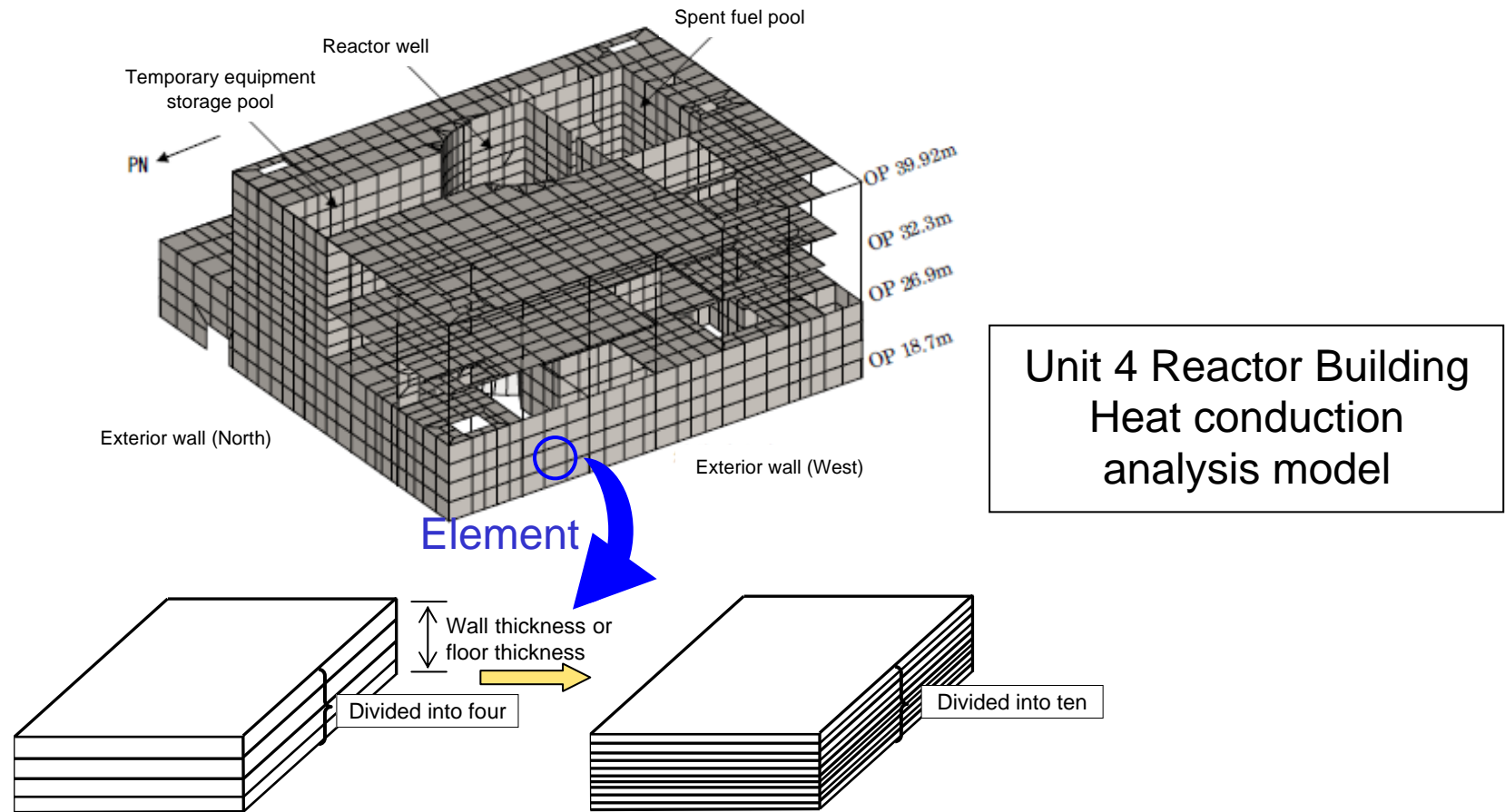


Submission of Report on the Current Seismic Safety and Reinforcement of the Reactor Buildings at Fukushima Daiichi Nuclear Power Station to the Nuclear Regulation Authority (No.1) (Supplement) (Revision 2) to the Nuclear Regulation Authority



Unit 4 Reactor Building
Heat conduction
analysis model

The element is divided into ten instead of four.

[Before revision]

[After revision]

< Reference > December 25, 2012
Tokyo Electric Power Company

Table 4.6.1 Evaluation results of concrete/rebar distortion due to axial force and bending moment (Wall)

Location	Distortion evaluated	Applied load	Distortion generated (x10 ⁻⁶)	Evaluation criteria (x10 ⁻⁶)	Margin	Judgment
W1	c E c	Ss ground motion	-460	-3000	0.16	OK
	s E c		-290	-5000	0.06	OK
	s E t		1500	5000	0.30	OK

Table 4.6.1 Evaluation results of concrete/rebar distortion due to axial force and bending moment (Wall)

Location	Distortion evaluated	Applied load	Distortion generated (x10 ⁻⁶) ε	Evaluation criteria (x10 ⁻⁶) ε'	Ratio* ε / ε'	Judgment
W1	c E c	Ss ground motion	-150	-3000	0.05 ≤ 1	OK
	s E c		-90	-5000	0.02 ≤ 1	OK
	s E t		1180	5000	0.24 ≤ 1	OK

Table 4.6.2 Evaluation results of concrete/rebar distortion due to axial force and bending moment (Floor)

Location	Distortion evaluated	Applied load	Distortion generated (x10 ⁻⁶)	Evaluation criteria (x10 ⁻⁶)	Margin	Judgment
S1	c E c	Ss ground motion	-20	-3000	0.01	OK
	s E c		-110	-5000	0.03	OK
	s E t		370	5000	0.08	OK

Table 4.6.2 Evaluation results of concrete/rebar distortion due to axial force and bending moment (Floor)

Location	Distortion evaluated	Applied load	Distortion generated (x10 ⁻⁶) ε	Evaluation criteria (x10 ⁻⁶) ε'	Ratio* ε / ε'	Judgment
S1	c E c	Ss ground motion	-370	-3000	0.13 ≤ 1	OK
	s E c		-140	-5000	0.03 ≤ 1	OK
	s E t		250	5000	0.05 ≤ 1	OK

Table 4.6.3 Evaluation results of out-of-plane shear force (Wall)

Location	Applied load	Stress generated Q (N/mm)	Evaluation criteria (N/mm)	Margin	Judgment
W2	Ss ground motion	4910	8580	0.58	OK

Table 4.6.3 Evaluation results of out-of-plane shear force (Wall)

Location	Applied load	Stress generated Q (N/mm)	Evaluation criteria Q' (N/mm)	Ratio* Q / Q'	Judgment
W2	Ss ground motion	1120	1860	0.61 ≤ 1	OK

Table 4.6.4 Evaluation results of out-of-plane shear force (Floor)

Location	Applied load	Stress generated Q (N/mm)	Evaluation criteria (N/mm)	Margin	Judgment
S2	Ss ground motion	690	1470	0.47	OK

Table 4.6.4 Evaluation results of out-of-plane shear force (Floor)

Location	Applied load	Stress generated Q (N/mm)	Evaluation criteria Q' (N/mm)	Ratio* Q / Q'	Judgment
S2	Ss ground motion	580	1270	0.46 ≤ 1	OK

The above indicates locations (elements) where the ratio of the "concrete/rebar distortion due to axial force and bending moment" and the "out-of-plane shear force" (margin) is the largest, which have been changed before and after the revision.

* "Margin" is now indicated as "ratio". The calculation is done in the same way and the judgment is "OK" as long as the result is below 1.

⇒ There is a sufficient margin from the distortion and stress generated to the evaluation criteria.

