

October 22, 2008

The Tokyo Electric Power Company, Inc.

**Summary of the Supplementary Report on the Analysis of Seismic Observation
Data Acquired at the Kashiwazaki-Kariwa NPS during the 2007
Niigata-Chuetsu-Oki Earthquake and the Design-Basis Seismic Motion**

1. Introduction

Pursuant to the written instruction[*1] from the Nuclear and Industrial Safety Agency (NISA) of the Ministry of Economy, Trade, and Industry (METI), the Tokyo Electric Power Company, Inc. (TEPCO) analyzed the seismic observation data acquired at the Kashiwazaki-Kariwa Nuclear Power Station (NPS) during the Niigata-Chuetsu-Oki Earthquake of July 16, 2007, and determined the design-basis seismic motion. The results were submitted to NISA on May 22, 2008, as the “Report on the Analysis of Seismic Observation Data Acquired at the Kashiwazaki-Kariwa NPS during the 2007 Niigata-Chuetsu-Oki Earthquake and the Design-Basis Seismic Motion.”

In light of feedback received from NISA’s council[*2] after its deliberation of the report, TEPCO made corrections and submitted them to NISA on September 22, 2008.

Furthermore, TEPCO prepared a supplementary document to this report and submitted it to NISA today. In response to NISA’s notification on the issues to be incorporated into the seismic safety evaluation[*3], this document describes the results of the earthquake hazard assessment, which was conducted to obtain data that should be referred to: the annual exceedance probability of the defined design-basis seismic motion S_s . It also shows the evaluation results of the confirmation seismic motion for reference, in consideration of the draft view of the Nuclear Safety Commission (NSC)[*4].

The following is a summary of the supplementary report.

*1 Instruction to ensure safety at the Kashiwazaki-Kariwa NPS

“ [TEPCO] should continue the analysis of the seismic observation data obtained during the [Niigata-Chuetsu-Oki] Earthquake and the confirmation of the seismic safety of its safety-critical facilities.”

An excerpt from “On Ensuring Safety at the Kashiwazaki-Kariwa Nuclear Power

Station, which Sustained Damages by the 2007 Niigata-Chuetsu-Oki Earthquake,” issued on July 16, 2007 (NISA No. 2, 19-07-16)

*2 Council of NISA, METI

Joint Working Group on Earthquake, Tsunami, Geology, and Ground Foundation under the Seismic and Structural Design Subcommittee, Nuclear and Industrial Safety Subcommittee, Advisory Committee for Natural Resources and Energy

*3 Notification on the issues to be incorporated into the seismic safety evaluation

“[TEPCO] should define the design-basis seismic motion S_s , based on seismic motion that considers source characteristics and subsurface structural characteristics and should refer to the exceedance probability of the design-basis seismic motion that has been defined considering uncertainties.”

An excerpt from “Issues to Be Incorporated into the Seismic Safety Evaluation of Nuclear Power Stations in Light of the Niigata-Chuetsu-Oki Earthquake,” issued on September 4, 2008 (NISA No. 10, 20-08-29)

*4 Draft view of NSC

“[TEPCO] should define, in addition to the design-basis seismic motion, the confirmation seismic motion using an earthquake fault model based on the F-B fault and confirm the validity of the design-basis seismic motion. For evaluation, the recipe for strong motion prediction proposed by the Headquarters for Earthquake Research Promotion in 2008 should be used for setting fault parameters. However, in setting stress drops and the number and location of asperities, the data obtained during the Niigata-Chuetsu-Oki Earthquake should be used as much as possible.”

An excerpt from “Draft View on the Review by the Nuclear and Industrial Safety Agency on the Formulation of the Design-Basis Seismic Motion for the Kashiwazaki-Kariwa Nuclear Power Station,” issued by the Investigatory Advisory Board on Assessment of Seismic Safety on September 25, 2008

2. Summary of the supplementary report

(1) Earthquake hazard assessment

To obtain the exceedance probability of the design-basis seismic motion S_s for the Kashiwazaki-Kariwa NPS, an earthquake hazard assessment was conducted.

As a result, it was found that the annual exceedance probability of the design-basis seismic motion Ss generally ranges from 10^{-4} to 10^{-5} for both the Arahama side (Units 1-4) and the Ohminato side (Units 5-7).

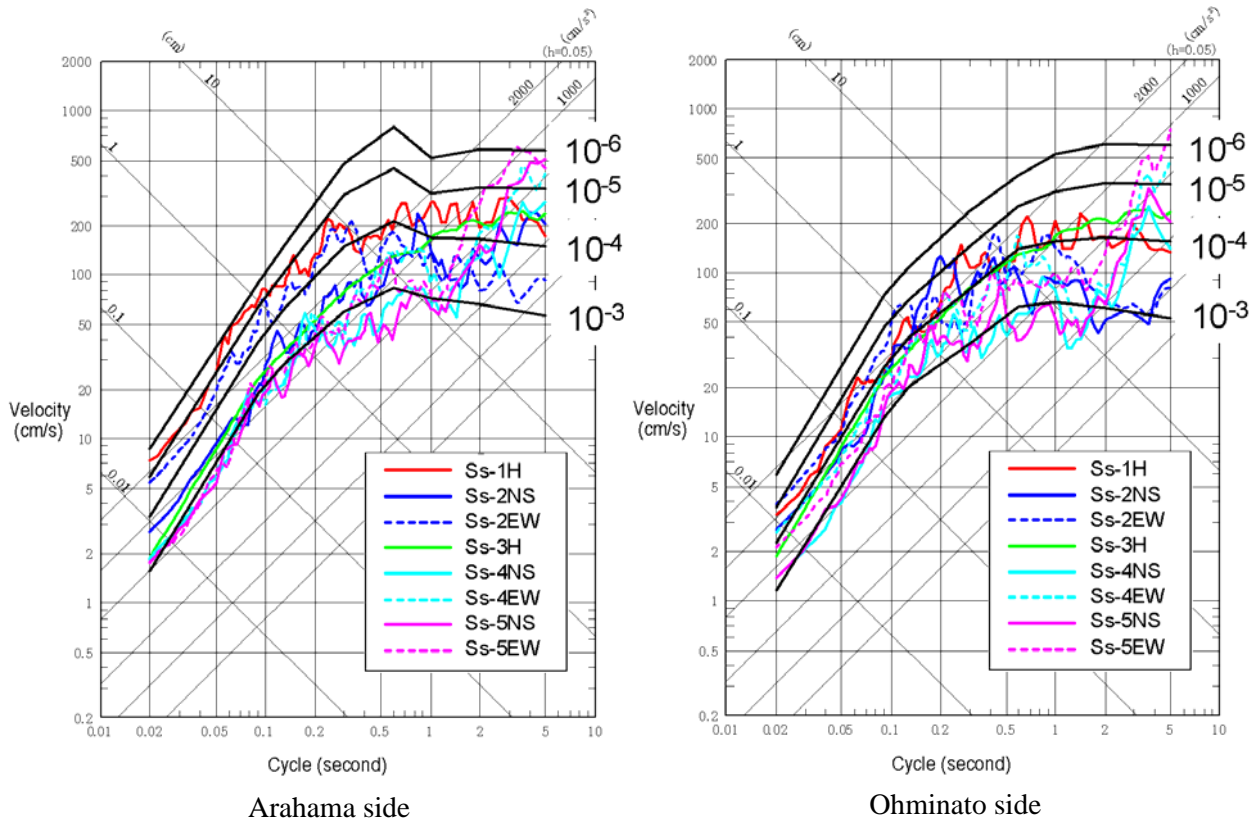
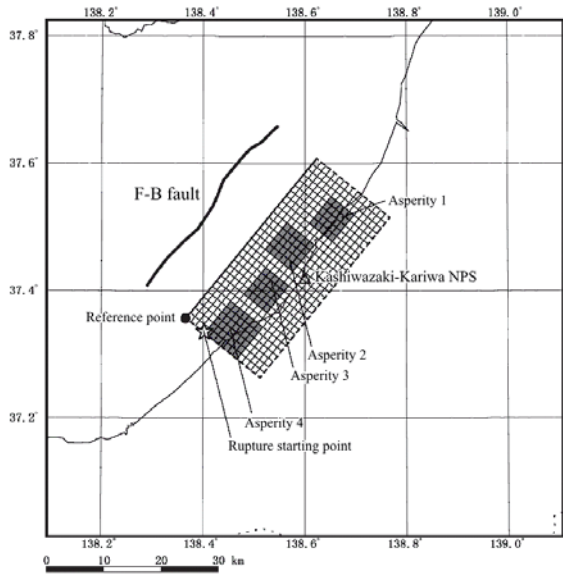


Chart 1: Comparison of the earthquake hazard assessment results and the design-basis motion Ss (sample charts for horizontal motion)

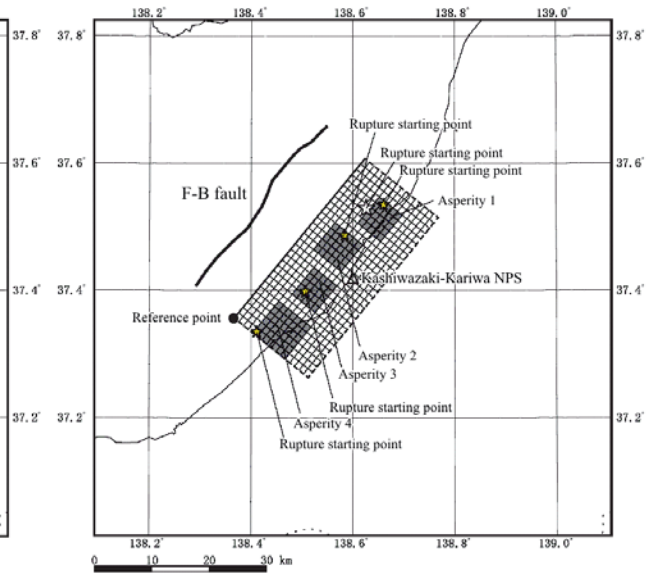
(2) Evaluation of the confirmation seismic motion (for reference)

In light of the draft view of NSC, an evaluation of the confirmation seismic motion was conducted, assuming an earthquake caused by the F-B fault.

As a result, it was found that the properties of the confirmation seismic motion are roughly the same as those of the design-basis seismic motion Ss-2, which is defined based on the results of the seismic motion evaluation using the fault model of an earthquake that could be caused by the F-B fault.



Fault Model 1



Fault Model 2

*Fault Model 1 and Fault Model 2 differ in the form of rupture propagation (e.g., rupture starting point).

Chart 2: Fault models used for the evaluation of the confirmation seismic motion

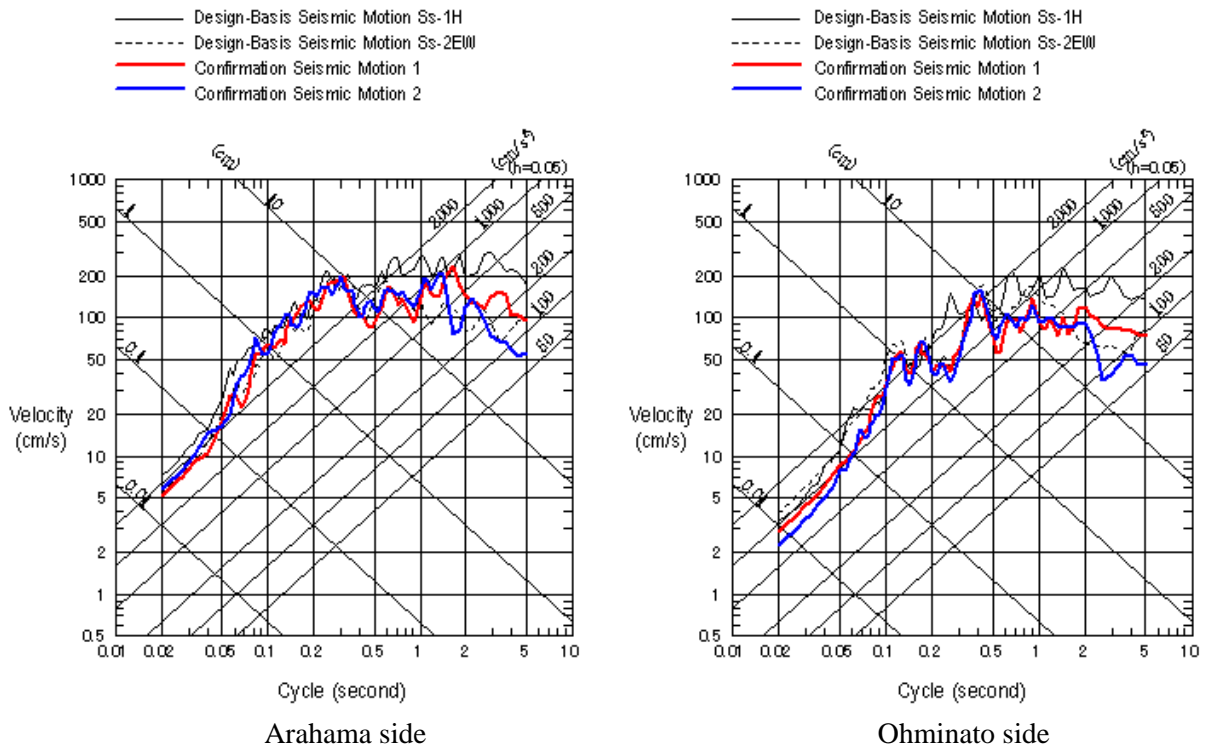


Chart 3: Evaluation results of the confirmation seismic motion
(sample charts for east-west motion)