Broadcasting System Committee, Telecommunications Technology Sub-Council,

Telecommunications Council—10th Meeting

Summary of Minutes

1. Date and Time

Wednesday, December 12, 2007; 10:00–11:30

2. Location

Conference Room 1101, 11th floor

3. Agenda

(1) Confirmation of the summary of minutes of the previous meeting

(2) Technical requirements for gap-fillers as a measure for improved TV broadcasting reception

(i) Release of Action Plan for the Promotion of Digital Broadcasting (No. 8)

(ii) Draft Broadcasting System Committee Report

(3) Other

4. Attendees (honorifics omitted; in no particular order)

Ito (Chair; Tokyo University of Science), Tsuzuku (Vice Chair; Meijo University), Aizawa (National Institute of Informatics), Sato (Tokyo University of Technology), Noda (Japan Cable Laboratories)

Presenters: Ohta (National Institute of Information and Communications Technology), Takano (National Institute of Information and Communications Technology), Ozaki (NHK Integrated Technology Inc.)

Secretariat: Oku, Yamaguchi, Toda, Endo, Takemura (Broadcasting Technology Division, MIC)

5. Documents Distributed

Document 10-1: Broadcasting System Committee (9th Meeting) Summary of Minutes (Draft)

Document 10-2: Action Plan for the Promotion of Digital Broadcasting (No. 8) (Outline of the Action Plan for the Promotion of Digital Broadcasting (No. 8) and gap-filler-related sections in the Plan)

Document 10-3: Outline of the Broadcasting System Committee Report

Document 10-4: Draft Report from the Broadcasting System Committee, Telecommunications Technology Sub-Council, Telecommunications Council

Document 10-5: Procedures for submitting opinions on the Draft Broadcasting System Committee Report

6. Meeting Summary

After introduction of the presenters and confirmation of the distributed documents, the agenda items were discussed as follows:

(1) Confirmation of the summary of minutes of the previous meeting

The Broadcasting System Committee (9th Meeting) Summary of Minutes (Draft) was approved.

(2) Technical requirements for gap-fillers as a measure for improved TV broadcasting reception

(i) Release of Action Plan for the Promotion of Digital Broadcasting (No. 8)

The Secretariat explained the outline of the Action Plan for the Promotion of Digital Broadcasting (No. 8), which the National Conference for Promotion of Terrestrial Digital Broadcasting released on November 30, based on Document 10-2.

(ii) Draft Broadcasting System Committee Report

Based on Document 10-3, Vice Chair Tsuzuku and the Secretariat outlined the Broadcasting System Committee Report. Subsequently, the following questions and answers were made:

Q (by Sato): On page 1, it says “broadcasters or persons other than broadcasters.” That means everyone can install gap-fillers. Some type of qualification must be required.

A (by Secretariat): The laws and regulations do not require qualifications, but prohibit the operation of gap-fillers for profit-making purposes. We would like to provide specific examples of “persons other than broadcasters” to make it more explicit.

Q (by Sato): The outline of Action Plan No. 8 on page 6 says, “expected frequency constraints during the ‘simultaneous period (when digital broadcasting and analog broadcasting coexist)’…may cause digital interference.” Does it mean that gap-fillers are to be used only within the simultaneous period, and will become unavailable after the period?”

A (Secretariat): “Repack (channel repackaging)” to be conducted after the simultaneous period may solve some radio interference problems, but will not completely eliminate such problems. Therefore, the use of gap-fillers may continue in some cases.

Q (by Noda): On page 15, it says, “sideband of a gap-filler should be set orthogonal to sideband of a

higher-rank office." Does the higher-rank office mean dominant wave of a higher-rank office in the broadcasting area? There may be cases where the impact of radio waves from stations in other broadcasting areas is stronger than that of a higher-rank office, depending on such factors as geographical characteristics or fading phenomenon. In such cases, should the sidebands be orthogonal to the sideband of a higher-rank office?

A (by Chair Ito): I understand that it refers to the radio wave having the strongest electric field in the area (i.e., dominant direct wave within the area).

A (by presenter Ozaki): In the cases where the sideband of a higher-rank office radio wave is different from the sideband of an interference wave, there will be no benefit in making those sidebands orthogonal to each other. We must examine this on a case-by-case basis.

A (by Chair Ito): The expression, "sideband of a gap-filler should be orthogonal to sideband of a higher-rank office, in principle" (draft report, page 29), has no problem, but if there is a more appropriate expression, we should consider changing the wording.

Q (by Noda): We may need to describe parameters for the reverse bathtub curve on page 12. The draft report does not mention such parameters at all.

A (by Tsuzuku): Parameters used for the calculation are mode 3, guard interval ratio of 1/8, and convolutional code ratio for 64 QAM modulation.

Q (by Chair Ito): What does "residual interference wave" in the figure on page 12 mean?

A (by Vice Chair Tsuzuku): Radio waves received by gap-fillers include interference waves. Desirably, only the dominant wave should be amplified, but unnecessary signals (i.e., interference waves) are sometimes amplified and radiated as well. That is what is referred to as a residual interference wave.

Q (Presenter Ohta): The description in the right-bottom box on page 14 is about digital interference. It should be deleted or modified.

Q (by Chair Ito): In figure 4.1 on page 17, the two red-shaded areas in the smaller ellipse adjacent to the "area of poor reception caused by radio interference" have the DU ratio of around 0 dB. Is it possible to solve poor reception in these shaded areas?

A (by Ozaki): What figure 4.1 illustrates is that there is radio interference between waves from a higher-rank office and an interference wave (represented by the black-shaded ellipse, named "area of

poor reception caused by radio interference"); so a gap-filler station whose sideband is orthogonal to the sideband of a higher-rank office is installed. Even in the neighboring red-shaded small areas, it is possible to solve poor reception by changing the sideband of receiving antennas.

Q (by Sato): The Secretariat explained the case of radio interference caused by radio ducts. I wonder if interference is considered in advance in the circuit design process.
A (by Vice Chair Tsuzuku): In the case of TV broadcasting, the circuit design does not include radio duct, but it does consider 9 dB margins for the time rate (99%) and the location rate (50%).
A (by Sato): In the communications field, there is a radio duct calculation method that can estimate the value at a point 1000 km away, so we may be able to know possible interference areas in advance.

Following these questions and answers, Chair Ito explained that those who have any opinions on matters other than today's agenda should notify the Secretariat of such opinions by the end of December. He also stated that the Secretariat should forward changes made to the draft report to committee members via e-mail and that, when any additional changes are to be made as a result of the public comment procedure starting next week, the chair would consult the Secretariat on how to handle them before making decisions. The committee approved these matters

(3) Other

The Secretariat explained the future schedule as follows:

Submission of any additional opinions from committee members: by the end of December

Public comment procedure (for a period of one month): To be implemented promptly

Broadcasting System Committee—11th Meeting (Friday, January 25, 2008):
To finalize the committee report by considering members' opinions as well as the results of the public comment procedure
To finalize its draft report to submit to MIC

Telecommunications Technology Sub-Council (Thursday, January 321, 2008)
To submit a partial report to MIC