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SUBJECT
Memo: Sub: Second Vienna Caversham circuit

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(13-40)

FORM 3970
2-77

18 December 1981
MAU-1076

MEMORANDUM FOR: Chief, Operations Group

SUBJECT : Second Vienna-Caversham Circuit

1. Planning for the second Vienna-Caversham circuit has now reached the point where I believe we should review both the objectives driving the further enhancement of the present BBC remote monitoring system and the means for reaching these objectives.

2. There seems little doubt on anyone's part that the original Vienna-Caversham link has proved itself efficient in increasing the BBC's ability to meet significant coverage commitments. The addition of a second circuit, allowing more live feeds and thus more timely coverage of sources now handled on a delayed basis, can only work to the overall benefit of FBIS. However, Austrian Bureau managers have, from the beginning of discussions on a second circuit, viewed the establishment of this circuit as an opportunity to seek to reduce the BBC-associated workload now resting on the bureau's technical staff. We fear that utilizing the new circuit as a straight voice circuit, as outlined in LD266 of 10 November 1981, will not yield the hoped-for reduction in human interventions required at present to operate the system. Also, use of the new circuit as a straight voice channel seems to us to underutilize the potentials inherent in having two lines available.

*No. just
not increase
it.*

3. I have asked [] for his thoughts on how the dual objectives of fewer manual interventions and greater system flexibility could be met. [] response is forwarded as an attachment to this memorandum.

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4. In brief, what is being proposed is greater FBIS cooperation with the BBC in determining the technical aspects of the Vienna end of the two circuits (and any others that might be added later). We would like to see FBIS move to initiate the upgrading of the remote capabilities of the Vienna-Caversham circuits by expressing a willingness to put into place equipment familiar to FBIS personnel at the Vienna end of the circuit and encouraging the BBC to interface a true remote monitoring system with the FBIS equipment. Simply viewing Vienna as a site at which BBC equipment has been emplaced neither fits present circumstances nor takes into account FBIS' growing body of knowledge and skill in remote monitoring operations. Direct FBIS participation in creating a true remote capability for the Vienna-Caversham links would prevent the carrying of the deficiencies of the present circuit into the two-circuit configuration.

5. I recommend that an in-depth look at proposal be taken by FBIS Headquarters with a view to timely implementation of the steps necessary to giving the present largely ad hoc technical arrangement a truly systematic character.

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Chief, Austrian Bureau

Attachment
As stated

cc: Chief, London Bureau
Chief, Engineering Division

Attachment

14 December 1981

MEMORANDUM FOR: Chief, Austrian Bureau

SUBJECT : Second Vienna-Caversham Circuit

1. This memorandum responds to your concern about the second Vienna-Caversham circuit regarding how the Austrian Bureau can obtain fewer manual interventions and provide greater system flexibility for FBIS and the BBC. As a starting point for discussion, I have outlined in paragraphs 6 through 9 what I feel are deficiencies in the existing Vienna-Caversham circuit, technical requirements and goals for a second circuit, types of channels required, and terminal equipment which could now accomplish these requirements. I believe a technical system built around this outline would meet your objectives.

2. Although the present circuit has remote capabilities, it should actually be classified as a manual remote feed system with limited remote capabilities. It can be compared to a limited degree to the Bangkok [] manual remote feed system, reviewed briefly in paragraph 3.

3. The [] boardmen tune and feed approximately 39 source receivers throughout fourteen nine-hour-shifts a week. The sources are fed 20 miles to the [] via 30 dedicated microwave voice channels and the boardmen are constantly coordinating activities with [] via a direct phone system. The [] board operation and maintenance is accomplished using five boardmen and one full-time technician, which contrasts to only four boardmen in Vienna, even though Austrian Bureau boardmen are responsible for 29 source receivers at the board position. In addition, Austrian Bureau technical personnel are responsible for repair and maintenance of the bureau's 15 monitor position receivers throughout fourteen eight-hour-shifts a week. Just as the [] boardmen maintain contact with [] Austrian Bureau boardmen coordinate with the BBC via a direct phone system. This coordination can, however, be done only during vacant periods in the schedule. After subtracting operational board duties, annual leave, sick leave and holidays, there are barely three shifts per week available for repair and maintenance of Austrian Bureau equipment. This forces the Vienna boardman/technician to attempt maintenance and repair during board shifts, the scheduling for which allows only limited periods of free time.

4. A large portion of the Austrian Bureau board success can be attributed to the dedication of the four Austrian Bureau technicians/boardmen who make the system work. However, loss of this dedication, a prolonged illness, or an unexpected departure could upset the existing

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delicate balance, for which there is only limited backup, and could leave me like the Little Dutch Boy trying to prevent a major system failure. 35.

5. I believe there are two directions (or a combination of these two directions) which can be followed: either continue the present manual remote feeds but increase technician/boardmen staffing to cover the workload; or attempt to reconfigure the VCVC system into a more remote operation with greater system operational control at the BBC end, freeing Vienna technicians for more internal operational, maintenance and repair activities. The first approach is simple in theory but would require at least an additional Mode position. The second approach is technical and requires more equipment dollars. A combination of the two approaches is also possible, such as a part-time contract boardman in concert with a more remote VCVC system. The following paragraphs address the technical problems and requirements of the second direction.

6. Deficiencies of the existing Vienna-Caversham circuit:

A. The present system should be classified as a manual remote feed system with limited remote capabilities, which provides limited backup protection for original source material.

B. Vienna editorial coordination with bureau technicians and message coordination with FBIS/BBC London is time consuming and usually occurs when the editor is busy with other bureau activities. Coordination lead time is often short.

C. The BBC operators' seeming lack of confidence in the remote portion of the system is reflected by Lanier cassette recorder use (or nonuse). The present schedule shows a number of short casts (5 to 10 minutes) that could be recorded on Lanier cassette recorders, but which are recorded by bureau technicians and manually fed to BBC shortly after the cast is finished.

D. Technician coordination with the BBC via the VCVC telephone can occur only between scheduled feeds. Telephone signaling between Vienna and BBC is nonstandard and allows the ring signal to stay on for extended periods when not needed. The editor and technician telephone handsets cannot be used at the same time without a reduction of the signal level. 7

E. Manual feeds to the BBC require excessive technician time and leaves inadequate time between scheduled feeds to perform other Vienna bureau operational and technical activities.

F. BBC equipment used at Vienna is nonstandard to FBIS equipment and requires special considerations for interfaces both physically and

electronically. This includes power line voltages of 240 VAC which must be stepped up from bureau line voltages of 110 and 220 VAC.

G. Signal levels from source casts must be reduced to protect existing matrix FETs from burnout. Nontelephone interface equipment such as the Ten-Tec Signal Analyzer is used for the outgoing signal to Caversham.

H. The present system consists of both off-the-shelf and one-of-a-kind equipment which is not modular and has been modified and remodified several times with only handwritten/drawn documentation.

I. The bureau has limited spare equipment for the existing VCVC system.

J. The present system has no capability for remote receiver control via narrowband FSK channels.

K. The system lacks capability for remote antenna selection. ⁹¹

7. Technical requirements for the second Vienna-Caversham circuit:

In order to reduce the deficiencies of the existing Vienna-Caversham circuit as viewed from Vienna, the second circuit should be built along the following general lines, which would allow the eventual change of equipment used on the first circuit to a more remote and flexible configuration. This would free Vienna editors and technicians from BBC-related tasks that reduce time available for internal bureau activities. ⁷

A. Aim for a technically uncomplicated remote system with high reliability, minimum manual intervention at Vienna, and a high confidence factor at Caversham.

B. Where possible use at each terminal location off-the-shelf documented equipment that conforms to equipment standards used respectively at Vienna and Caversham. *If we provide Caversham the equipment.*

C. Utilize a flexible data control system standardized in data formats used between terminal locations.

D. Configure a 16 X 6 (source X output) matrix system capable of selecting any source with any output. (An output is defined as either a circuit line between Caversham and Vienna or a cassette recorder capable of remote control from Caversham. As an example, with the installation of the second Vienna-Caversham circuit, the six output would be two line circuits and four cassette recorders.)

E. Ensure full backup protection of all original source casts with backup recordings remotely available to Caversham.

F. Install a modular system that can readily accept minor modifications and future changes.

G. Perform maintenance and system modifications locally at Vienna and Caversham respectively.

H. Institute system planning and coordination among Engineering Division, Vienna Bureau, and the BBC.

I. Provide antenna selection capability for any source receiver as needed.

J. Standardize the first two Vienna-Caversham circuits with speech-plus data channels.

K. Remote the existing Collins 651S-1 receivers.

L. Record time code generator data in GMT time on control tracks of all recorders used in the system for recall of casts using GMT time.

8. Types of channels required:

A. Voice Channels (300 - 2400/2600 Hz.) -- Fax, Voice Casts, Telephone and Racal Receiver Control.

B. Data Channels (above 2400/2600 Hz.) -- Bureau Altroute, RTTY, Matrix Control Data, Recorder Control Data, Orderwire and Narrowband FSK Receiver Control.

9. FBIS terminal equipment that can accomplish requirements:

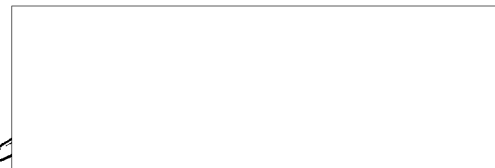
Existing standard FBIS equipment that could be used to accomplish most of the technical requirements listed in graf 7 is noted below. Any FBIS equipment used at Caversham would most likely have to be modified to conform to BBC equipment standards. Similarly, any British equipment used at Vienna (as has already been experienced) would have to be modified to conform to FBIS equipment standards. Mixing standards should be avoided whenever possible, and close attention should be paid to any equipment selection where different equipment standards exist.

A. Speech-Plus, QEI.

B. Frequency Division Multiplex, QEI.

C. Line Termination Equipment, ITI.

- D. Matrix Switching, MATRIX.
- E. Line Filters and Amplifiers, QEI and ITI.
- F. Telephone Equipment, QEI, ITI and GRAYBAR.
- G. Antenna Switching, MATRIX.
- H. Orderwire, EXTEL.
- I. Matrix Data Control, BRAMCO.
- J. Cassette Recorder Control, MAGNASYNC-MOVIOLA.
- K. Cassette Recorder, MAGNASYNC-MOVIOLA.
- L. Multichannel Tape Recorder, MAGNASYNC-MOVIOLA.
- M. Multichannel Tape Recorder Control, MAGNASYNC-MOVIOLA.
- N. Time Code Generator, MAGNASYNC-MOVIOLA.
- O. Collins Receiver Control, DELTA.
- P. Collins Receiver Remote Modification, COLLINS.
- Q. Existing Source Receivers, COLLINS, RACAL, FREDERICK, WATKINS-JOHNSON and METZ.



Chief Engineer, Austrian Bureau

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