33.Supplement No. 11 - Data on cable ships and submersible equipments of various countries.
(Referred to in section 6.3 of Fascicle III.2, amended at Melbourne, 1988.)

The text of Supplement No. 11 has not been included in the final report, but will be printed in the Blue Book at the appropriate place.

ANNEX B

8.2

Note 3 - This value indicates the maximum permissible dispersion for 139 264 kbit/s systems at the limit of the operating wavelength range specified (1270 - 1330 nm). To optimize the system design it may be necessary to limit maximum dispersion at the system operating wavelength to less than 300 ps/nm. This can be achieved by confining the system operating wavelength to a reduced wavelength range close to the fibre dispersion zero.

4.8

Note 1 - The description of the baseband response with a single value (the -3 dB optical bandwidth) may not be sufficient to determine the suitability of the fibre for the specified system. A quasi Gaussian impulse response may be assumed for design purposes but a more detailed description of the fibre response may be necessary in some cases.

Note 2 - In the case of LED systems for the values given in the table the optical fibre is assumed to have a nominal numerical aperture of 0.20-0.21. Additionally, the overall -3 dB optical bandwidth (modal + chromatic) is assumed to be measured with an optical source having a maximum linewidth (FWHM) of 60 nm and 100 nm centred at 850 nm and 1300 nm respectively.

4.7

The calculation of attenuation between points S and R should consider the variation of the optical fibre loss over the actual wavelength range of the optical source.

Note - For single-mode systems operating in the 1300 nm range, the lower wavelength limit is determined from consideration of dispersion and cut-off wavelength effects, while the upper wavelength limit is due to consideration of dispersion and attenuation. In particular it should be noted that the range quoted in this Recommendation is restricted compared to the dispersion range of 1270 - 1340 nm quoted in Recommendation G.652 because of the possibility of OH peak related excess losses. To ensure satisfactory system operation, the cut-off wavelength of the shortest length of cabled fibre in a single-mode elementary cable section must not exceed the operating wavelength. The second order (LP_{11}) mode should be sufficiently attenuated along the fibre such that at the detector modal noise and bimodal dispersion effects are negligible.

4.6

The calculation of attenuation between points S and R should consider the variation of the optical fibre loss over the actual wavelength range of the optical source.

FIGURE

4.1

The digital line systems described in this Recommendation are required to provide error performance in accordance with "section quality classification 1", defined in Recommendation G.921. Recognizing that systems are required to meet a "degraded minute" threshold of at least 1_10^{-6}, and that future systems should be capable of meeting a "degraded minute" threshold of 1_10^{-7}, the transmitter and receiver shall be designed so that a BER not worse than 1_10^{-10} is obtained when operating over an optical path between points S and R corresponding to the relevant values given in Table 1/G.956 for multimode fibre systems and Table 2/G.956 for single-mode fibre systems.

32.Recommendation G.956

1.

FIGURE

2.Type of transmission medium