

REF.	CONTENT
<b>IOR/L/I/1/1213</b>	<b>"Hellschreiber tests (1948)"</b>
Ref. 19A	Letter from R.E. Hughes (General Post Office, Overseas Telecommunications Dept., London) to Mr. M. McLoughlin (C.O.I., London), dated 20 <sup>th</sup> December 1947, 2 pages. Summary: tenders received from 3 manufacturers for the supply of Hell-printers and associated relays (amplifiers); Coventry Gauge & Tool Co. can deliver 20 printers per month, with 16 weeks lead-time; the Factories Dept. of the Post Office can deliver 3 printers with 11 months lead-time, 12 printers per month thereafter (subject to availability of the Klaxon motor); Marconi offers 20 printers of their own design per week, with a 3 months lead-time; Coventry Gauge and the PO Factories Dept. quote same price as current printer contract with Coventry Co., but Marconi quotes double that. The PO Factories Dept. can deliver 3 relays/amplifiers within 11 months and 12 per month thereafter (subject to availability of transformers) at a price 24% above current Pye Telecommunications Ltd contract; Pye quotes price increase of 43% at expiration of its current contract; Marconi quotes a 84% higher price for Marconi-design units than for the current Pye contract, 20 within 3 months, then 20 per week within 10 months; Mr. Jowers of the Foreign Office is enquiring about German printers and relays/amplifiers (with political implications), the suitability of which is still to be determined; recommendation is for accepting Coventry Gauge & Tool Co.'s tender for the printers and the PO Factories Dept. tender for the relays/amplifiers; the Marconi relay/amplifier cannot be used with the PO-designed printer.
Ref. 19B	First page of letter from Mr. M. McLoughlin (C.O.I., London) to Mr. G.F. Crawley (C.R.O. Information Dept., London), dated 2 <sup>nd</sup> February 1948, 1 page. Summary: confirming acceptance by Marconi for an order of 20 relays/amplifiers at £94 each (plus £5 for spare parts), and 20 Hell-printers at £100 each (plus £5 for spare parts).
Ref. 19C	List of London Press Service long & shortwave frequencies (47 Gxx transmitter call-signs) in the 6795-19640 kHz range + 78 kHz; of 90 required Hell-printer sets, 50 have been ordered from Coventry Gauge & Tool Company and 20 from Marconi; Hell-printers are only used for commercial telegrams; station equipment further includes keyboard-perforators for punch tape encoded in Wheatstone format and for tape encoded in Hell tape-format, as well as both Wheatstone and Hell format tape-readers/senders; Eddystone receiver model 385X is not suitable for remote reception via telephone land lines (needed due to local noise interference levels); thermionic relays (amplifiers) must be fully tropic proof; 3 pages.
Ref. 19D	Letter from Mr. M. McLoughlin (C.O.I., London) to Mr. G.F. Crawley (CRO Information Dept., London), dated 8 <sup>th</sup> March 1948, 3 pp. Summary: cost of Marconi Hell equipment - incl. 6 sets of relay/amplifier + printer + paper at £200 per set, 4 used refurbished Marconi CR 100 Mk2 receivers at £34 a piece, ink & ink rollers at £15 per set.
Ref. 19E	Letter from Mr. M. McLoughlin (C.O.I., London) to Mr. G.F. Crawley (CRO Information Dept., London), dated 6 <sup>th</sup> April 1948, 2 pages. Content summary: list of invoiced expenses (ex shipping) for Marconi Hell equipment - incl. 3 sets of relay/amplifier + printer + paper at £179 per set, 3 used wireless receivers model CR 100 plus refurbishment for a total of £34 a piece, ink & ink rollers for £2, paper tape totaling £21, 3 paper tape guides at £3 a piece.
Ref. 19F	Letter from Kenneth Jowers (Director, British Information Services (BIS), Karachi, Pakistan) to Mr. M. McLoughlin (Central Office of Information (C.O.I.), London), dated 17 <sup>th</sup> April 1948, 3 pages. Summary: feedback from Hell tests - Marconi receiver C.R.-100 drifts badly for 1 hr after power-up and has problems with high humidity; audio transformer of relay/amplifier was set to wrong impedance and lugs for hooking up audio cable from radio are too small; printer-motor generates electrical noise that interferes with reception; screened antenna feedline should be used; antenna placed away from electrically noisy motors in adjacent factory improved reception; frequencies; GPR/UK on 8776 kHz, Tass/Moscow on 15570 kHz.
Ref. 19G	Letter from Mr. M. McLoughlin (C.O.I., London) to Mr. R.W. Bishop (Palace Electrical Co. Ltd., London), dated 22 <sup>nd</sup> April 1948, 1 page. Summary: conveying problems reported by K. Jowers (BIS in Karachi) about Marconi CR 100 receiver upon delivery - transformer lead broken due to corrosion, audio volume potentiometer "open" and output valve capacitor faulty due to moisture, valve pins shorted due to loose piece of solder.
Ref. 19H	Letter from Mr. Jowers (BIS, Karachi/Pakistan India) to Messrs. M. McLoughlin (COI, London) and Crawley (CRO, London), dated 21 <sup>st</sup> July 1948, 2 pages. Summary: report on Hell installation in Delhi, India; adequate signals from station GCV in UK; local interference; installation not done well; equipment damaged during shipment from UK; poor reception/printing due to receiver drift (switched on too late), used wrong ink, electrical equipment in building causing interference.
Ref. 19J	Letter from Mr. D.D. Condon (Editor in Chief, BIS, New Delhi, India) to Mr. G.F. Crawley (CRO, London), dated 23 <sup>rd</sup> July 1948, 5 pages. Summary: experiences with Hell equipment; high level of radio interference from heavy automobile traffic within 20 yards of Hell sets; high levels of radio interference from ca. 300 ceiling fans + several copying machines + several air conditioners + a dozen refrigerators + a teleprinter in the building, as well as ca. 800 fans in the nearby palace of the Nizam of Hyderabad, and also high-voltage AC overhead cables at about 40 yards of the Hell set; "India is probably the worst country in the world for radio"; frequent mains power fluctuations and interruptions; several equipment items were damaged during shipment to India; conditions worst during dry

	period; discussion of best time of day for transmissions to India.
Ref. 19K	Letter from Mr. Kenneth Jowers (Director at BIS, Karachi/Pakistan) to Mr. Howe, dated 31 <sup>st</sup> July 1948, 1 p. Summary: problem issues to be corrected/cleared with the Hell installation in Delhi; rewire the entire installation; add electrical noise suppression to ceiling fans; identify noisy cars and install electrical noise suppression; prevent non-essential (= foreign) cars from entering premises during Hell transmission times; forbid switching on/off of electrical equipment during transmission times; turn on receiver 2 hrs ahead of transmission time, to warm up and reduce drift; look into installing constant-output-voltage transformer/converters; check possibility of remote antenna.
Ref. 19L	Letter from Mr. Kenneth Jowers (Director at BIS, Karachi/Pakistan) to Mr. G.F. Crawley (CRO Information Dept., London), dated 8 <sup>th</sup> September 1948, 2 pages. Summary: sample Hell paper tapes (some over-inked) from transmission/reception tests of stations GPV, GBR, GVP, and London Press Service; to be forwarded to the G.P.O. for comments.
Ref. 19M	Letter from K. Jowers (BIS, London) to Mr. M. McLoughlin (COI, London), dated 10 <sup>th</sup> September 1948, 1 p. Summary: returning the printer module of a Marconi Hell-printer, to be forwarded to Mr. Smee at Marconi in Chelmsford for urgent repair & adjustment; also request for a Marconi ink roller holder, to replace a worn one.