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NOTES ON THE R&D CONFERENCE

29th October - 1st November, 1979

London

<u>Present:</u>	R.M. Gibb	C.I. Ayres
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	E. Rittershaus	A.L. Heard
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c.c. Mr. D.P. O'Brien
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OBJECTIVE

To establish for 1980 a programme that reflects the major technical needs and priorities of the BAT Group.

SUMMARY

It was acknowledged that there has been a significant shift of direction during the year, with new areas of importance being included in the programme. The CAC Companies now feel more closely involved in the formulation of the programme, and the notes that follow indicate the main points that were agreed.

In summary, while the proposed programme for 1980 was endorsed in principle, it was agreed that:

- (1) There is a need to strengthen the scientific input into certain of the basic research and process engineering projects. Where this is not possible by re-assignment of staff, new staff must be recruited.
- (2) There is still too much emphasis in the present engineering development projects on issues of processing technology and control that are either already being worked on by the more advanced Companies in the Group or should be undertaken by the major machinery manufacturers: a greater emphasis should be placed on innovative engineering concepts that can be taken up and applied by Associate Companies.
- (3) The format of the 1980 programme should be modified:
 - (a) to distinguish more clearly the innovative R&D from the other essential activities such as analysis testing and the promulgation of existing technology throughout the Group.
 - (b) to emphasise the priority technical areas.

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2. Leaf Research.
3. Primary Processing.
4. Expansion Process and Expanded Products.
5. Secondary Automation/Strategy 1.
6. Process Control/Product Quality Instrumentation.
7. Ventilation
8. Packaging.
9. Microbiology/hygiene.
10. Product Development.
11. Taste and Flavour.
12. Sensory and Preference Research.
13. Cigarette Design.
14. Filters.
15. Papers.
16. Combustion.
17. Smoke Retention.
18. Sidestream.
19. Smoking Issues.
20. Biological Testing.
21. Patents.
22. Formulation of Group R&D Policy.
23. Review of Progress at GR&DC.
24. Reporting of Progress at GR&DC.

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1. THE ROLE OF GR&DC.

The bulk of the programme should be concerned with new concepts and inventions to support the Group's longer term continuity.

The need to undertake general supporting work (i.e. analysis/testing and the promulgation of current technology) for non-CAC Associates was recognised, but the work at Southampton should be organised such that the major asset of key scientific personnel is not weakened.

Allied to the above, the need for increasing contact with Millbank Production, Marketing and Leaf Departments was acknowledged, but some concern was expressed lest these Departments unduly influence the balance of the agreed R&D programme by introducing short-term objectives.

An attempt should be made in the 1980 programme to separate:

- (a) sponsored work paid for by Associates and Millbank Departments
- (b) short and medium term work, much of which is for the benefit of non CAC Associates
- (c) the longer range innovative research.

The format of the programme should be modified to reflect the priorities and directions agreed at the Conference for the longer range innovative work - and as soon as it is feasible the main project areas should be identified as a series of integrated projects linked to the Group strategic plan for technology. Immediately, however, the programme should concentrate on fewer priority areas than were detailed in the current "red book".

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2. LEAF RESEARCH.

It was noted that there has been little work on leaf at GR&DC in 1979 pending the reformation of the Leaf Steering Committee - the aim of which will be to identify opportunities, and where appropriate to co-ordinate trials and research for specific BAT needs.

3. PRIMARY PROCESSING.

The need for the existing programme of work related to the medium term was acknowledged, but the 1980 programme should be expanded to have a greater scientific input to establish a better understanding of current practice, and to develop new process concepts.

4. EXPANSION PROCESSES AND EXPANDED PRODUCTS.

Concern was expressed that it had proved necessary to mount such a large crash programme to gain a basic level of understanding of existing expansion processes and of the effect of expanded tobacco on the product. The programme was endorsed, however, on the understanding that there would be a substantial change of emphasis around mid-1980 when the major effort would be concerned with new expansion processes and concepts aimed at providing BAT with new product opportunities.

5. SECONDARY AUTOMATION/STRATEGY 1.

The GR&DC contribution to the joint Production Department/BAT (Suisse)/R&D programme was endorsed. The need to keep all parties fully informed was stressed.

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6. PROCESS CONTROL/PRODUCT QUALITY INSTRUMENTATION.

It was felt that the various items of work should be brought together under a single project with re-stated objectives and clearly defined priorities. The present projects were thought to lack cohesion, and to fall short of the need for innovative advance.

7. VENTILATION.

Associates are already deeply involved in introducing ventilation into products, and the aim for GR&DC must be an imaginative programme to put BAT in a leading/competitive position. The present programme needs more thought, especially in light of the known action of machinery and paper suppliers. An open minded approach which accommodates both on-machine and off-machine perforation and control was required.

8. PACKAGING.

There was total agreement that there is no case for innovation by GR&DC; BAT's needs must be met by machinery suppliers.

9. MICROBIOLOGY/HYGIENE.

It was felt essential that GR&DC maintained expertise in this area. The microbiological degradation of tobacco during storage represents a significant financial loss to Companies, and a research study should be considered.

10. PRODUCT DEVELOPMENT.

The pressures of competition and legislation and, in some cases, the requirement to use local sources of materials, makes it essential that the more advanced Companies look first to their own resources both for product and associated engineering

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developments. GR&DC should primarily be concerned with innovative concepts that can be taken up and applied by Associates.

11. TASTE/FLAVOUR.

The newly formulated programme was endorsed - the multi-pronged attack being considered justified by the complexity of the subject, and by the urgent need to improve taste and flavour of low delivery cigarettes. The need was stressed to build from the knowledge already available within BAT Companies.

12. SENSORY AND PREFERENCE RESEARCH.

The programmes were endorsed as of potential importance to the Group in establishing fundamentals, and in providing tools to help in consumer research and product assessment.

The Delta panel technique has already generated serious interest among Associates as a new approach to quantifying subjective smoking assessments. There is a need, however, to assess the advantages and disadvantages of the various assessment techniques currently in use.

The proposed termination of the bio-feedback studies was accepted, but it was felt that it may later prove worthwhile to reinstate some elements of the work.

While the main immediate application of OWP is associated with leaf blending, it was thought important to attempt to use the technique to identify the key taste components of smoke. In parallel, thought should be given to developing

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a second generation method of quantifying taste and flavour through the measurement of identified key chemical components.

There was support for the proposal for a one day discussion group of the UK medical experts who are currently using carbon monoxide levels to predict tar intake. Associates would be invited to attend the meeting.

There was support for the proposal to place a 3-year contract with Dr. Mangan of Oxford University to study the role of nicotine in areas of smoking benefits.

13. CIGARETTE DESIGN.

There was support for the restructured programme now that the simple 'Total Product Design' work has been transferred to M.S.D. The aim of the GR&DC work must be to extend the technology to embrace new concepts of leaf blending and cigarette design.

14. FILTERS.

Selective filtration, and the development of new filters of proprietary value, are areas of key future importance to the Group and GR&DC were encouraged to extend the innovative aspects of the programme by increasing the scientific effort.

It was agreed essential that the HEE filter and Bridon polypropylene filter developments are brought to commercial use as speedily as possible. To aid the former, the Canadian HEE machine will be transferred to GR&DC.

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15. PAPERS.

The innovative work on the effect of paper additives and on puff-by-puff ventilation measurements was strongly supported, but it was felt that the scientific effort should be increased.

16. COMBUSTION.

A thorough understanding of the processes occurring in a burning cigarette was regarded as of fundamental importance to the Group. Past work has proved of value to Associates and GR&DC was encouraged to carry out the planned next stage in the programme as speedily as possible. Again it was thought that the present level of scientific input was too low to match the complexity and difficulty of the subject. An additional graduate of high quality is required.

The Hamburg programme on combustion was explained, and it was agreed there was no direct duplication with the GR&DC programme.

17. SMOKE RETENTION.

There was full support for the change of emphasis of the past smoke aerosol research to attempt to develop viable commercial cigarettes which lead to smokers having significantly lower levels of retained smoke - but it was thought essential that basic research on smoke aerosols should be maintained as this was likely to become an area of key importance to the future of the industry. Worldwide, the level of understanding is low and the Southampton and Hamburg programmes were regarded as of complementary value.

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18. SIDESTREAM.

Concern for the passive smoker was regarded as likely to become a key issue in the future and the GR&DC programme was regarded as of importance - both for defensive and offensive (i.e. possible commercial advantage) purposes.

19. SMOKING ISSUES.

The service provided by Dr. Felton was strongly supported, but it would be helpful if the information that is sent to Associates was accompanied by more detailed interpretation. It was regarded as important that he maintains an awareness of worldwide happenings and that he continues to be available to give advice to the Group. It was acknowledged that Associates must be responsible for assessing the implications of the information to their own Companies.

20. BIOLOGICAL TESTING.

The expenditure at Southampton on biological testing represents a significant portion of the total R&D expenditure (£ 0.54m internal and £ 0.37m external out of £ 5.3m gross total). Before agreement can be reached on the details on any proposed programme of work, it was thought essential to have established the current Board policy on research on smoking issues e.g. (a) for early warning, (b) as evidence of a responsible attitude by the Group, (c) as the basis for future positive support to Group products.

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21. PATENTS.

It was agreed that the present patent policy and method of operation should be re-examined with respect to, for example:

- (1) two-way communication of filings and patent meeting minutes between BAT Centre and CAC Associates
- (2) maintenance of patents in third party territories
- (3) assignment of patent rights and costs.

22. FORMULATION OF GROUP R&D POLICY.

An R&D Conference of Research Heads should be held annually in September or October to up-date the overall R&D strategy in the light of Group policy, and to agree the GR&DC programme for the coming year. Such meetings should be rotated in the six territories; thus 1980 in USA and 1981 in Germany.

Starting with the next meeting in 1980, a positive attempt should be made to formalise a Group approach to R&D i.e. to consider how the GR&DC programme, and those of the CAC countries, can be linked together in response to the strategic technical plan for the Group as a whole.

23. REVIEW OF PROGRESS AT GR&DC.

The general feeling was that progress at GR&DC should be reviewed by the CAC Research Heads at approximately 2-year intervals. To enable the project leaders to participate, the meetings should be held at or near Southampton.

It was agreed that the next review should be held around April 1981; this would give reasonable time for the re-organised programme to settle down, and for significant progress to have been made.

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24. REPORTING OF PROGRESS AT GR&DC.

It was agreed that rather than impose on GR&DC the preparation of a regular progress report (i.e. quarterly, half yearly or annually) it would be more appropriate to leave GR&DC free to report progress in key areas as and when it was thought appropriate.

L.C.F. BLACKMAN:DC

7th November, 1979.

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