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COMMERCIAL IN CONFIDENCE

SCIENCE AND ENGINEERING RESEARCH COUNCIL
RUTHERFORD APPLETON LABORATORY

COMPUTING DIVISION

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IKBS

Visit to Stewart Hughes 3rd october 1983

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(see over page)

1. PURPOSE

Stewart Hughes contacted Brian Oakley about their system which they thought suitable for 'demonstration'. Oakley put them in contact with WPS and with John Taylor. This was a follow up visit to see their current project and discuss possible future activities.

2. SUMMARY

- a. It transpired that the word 'demonstrator' is fast becoming so overworked as to be useless. Their system is neither ready as a 'Show Me' exhibit, nor is it the possible basis for a Demonstrator as conceived in the IKBS or broader Alvey strategy. They have a pilot implementation of an ES that with the right degree of support will reach 'Show Me' exhibit/product status over the next 9-12 months and they are discussing larger projects with potential users that could be the basis of short term development contracts.
- b. They have very little in-house ES expertise (one Prolog programmer with no AI background) and would welcome a collaborator.
- c. Their domain is mechanical engineering and there are potential application areas in manufacturing industry that might not otherwise be reached by IKBS technology. Their orientation towards improving performance in some traditional areas of UK industry should make it worthwhile to support them in some way.
- d. They note that although a lot of companies express interest in their expert system developments there is a need for a 'Show Me' that would convince them by showing enhancement of an expert's performance with modest resources.

3. COMPANY BACKGROUND

The company was founded by Ron Stewart and Tony Hughes in 1980 from the Machinery Health Monitoring Group at the University of Southampton. Prof Cheeseman is the Research Director and handles all academic liaison. At this visit WPS met only Ken Pipe, marketing director, and Steven Greenwood, the Prolog programmer.

Turnover is £600K pa. Location is on what will be the site of a university science park. They have 25 people of whom 4 are working on the IKBS related project, 3 of them are experts on the engineering side.

4. PROJECTS

a. General.

Their general area of interest is machinery management. Target industries are: aerospace, petrochemicals, utilities (gas etc). Typically there is a very low investment in machinery monitoring and management which does not reflect the enormous economic importance of keeping mechanical systems in efficient production. The decision whether to close a process down and lose large amounts of money in lost production or risk catastrophic failure is a typical machinery management problem. Stewart Hughes have done a lot of work on new techniques for analysis of sensor output in the realm of pattern matching rather than traditional signal processing methods.

- (2) Stewart Hughes want to build a bigger expert system and the areas of interest are: crisis management, energy management, production optimisation. On the latter two they are having discussions with the CEGB and Wiggins Teape respectively. They have no idea what conceptual problems they will have to face but realise that a major concern for them and their clients is stability of the system. They will get in contact again via WPS or DBT when they have got further in defining a project.
- (3) An intelligent front end (within the meaning of the IKBS IFE Theme) to their diagnostic packages is an obvious future activity and WPS will put them on the IFE list.