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HRL MAINTENANCE - A USER VIEWPOINT

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1. When the Procedure was launched in 1981, potential users undoubtedly expected a number of teething problems to arise as the programs in the Procedure, particularly WASSP-SIM, gained more extensive use.
2. Experience has shown this to be the case and it is now possible to identify certain categories of problem. Three such categories suggest themselves, differentiated by the appropriate remedial action required :-
 - (a) Fundamental limitations of the model arising from its underlying theoretical assumptions.
 - (b) Representation of actual catchment features by the available model components.
 - (c) Software errors.
3. An improvement in the model limitations will largely depend on further research work, e.g. in the area of surface runoff and short return period rainfall characteristics, but for the present such limitations must be understood by users. The problem of accurately representing real catchment features, such as overflows, pumping stations, and bifurcations is almost entirely to be overcome by greater user experience, assisted by documentation.

The third category of problem is in many respects more disturbing. Three 'full' versions of the program have now been released but testing of the software for errors, has very largely fallen on users, and experience with version 7, released in April of this year, suggests that the onus for proving the software, for the mainframe version at least, still rests to a considerable extent with users.

4. It is recognised that a model of the complexity of WASSP-SIM will always find some hitherto untried application resulting in an error, but the extent of user testing that has been necessary over the past four year indicates that users may be better served by an increased central testing programme carried out before release. The time spent by one user alone has averaged one month full time per year for a graduate level engineer dealing with software error testing alone. Additional time has been spent, and should continue to be spent, on dealing with problems of the second category.
5. An essential point to be made is that the test harness data does not truly represent the catchments currently being analysed. 'Real' data sets do however exist and a selection of say 2 or 3 such real catchments would provide a more representative test basis for software. The price to be paid for this more vigorous testing would be increased computer time and increased staff time on the part of, presumably, HRL. From an overall national point of view it must