SOFTWARE CODE CONTROL PROCEDURES
FOR GREEN BANK OVLBI EARTH STATION

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The following policies and procedures are intended to ensure
that adequate version control is maintained for the software required
to operate the Green Bank OVLBI Earth Station. While this is directed
primarily toward the real-time control code, the offline software and
documentation files are also included. The use of VLBA software is
strictly identified. This memo represents the present situation, and
may be subject to additions and revisions as the development
progresses.

1. The official version of all source code, object modules,
makefiles, and documentation for the real-time control software and
also for off-line software needed for earth station operations will be
kept in directory ~ovlbi on the complex of Sun workstations in Green
Bank. Miscellaneous other information of common interest to all
members of the development team may also be kept there. (Exactly
which disk is used to hold ~ovlbi is not critical and may change.)

2. Normally, development team members should not log on as "ovlbi"
but rather as themselves. Editing, compiling, and debugging should
usually be done in one's own directory using copies of the official
code. Use of the ovlbi account should be limited to file maintenance
activities.

3. The real-time control source code will be strictly separated into
three categories:

    A. VLBA: Source modules (.c and .h) copied exactly from the VLBA
    control code and intended to be maintained by the VLBA
    Monitor and Control group in Socorro. This means that if the VLBA
    group updates such a module, we will automatically adopt the new
    version.

    B. VLBA-modified: Source modules that have the same names and
    basically the same function as in the VLBA control system, but
    that we have modified (slightly) for our use. Maintenance of
    these modules is joint between the GB-ES group and the Socorro
    VLBA M/C group. When their module is revised, we will incorporate
    the revisions into ours. (On the other hand, if we make
    modifications that are not specific to our application but that
    might be useful to the VLBA M/C group also, we can submit the
    modified module for possible adoption by the Socorro group; if
    they do adopt it, then it reverts to category A.)

    C. ES specific: Modules specially developed for the Green Bank
    Earth Station. Maintenance of these is our responsibility
    completely. Such modules might have the same names as VLBA
    modules, and they might have started out as modified versions of
    VLBA modules. Nevertheless, any module placed in this category
    will be decoupled from any changes made elsewhere.

4. Use of SCCS: All source code and documentation files for the
earth station project will be controlled by the UNIX utility SCCS.
Category A code is already maintained under SCCS in Socorro, so we
will not duplicate this; instead, we will extract copies of their
modules as needed. Categories B and C will be maintained in separate
directories under SCCS in Green Bank.

5. Directory structure: The ~ovlbi directory will have at least the
following subdirectories, each limited to the contents specified here.

ovlbi/vlba-all   copy of all (or a large portion) of the VLBA
                      source modules, including ones that we are
                      not using, kept for reference only.

        /vlba   Category A source code (.c and .h files),
                      extracted from the SCCS files in Socorro, but
                      including only those modules actually incorporated
                      into the Earth Station control system.

        /SCCS-vlba   Category B source code (.c and .h) SCCS files
                      (modified VLBA code); modules currently used in
                      the ES control system.

        /SCCS   Category C source code and documentation for the
                      ES real time control system, as SCCS files (.c,
                      .h, .doc, makefiles, and possibly other file
                      types).

        /code   current version of source code for ES control
                      system, extracted from ./vlba, ./SCCS-vlba, and
                      ./SCCS. This directory should contain only .c
                      files and makefiles. Together with ../h (below)
                      and libraries kept elsewhere, this should contain
                      everything needed to build a current version of
                      the ES control system. (It may be useful to set
                      up automatic extraction of these files on a
                      regular schedule, perhaps daily.)

        /h   header files needed by ../code, extracted from
                      ../vlba, ../SCCS-vlba, and ../SCCS. Header files
                      and libraries purchased commercially (especially
                      VxWorks files) should not have copies here, but
                      should instead have their own homes.

        /vw   files needed to build the VxWorks kernel on the
                      control computer, including modified versions of
                      source files supplied by Wind River, and
                      makefiles. Some standard and unmodified Wind
                      River files may have copies here for convenience,
                      but generally the latter should have their own,
                      separate homes.

        /target   object file libraries for loading to the control
                      computer, created from ../code, ../h, ../vw, and
                      commercial libraries from makefile in ../code.
                      Also here is the control computer's startup
                      script.

        /offline   code for programs that run before and after a
                      tracking pass, under UNIX, usually in a Sun:
        /offline/code   .c and makefiles
        /offline/h   .h
        /offline/bin   executables

        /memoseries   copies of text of some (hopefully most) OVLBI-ES
                      memos. May be ASCII files or TeX input files.

        /public   miscellaneous material that we want to make
                      publically available, and that is therefore
                      inappropriate to keep in directories belonging to
                      individuals.

Additional directories under ~ovlbi, as well as additional
subdirectories under some of those already defined, may be defined
later. But the contents of the directories defined here should
continue to be as described.