NORSAR

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NORSAR PHASE 3

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N.   THE NORSAR ARPANET CONNECTION

A Terminal Interface Processor (TIP) was installed at
NORSAR in June, giving access to the ARPANET via the TIP
at Seismic Data Analysis Center (SDAC), Alexandria,
Virginia. At the beginning of the period, various problems
were being worked on, ranging from policy questions involv-
ing NTA (Norwegian Telecommunications Administration) and
carrier companies to hardware/software problems with TIP
and communications circuits. After an initial test period,
TIP problems were successively solved in September. How-
ever, the Trans-Atlantic Link was not performing satis-
factorily. The problem seemed to be connected with the
higher speed; the "voice grade" line previously used for
2.4 kbit/s transmission should now handle 9.6 kbit/s traffic.
After repeated upgradings, reroutings and tests, the line
at the end of the year operates fairly satisfactorily.
A preliminary investigation, however, shows a (slight)
degradation of seismic data received from SDAC, compared
to the pre-TIP conditions.

The TIP at University of London Institute of Computer
Science was connected to the NORSAR TIP in the middle
of October, via 4.6 kbit/s circuit. Thus the final
arrangement gives ULICS and NORSAR a shared 7.2 kbit/s
access to the network, as NORSAR seismic data transmission
occupies 2.4 kbit/s out of the 9.6 kbit/s, via multi-
plexer.

At the end of the report period, three terminals were
connected to the NORSAR TIP: one at NORSAR and one
each at the neighboring institutions Blindern-Kjeller
Computer Facility and the Norwegian Defence Research
Establishment.

Some experience in the use of foreign ARPANET hosts
has been gained by members of the NORSAR programming
staff. Knowledge of and familiarity with login pro-
cedures, file handling methods and a variety of service
programs (FORTRAN, TECO, NLS), as well as the operating
system commands (TENEX), has been obtained, on especially
two Host computers: The Stanford Research Institute,
Augmentation Research Center PDP-10, and the University
of Southern California Information Science Institute
PDP-10.

A proposal has been worked out, listing how NORSAR wants
to use its ARPANET TIP connection for remote computing
and data exchange. Realization of the proposal re-
quires interfaces for the 360/40 machines, for user
Host attachment, as well as software development for
the 360s. More specific plans have been worked out for
one aspect of the data exchange, namely, transmission
of the NORSAR bulletin to USGS, via an ARPANET Host,
and implementation of the procedure is well under way.

Also, studies of the Network protocols
have been initiated, in order to prepare for imple-
mentation of the software.

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