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**FOREST SERVICE
U.S. DEPARTMENT OF AGRICULTURE
Washington, D.C. 20013**

**INVITATION TO READERS OF
*FIELD NOTES***

Every reader is a potential author of an article for *Field Notes*. If you have a news item or short article you would like to share with Service engineers, we invite you to send it for publication in *Field Notes*.

Material submitted to the Washington Office for publication should be reviewed by the respective Regional Office to see that the information is current, timely, technically accurate, informative, and of interest to engineers Service-wide (FSM 7113). The length of material submitted may vary from several short sentences to several typewritten pages; however, short articles or news items are preferred. All material submitted to the Washington Office should be typed double-spaced; all illustrations should be original drawings or glossy black and white photos.

Field Notes is distributed from the Washington Office directly to all Regional, Station, and Area Headquarters, Forests, and Forest Service retirees. If you are not currently on the mailing list ask your Office Manager or the Regional Information Coordinator to increase the number of copies sent to your office. Copies of back issues are also available from the Washington Office.

Each Region has an Information Coordinator to whom field personnel should submit both questions and material for publication. The Coordinators are:

R-1	Melvin Dittmer	R-4	Ted Wood	R-9	Fred Hintsala
R-2	Royal M. Ryser	R-5	Jim McCoy	R-10	F. W. Baxandall
R-3	Juan Gomez	R-6	Kjell Bakke	WO	Al Colley
		R-8	Bob Bowers		

Coordinators should direct questions concerning format, editing, publishing dates, and other problems to:

USDA Forest Service
Engineering Staff, Rm. 1108 RP-E
Attn: Gordon L. Rome or Rita E. Wright
P.O. Box 2417
Washington, D.C. 20013

Telephone: Area Code 703-235-8198

WASHINGTON OFFICE NEWS

CONSULTATION & STANDARDS

Walter E. Furen
Assistant Director

A PROPOSAL FOR MANAGEMENT OF ENGINEERING COMPUTER SYSTEMS

The Engineering Staff has completed a study of the management of Service-wide Engineering Computer Systems, and has developed a report with several recommendations for change. The Director of Engineering has approved the report with some modifications, and forwarded it to the Deputy Chief for the National Forest System. When the recommendations are approved, the report will be printed and distributed to the field promptly.

Included in the report are a "Mission Statement, General Goals, Specific Objectives", and an inventory of workload and available skills. Moreover, there is also a priority listing of all existing Engineering Computer Systems, as well as those that are currently in the planning stage. Based on the conclusions developed in the study, the following recommendations were presented in the report:

1. Reorganize the management of Service-wide Engineering Computer Systems along the lines of the present responsibilities and organizational concept in the WO Engineering Staff Unit.
2. Locate the Engineering Computer Systems Staff in the Washington, D. C., Metropolitan Area.
3. Begin the actual process of reorganization by October 1, 1977 and work toward its completion by January 1, 1978.
4. Base the initial organizational grouping of skills and workload on the priorities identified for FY 1978, or the first year of operation.
5. Design the organization and assignment of people so that it is sufficiently flexible to adjust to a possible future shift in workload from systems analysis and development, to operation and maintenance.

COMPUTER ROAD DESIGN SYSTEM SPONSOR

Beryl Johnston, WO Transportation Systems Preconstruction Engineer, has been appointed as sponsor for the Computer Road Design System (RDS). His appointment supports the intensive Engineering effort to improve RDS at the Fort Collins Computer Center (FCCC). He will be responsible, at the concept or feasibility study phase, for determining all subroutines, modifications, and enhancements. This will continue toward complete development.

Before a change is incorporated in the operational RDS, Johnston must approve the final modification, and the timing of the change. He has the responsibility of the review and evaluation of the RDS function on a Service-wide basis. This RDS function includes its use at the field level, as well as the timing and new direction of RDS to meet users' needs for a period of five years in the future. Consequently, the concept of setting the direction and standards by an RDS steering committee will be discontinued.

YOUNG ADULT CONSERVATION CORPS (YACC) AND JOB CORPS

As YACC and Job Corps programs expand, there will be increased demands placed upon the Regional Engineering Staffs to help provide administrative and work facilities. We need to prepare ourselves, so we have the capability to respond when that time comes. The Regional Engineering Staffs should be in close contact with the Regional Human Resources Staffs, to stay aware of new developments that come from the Department of Labor and the Forest Service WO Human Resources Staff.

The Regional Engineering Staff in Region 8 has compiled a catalog of design plans for standard facilities; this catalog might prove useful to the other Regions in responding to requests for support of the YACC and Job Corps programs. Feel free to contact the Engineering Staff in Region 8, if this will be useful to you.

OPERATIONS

Harold L. Strickland
Assistant Director

REGIONAL ENGINEERS MEETING

A Regional Engineers Meeting was held in Rosslyn, Virginia, November 1-2, 1977. During the two-day session, the Regional Engineers, the Director and Assistant Directors of Engineering, and various WO Staff Engineers met with John McGuire, Rex Resler, Roy Bond, and others to share information on numerous topics of current interest to Forest Service Engineers and para-professionals.

Some of the key issues covered were:

1. The impacts of the *National Forest Management Act*.
2. The impacts of the *Young American Conservation Corps* and the expanding *Job Corps Program*.
3. The new merit promotion program.
4. Wilderness Studies - (*RARE II*).
5. The *FR&T Study - Policy Team Report* (EM 8320-1) and related action plan.
6. *Road and Bridge Preconstruction Engineering* (EM 7720-3).
7. The Office of Management and Budget (OMB) *Reorganization Study*, which involves the Forest Service and other natural resource agencies.

In summary, the overall theme of the meeting focused on a significant expansion of our engineering work load, the organization's attempts to obtain additional personnel ceilings, and the probability of our not having all of the people we would like to have to do the job.

TECHNOLOGICAL IMPROVEMENTS

Heyward T. Taylor
Assistant Director

CABLE YARDING SYSTEMS HELPING TO SOLVE FUELS MANAGEMENT PROBLEMS

Engineers at the Missoula Equipment Development Center (MEDC) are working at the District level to tackle one of the Forest Service's biggest challenges: disposing of the backlog of fuels.

On many areas of the National Forests, fuels buildup is outstripping the ability to dispose of it. In Montana and Idaho, for example, more than 700,000 acres (283,286.11 ha) of untreated slash have accumulated since 1961. There are over 2.5 million acres (1,011,736.1 ha) needing treatment in Washington and Oregon.

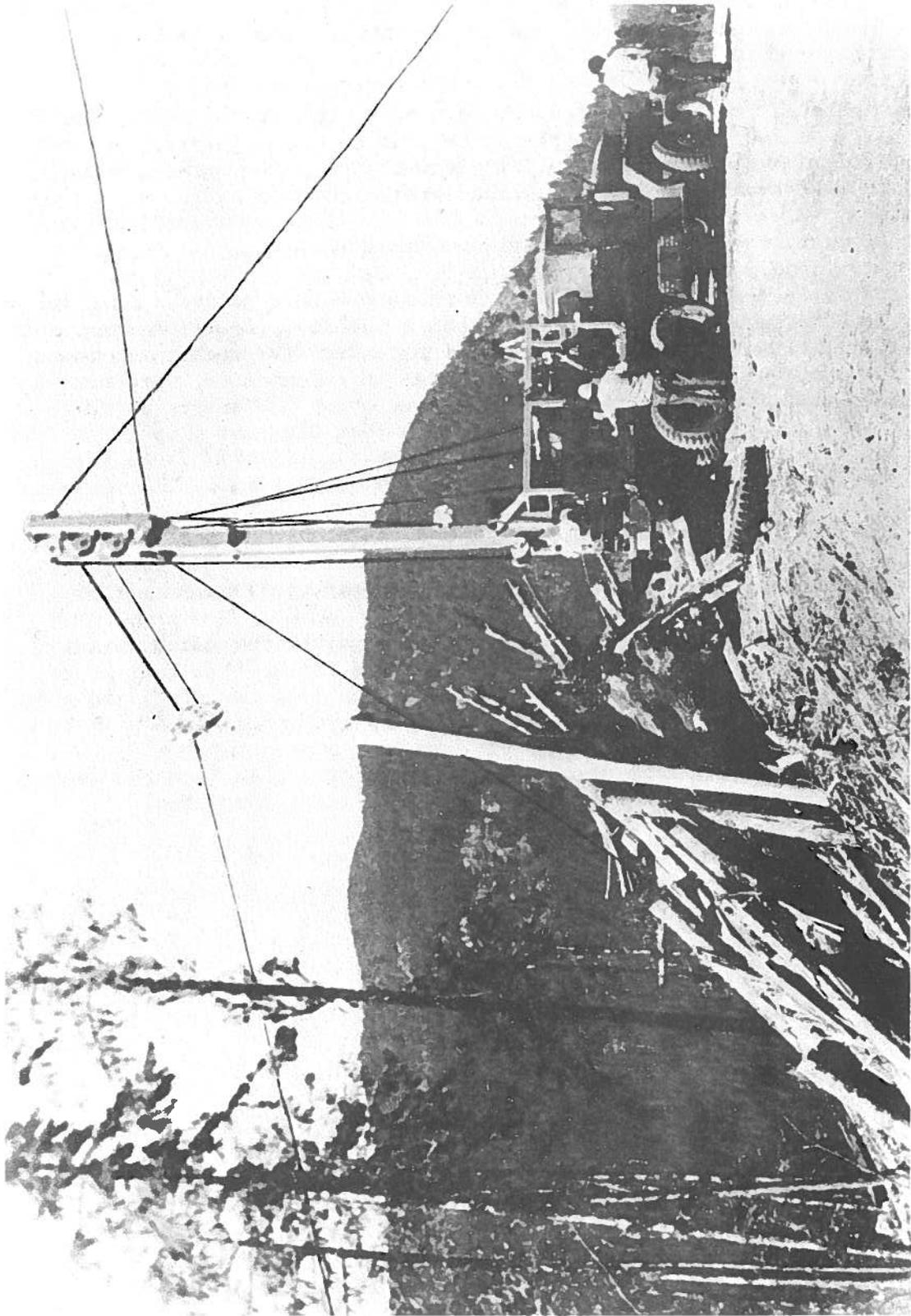
The Missoula Center has been chartered under *Equipment Development and Test Project 8035--Cable Systems for Forest Residues*, to improve residue handling on Districts by providing engineering support to design and build lightweight cable yarding systems (see photograph).

Early results of teaming engineering know-how with field experience have proved successful. Center engineers built a yarder tailored to the specific needs of Harry Cummings, Fire Management Officer on the Canyon Ranger District, Clearwater National Forest in Idaho.

The Canyon District contains many remote sites and steep slopes with heavy concentrations of down timber. Some areas have slash over 3-inches (76.2 mm) deep with a density of 200 tons (181.4 M.T.) per acre (2.471 ha). These areas contain diseased, dead and dying timber. Sawmills and pulp mills are distant, so it isn't feasible to market these trees. Much of this down timber is near good stands or in established regeneration, making broadcast burning impossible.

Cummings came to MEDC in January 1977 with criteria for a yarder that could operate in this environment. He did not want the total cost for design and fabrication to exceed \$40,000. A team of engineers, foresters, and draftsmen was assembled to begin design work on the yarder.

Parts were ordered by mid-April, and all were delivered by mid-July. The Center team completed fabrication and shakedown tests in early August, and delivered the yarder to the Canyon Ranger District on August 20, 1977--~~six~~ six



Lightweight yarding system in operation.

months from drawing board to working yarder. The complete yarder weighs 8,000 pounds (3628.8 kg).

Cummings began operating the machine in a clearcut area. He hired an experienced logger to operate the yarder, and three seasonal employees completed the crew.

The logger operates controls located some distance from the machine. The main control is a four-position wobble stick that actuates hydraulic valves on the yarder. A second man unhooks logs from the chokers at the landing, while two other crewmen are down the slope setting chokers.

In the first week, the crew produced 75 turns in a 4-hour period. Late in September, a Missoula Center technician began gathering production data. At this point, the crew had been working with the yarder five weeks. He found that, on the average, a turn could be completed in 1.2 minutes. Production data revealed that in 7 hours the crew could put about 350 pieces on the deck, many weighing 1,500 pounds (680.4 kg). On one clearcut slope, the crew reduced fuel loading from 150 tons (136 M.T.) per acre (2.471 ha) to virtually nothing, since small material was hand-piled and burned.

Cummings, the logger operating the yarder, and the design team all felt the machine did an excellent job. In six months, a machine had been designed, built, and proven in the field on some tough disposal problems.

Center engineers plan to modify the design of the yarder to reduce weight and improve efficiency, and then perform more field tests. The goal is to prepare construction drawings and specifications enabling any small job shop to build the yarder.

A slide program about development of the yarder is available from the Center, and a Project Record film documenting this work is being completed.

