improvement boys always see strictly eye to eye. It's even possible the state boys may now and then take a crack at the 'feds'—and vice versa."

"I am persuaded that, in the translation of new research findings into action, as well as in successful operation of policies already in effect, effort we spend with our own people is far more valuable than that devoted to the general public. There are two obvious reasons; if all our people sincerely feel enthusiasm for the agency's program, it is of immense help with the general public."

"The second of my two obvious reasons—if all our people are enthusiastic for progress, they will work that much harder, that much more intelligently."

"How do we go about developing this solidarity, the esprit de corps that is the indefinable but unmistakable hallmark of a going concern? There are many ways. None of them works every time, but most of them work some of the time. The keys are communication and participation. Communication—and I most earnestly mean two-way communication—should be of the kind that lets everybody not only hear the word from on high, but get in their own two cents' worth."

"Does this result in complete agreement? Certainly not. People aren't built that way. But it will help a lot to build mutual respect; and that feeling of being a participant in new programs, not just being ordered to do thus and so through cold channels of official communication is hard to shake off."

"How do you achieve effective two-way communication through an insecure intermediate-level supervisor who is convinced his authority rests in having more information than his subordinates? Most particularly, how do you find time to effect all this agency-wide communication and participation?"

"The answer is, you don't. Not always, maybe not very much of the time. But you should keep at it. What you can't do this year, plan to do next. After a few years, conservation employees will know it is coming, and look forward to it."

ENGINEERING SESSION

IMBERTSON FABRIDAM SUMMARY

By JOHN E. BUXTON

The Fabridam is an inflatable and deflatable rubberized fabric dam, shaped into a sealed tube, capable of being pressurized with either water or air, adaptable for installation on any stream, river, or waterway for varied purposes such as flood control, water conservation, tidal control, lock systems, recreational facilities, and many others.

DESIGN AND FUNCTIONING

It is very unique because of its flexibility. When fully inflated to its design height it acts as a fixed dam comparable to a concrete structure. However, when completely deflated it offers a minimum flow resistance and allows a maximum run-off during storm periods. One of the main features of the Fabridam is its ability to change from the inflated to the deflated state in a matter of minutes. One way this can be accomplished is with an inverted "U" siphon tube installed in the drain system. When the siphon becomes charged with water through pressurization of the Fabridam caused by overflowing water, the deflation of the Fabridam starts and continues until empty unless interrupted by breaking the siphoning action. The deflation can be pre-set to commence at any height of overflow merely by adjusting the height of the siphon. The fact that the deflation cycle can be initiated and controlled without electrical power, mechanical drives, or complicated control systems insures reliability not heretofore known in control structures. Of course, where desired, automatic controls and powered equipment can be designed into the system with endless variations.

The Fabridam is usually constructed from a flat sheet of rubberized fabric folded into a tubular shape and sealed in place during the installation. Generally it is fastened in place to a reinforced concrete slab and foundation with structural steel members and anchor bolts.

The present height limitation is approximately 20 feet. However, new materials in the development stages will allow 30 foot heights in the near future. While theoretically there is no limitation on lengths, from the standpoint of economics in shipping and handling during installation, we suggest units should not exceed 400-500 feet in length. When requirements call for longer Fabridams, the procedure is to use vertical concrete abutments between each unit. In this manner, by installing separate controls to each unit, a greater flexibility of control can be attained. If concrete abutments are not desirable, individual Fabridam segments can be fastened together end to end and controlled as one unit.

Fabridam applications are practically endless. The following is a list of a few of the applications presently being used or being considered for future use:

(a) Diversion structures.
(b) Check structures for flow control.
(c) Flashboard replacement.
(d) Lock systems.
(e) Sluice gates.
(f) Salinity barriers.
(g) Tidal barriers.
(h) Raising heights of existing spillways.
(i) Raising heights of water reservoirs by adding to top of existing gates.
(j) Control gates for water treatment plants.
(k) Control gates for sewage plants.
(l) Replacement of steel gates on concrete structures.
(m) Replacement of low concrete dams to 30 feet in height.
(n) Barriers for beach erosion.
(o) Wave attenuators.
(p) Breakwaters.

To summarize, we can state briefly:

A. The continuously increasing demand for water conservation and flood control in the United States requires more than ever an economical and simple installation design and technique for damming, capable of being employed equally well by any Federal, State, or private enterprise.
B. The uniqueness and simplicity of the Fabridam lends itself perfectly to low intermittent damming.
C. The high strength to weight ratio, puncture, abrasion, and high weather resistance of the rubberized fabric developed by Firestone make this material ideal for the flexible requirements of a Fabridam.
D. The Fabridam accomplishes these ends with non-critical materials at costs below those resulting from use of critical materials.

Inasmuch as each Fabridam is individually designed, we have no standard price lists. However, the cost of a Fabridam installation on an existing suitable foundation, including the Fabridam, its attachment hardware and labor, and the necessary piping, valves, pumps, and automatic controls, has been found *to run about $35.00 per square foot of dammed area.* For example, to install a five-foot (5') Fabridam across a 100-foot channel on a suitable existing foundation would cost *approximately $17,500.00.*

CHEMICALLY TREATED WOOD FOR MODERN STRUCTURES

By C. MILES BURPEE
Secretary, American Wood Preservers Institute

New building materials usually are associated with modern structures such as tall office buildings of glass, metal, plastics, and concrete. But such structures seem out of place in typical park settings of grass, flowers, trees and lagoons. Modern wood is a new, chemically treated building material that, unlike other modern materials, is well adapted to all types of durable structures because it