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NEW CONSTRUCTION Products

Vol. 25 Issue 10

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HFG Media

New Construction Products™ is published twelve times a year on a monthly basis by HFG Media. ***New Construction Products™*** is distributed free to qualified subscribers. Non-qualified subscription rates are $57.00 per year in the U.S. and Canada and $84.00 per year for foreign subscribers (surface mail). U.S. Postage paid at Birmingham, Alabama and additional mailing offices.

POSTMASTER: Send address changes to
HFG Media P.O. Box 1568
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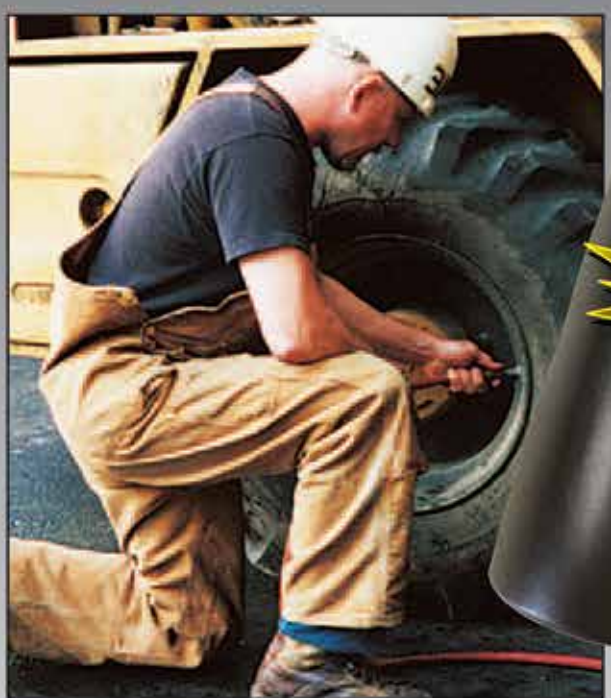

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IRON ABORTIO
U.S. ARMY

By Gary L. Knepp

The 60th Land Clearing Company 'Jungle Eaters'

Choking dust, clouds of stinging insects, biting monkeys, trees and enemy rockets crashing from above, tunnels collapsing underfoot— in temperatures reaching 130 degrees—were all in a day's work for the 60th Land Clearing Company, which carried out its missions undaunted, guided by the unit motto, "Guts, Skill and Spirit." Largely unheralded and forgotten, land clearing units, in Vietnam nicknamed "Jungle Eaters," were often ahead of the frontlines, destroying the enemy's most valued weapon—heavy cover—and blazing the way for infantry and armor.

The nearly impenetrable triple-canopy jungle that covered much of Vietnam presented a great challenge to the U.S. military. The enemy used the jungle to conceal large complexes and staging areas for assaults and ambushes, especially along convoy routes. The United States needed to find a way to neutralize that advantage.

One option was to use defoliants, including Agent Orange. The dioxin-based chemicals were sprayed over large swaths of Vietnam by C-123 Provider aircraft. That method made it possible to reach areas of the country inaccessible by ground, but it took time for the chemicals to kill the vegetation.
Another option was the Rome Plow, known as "hog jaws." This was the military version of a Caterpillar bulldozer outfitted with a 121⁄2-foot-wide, 6-foot-high, 21⁄2-ton blade manufactured by the Rome Plow Company of Rome, Ga. A reinforced steel protective cage was mounted on top of each vehicle, with a "headache bar" over the operator's head to protect him from falling debris. The 36,000-pound monster plow, originally used to cut fire breaks in American forests, made its Vietnam debut in 1966. By the summer of 1967, there were three teams of 30 plows each working in Vietnam. The teams were later reorganized as companies, and by January 1969 six companies were busy clearing jungle and forests in Vietnam.

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In January 1967, the Army launched Operation Cedar Falls, an effort to destroy a Viet Cong jungle fortress called the "Iron Triangle." For 20 years the VC and the Viet Minh before them used the 40-square mile area just 20 miles northwest of Saigon as a staging ground for attacks on the city.

The war's largest operation to date, Cedar Falls was supported by 600 men and 54 bulldozers, including four Rome Plows from the 1st Engineering Battalion. In this operation the plows formed up with two M48 tank dozers at the point, followed by four bulldozers abreast, with two more trailing as a cleanup team. They cleared resupply landing zones, stripped vegetation from along roadways, cut swaths in the jungle to facilitate rapid deployment of armor, and destroyed bunkers and tunnel complexes.

Lieutenant Colonel Joseph Kiernan, commander of the 1st Engineering Battalion, called Cedar Falls the "most significant combat engineering operation of the war to date." During the 19-day operation, as some 2,700 acres of land were cleared, maintenance problems emerged as the weak link of mechanical land clearing.

Three years later, Rome Plows played a big role in the April 1970 incursion into the Fish Hook area of Cambodia, about 50 miles north of Saigon. On the first day of the operation, the 60th Land Clearing Company ate up nearly 77 acres of jungle and in the process exposed 50 bunkers and a 20-ton cache of rice. Just before noon on the third day, having cleared another 70 acres, the 60th received an order to stop. Ahead of them was a huge, one-square-kilometer bunker complex.

When Staff Sgt. Richard Koutch got off his tractor and looked around, he saw laundry drying on the lines and kettles of rice cooking. He found medical supplies in one bunker. When he turned from another bunker and saw 20 North Vietnamese Army soldiers about 30 feet away, the unit's engineers scattered. The 11th Armored Cavalry Regiment then attacked the complex with F-4s and helicopter gunships providing close air support, securing the area after a five-hour pitched battle. The plows were back in action the next day, destroying 75 bunkers and 50 hooches of what turned out to be the largest NVA hospital complex in Cambodia.

The commander of the 1st Engineering Battalion at that time, Lt. Col. Robert Montfore, called the men of the 60th very heroic. "We took absolute control and put the run to the enemy," Montfore recalled.

Typically, a land clearing company was sent into the field for 45 days, followed by a standard 15-day maintenance stand-down period at its base of operations. The Jungle Eaters worked 12-hour days when they were in the field— clearing as much as 150 to

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200 acres. At the end of the day, they turned up a defensive berm and laagered in for the night. After evening chow, they spent another four to six hours each night pulling maintenance on their rigs.

The tough terrain, enemy mines, and near-nightly mortar attacks put a heavy toll on the equipment: between one-half and two-thirds of the plows were out of action at any given time. Since most of the areas they worked in were often isolated and inaccessible by road, spare parts, water, and food had to be flown in by CH-47 Chinooks.

When entering the virgin territory, it was often impossible to identify readily concealed terrain features or an enemy presence. Initially, a single plow equipped with a radio would score the perimeter of the planned cut, with a chopper hovering above, radioing directions to the plow operator and ready to respond to any emergencies. Once the perimeter was traced, the other plows joined up in an echelon formation with the lead dozer and cut in a concentric manner until the clearing was completed. Other plows pushed the debris to the side.

While their human enemies were the most deadly, the jungle was replete with hazards of all sorts and species. One of the most persistent animal foes the Jungle Eaters encountered was the Vietnamese bee. Once disturbed, swarms of bees descended upon the dozers. All of the armor and reinforced protective cages did nothing to stop the stinging insects; the only defense that seemed to work was popping a can of green smoke.

Eighteen-year-old Allen Boehm from Amelia, Ohio, joined the 60th near Trang Bang in Hau Nghia Province in November 1970. The mischievous Boehm was a natural fit with the Jungle Eaters, a "good old boy," according to Sergeant Bill Kimbrell. "He worked hard, did what he was asked, and got a beer or two."

In late April 1971, the 60th was again near Trang Bang and the men were uneasy. Their traditional operating cover, the 11th Armored Cavalry Regiment, had been redeployed Stateside and was replaced by an untested ARVN unit. During the night of April 23, the engineers' position came under heavy recoilless rifle and machine gun fire. The ARVN unit ran. Despite the lack of protection, the plows started up again the next morning. They were working to clear a bamboo patch when they were attacked on three sides and a B-40 rocket slammed into one tractor.

As Boehm rushed to the aid of the driver of the disabled vehicle, his own dozer was hit by a rocket and erupted in flames. Seriously injured with multiple fragmentation wounds to his head, neck, and extremities, Boehm was dusted-off by chopper to the 24th Evacuation Hospital in Long Binh, where he died shortly thereafter.

The company was ordered back to the battle site to recover Boehm's burned-out dozer. As the men approached the derelict vehicle, the VC attacked them again. During the fight Captain Edwin Heisse, Lieutenant Kevin Richard and medic James Harris were also killed, making April 24, 1971, the deadliest day in the history of the 60th Land Clearing Company. Boehm was posthumously awarded the Bronze Star Medal with Oak Leaf Custer and V Device.

As with other U.S. units, the Rome Plow companies were gradually replaced by South Vietnamese units. The 60th was ordered home in December 1971, the last U.S. plow company to redeploy.

Colonel Montfore has estimated that during its service in Vietnam the 60th Land Clearing Company succeeded in clearing between 150,000 and 200,000 acres of the jungle—suffering 27 combat deaths in the process. What can never be calculated, however, is the number of American infantry casualties that were prevented by the work of the 60th. •

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Land Clearing

Land clearing was another important job of the engineers in their operational support role; in fact, engineer methods of land clearing gained wide acceptance as among the most effective tactical innovations of the war. As techniques evolved for the employment of land-clearing units, these units more and more became the key elements in successful operations aimed at penetrating enemy strongholds, exposing main infiltration routes, denying areas of sanctuary, and opening major transportation routes to both military and civilian traffic. Engineer land-clearing troops on many occasions formed the vanguard of assault forces attacking heavily fortified enemy positions, while even under ordinary circumstances their use in clearing the jungle ahead of tactical security elements placed them routinely in a position of direct vulnerability to enemy action. These engineer troops rapidly developed a zestful pride in the importance, difficulty, and hazards of their occupation, and while their deportment and appearance sometimes fell short of normal standards, their spirit, courage, and persistence under the most adverse conditions entitled them to a substantial claim to elite status.

In the vocabulary of U.S. forces in Vietnam, Rome Plow came to be synonymous with land clearing. Of all the various types of land-clearing equipment tested in Vietnam, the military standard D7E tractor, equipped with a heavy-duty protective cab and a special tree-cutting blade manufactured by the Rome Company of Rome, Georgia, proved to be by far the most versatile and effective. The tractor took its

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The giant Rome Plow blade was designed to move over the ground six inches above the surface, shearing off most of the vegetation but leaving the root structure to prevent erosion. The blade has a leading knife-edge that Was sharpened by a portable grinder at least once daily. It is slightly angled so that cut material is discarded to the right. The leading corner of the blade is extended by a rigid "stinger" with which the operator attacks the larger trees by a succession of stabbings and dozer turnings.

The potency of the Rome Plow was early recognized by the troops in the field. Lieutenant General Julian J. Ewell, commander of II Field Force, was so impressed that he was led to remark that the Rome Plow Was "the most effective device" for winning the war. It played a substantial role not only in achieving military success but also in building the South Vietnamese economy through land clearing for redevelopment purposes.

An integral part of the land-clearing operation was aimed at improving security along roadways. No road, no matter how well constructed, was of much value if enemy interdiction made the use of it too hazardous. Wherever a highway passed through the jungle or heavy brush in areas subject to enemy activity, the land had to be cleared on either side for distances up to a hundred meters. The Rome Plow was the principal tool in these clearing operations. When the cover provided by the brush was removed, it was difficult for the enemy to stage an ambush. In addition, the land cleared by the plows was often fertile enough for farmers to move in and cultivate.

The story of how Rome Plow reached the U.S. Army in Vietnam and came to be one of its most effective weapons merits recounting. U.S. Military leaders had recognized early the tremendous advantage the jungle offered the Viet Cong and North Vietnamese Army in terms of limiting the movement of firepower of the modern military equipment employed against them and in protecting their bases, their lines of communication, and their arsenals. As early as November of 1965 General Westmoreland put his staff to work looking for means of jungle clearing. An officer was dispatched to Australia where success had been reported with a ten-ton or heavier hollow ball approximately twelve feet in diameter towed by ship anchor chains linked to a pair of very heavy tractors. This towed ball worked well in the Australian jungle, but when attempts were made in Vietnam to fabricate some sets of balls and chains, the large size of the ball, the difficulty of transporting it, and inadequate equipment stood in the way of early success. Suggestions from the United States meanwhile included a 100-ton tracked tank like vehicle, the three-wheeled LeTourneau tree-crusher, and a Rome Plow attachment for military tractors. A small number of tractors with Rome Plow attachments and accessories were ordered at once. Within hours after they had arrived, been assembled, and been hurried through field tests, large orders for Rome Plow kits were under preparation. While awaiting delivery, the test models in South Vietnam were put to immediate use and organizational training and operating plans were developed. The 100-ton tank was rejected as too hard to move; getting it from ship to shore in South Vietnam and subsequently to the jungle would have created impossible problems.

The LeTourneau tree-crusher was also originally rejected, even though it was capable of being broken down into four or five pieces for shipment. Flotation characteristics were appealing, but it was only marginally effective in the water. Although it weighed sixty tons, it was less trouble to move than some other proposed devices, but it was vulnerable- a target too big to miss in a tactical situation; a complex, though well-protected hydraulic sys-

tem; and little prospect of extracting the machine if it became deadlined in the middle of the jungle. Nevertheless, the commanding general of the 1st Logistical Command arranged for rental and shipment of a test model to the Long Binh area. In the early spring of 1967, the treecrusher proved its ability to perform in a swampy jungle; however, it was not reliable enough in South Vietnam and was returned to the United States when the lease expired.

The Rome Plow meanwhile had already fully demonstrated its suitability in major tactical operations. By the summer of 1967 three land-clearing platoons (or teams as they were called at that time) were operating in Vietnam, each equipped with thirty Rome Plows. Two platoons were assigned to the 20th Engineer Brigade, which was supporting II Field Force, and the third was assigned to the 18th Engineer Brigade, which was deployed in I Field Force. In addition, land clearing on a lesser scale was carried out by other engineer units throughout Vietnam, particularly by the divisional engineer combat battalions.

As the intensity of U.S. involvement in the conflict increased, the requirement for additional land-clearing units became apparent. The need for organizational changes was also recognized since many tactical units to which land-clearing teams were attached experienced an almost traumatic drain on their command, administrative, and, particularly, their maintenance capabilities. With only sixty-four men, a land-clearing team could contribute little more than a complement of operators for its thirty Rome Plows under the operational conditions that existed. Consequently, in December 1968 the three land-clearing teams were reorganized as companies with thirty Rome Plows each and were also provided with a significantly better capacity for self-support, particularly in maintenance. One month later, in January 1969, three additional land-clearing companies were activated, bringing the total to six, a number that was maintained until April 1970 when one of the companies was inactivated under the terms of the phase-down.

Three of the land-clearing companies were assigned to the 20th Engineer Brigade and three to the 18th Engineer Brigade. The 20th Engineer Brigade area of operation included large, reasonably level tracts in III Corps Tactical Zone that were occupied by major enemy units. These areas were particularly in need of land-clearing operations; furthermore, the roadnets were adequate for the large convoys of heavy tractor-trailers which transported land-clearing companies from a central base to the cutting area. These factors were prominent in the decision to organize a land-clearing battalion that would incorporate the three land-clearing companies of the 20th Engineer Brigade. The 62d Engineer Battalion based at Long Binh was selected for this purpose. Its lettered construction companies were inactivated, and in January 1969 the 62d was assigned the 60th, the 501st, and the 984th Engineer Companies (Land Clearing) to perform the mission of land-clearing operations in support of II Field Force.

The 18th Engineer Brigade supporting I Field Force in Military Regions I and II were faced with a different situation. Although objectives were plentiful enough in the form of enemy strongholds, the terrain was severely restrictive and so were the roadnets. Therefore the 59th, 538th, and 687th Engineer Companies (Land Clearing) were employed and supported on the basis of a geographic area of responsibility, with one company assigned to each of three engineer groups. Regardless of the method of deployment, land-clearing operations were closely controlled by the field force commander concerned. Since requests for Rome Plows far exceeded their availability, high-level control was essential to assure that the land-clearing unit was used only for tasks of the highest priority. Much

was learned from the employment of the original landclearing platoons on large-scale clearing operations in 1967. Techniques were developed and perfected in planning and execution in order to solve such exceptionally difficult problems as controlling an operation in dense jungle and coordinating the actions of the combat security force and the engineers operating the Rome Plows-particularly when troops were engaged with the enemy. The extreme heat, the dust (or mud during the monsoon season), large falling trees, bomb craters, hidden ravines, and enemy mines took a serious toll of equipment and accessories. Probably no item of equipment was ever operated so far beyond the limits of its designed capabilities as was the Rome Plow tractor in Vietnam. Yet this problem, too, was overcome, at least to the extent that the cost of land-clearing operations was brought to an acceptable level. The organizational changes mentioned earlier formed part of the solution; so did the establishment of direct dealings between land-clearing units and major logistical support facilities. But most of the solution was provided by the land-clearing engineers themselves. Once these men learned what it took in terms of skill, hard work, inventiveness, and just plain desire to keep their equipment operating, they did it. It became routine for a plow operator to spend twelve hours clearing jungle under conditions of extreme physical discomfort and hazard, and then return to the night defensive position and work for six or eight more hours in the darkness repairing his tractor for the honor of being able to repeat the cycle on the following day. Since operations generally lasted forty-five days before a unit was allowed a fifteen-day maintenance stand-down at its home base, the plow operators were called upon for almost unbelievable self-sacrifice. Without their heroic efforts, the cost of landclearing operations on any significant scale would have been prohibitive.

For the uninitiated observer, a visit to a land-clearing unit was unforgettable. The operation was conducted from a hastily constructed nighttime defensive position which, depending on the season, was rapidly churned by the tractors into either a bowl of choking dust or a sea of impassable mud. This was home for a task force that consisted of a land-clearing company and a security force, the latter normally of at least company strength and preferably mechanized. As the clearing progressed the night base was moved, usually every five to seven days, to a new location. Each day's clearing was carefully planned the previous evening by the

security force commander, who was usually in over-all charge of the operation, and by his supporting land-clearing commander. Planning included the exact delineation of the area to be cleared, the deployment of security forces, the routes to be followed to and from the cut, special procedures to be followed in case of enemy contact, and the use of preparatory and supporting artillery and small arms fire. Because of difficulties in navigating in heavy jungle, the operation was controlled as a rule from a helicopter by an officer from the land-clearing unit. The lead tractor was guided by radio in cutting a trace or outline of the area to be cleared while the remaining plows followed in an echelon formation, leaving in their wake an ever-widening swath of cleared jungle. Once the trace was completed, the most difficult navigational problem was over, and the formation of plows continued around the decreasing perimeter until the area of the jungle was eliminated. The vehicles of the security force followed the plows as closely as they were able. Quite often it was necessary to assign tractors to push fallen trees aside to permit passage of the combat vehicles.

In the course of a day, it was common for one-half to two-thirds of the Rome Plows to sustain disabling damage of some sort. Much of this damage was repaired on the spot by a team of mechanics. In other cases, the plow had to be towed back to the night defensive position. Since the operational area was often inaccessible by road, removal of the damaged equipment was complicated. For this reason, land-clearing troops developed enough skill to make repairs in the field that were ordinarily made in depots. It was not unusual to have a tractor hauled into its defensive base, disassembled to its very framework, fitted with new major components, and returned to service in just two or three days. To meet the massive demands of a land-clearing company for spare parts, daily deliveries by the Chinook helicopter became routine.

It was expected that land-clearing companies would suffer high casualty rates both from enemy action and from natural hazards. Most enemy-inflicted casualties came from mines encountered in the cut or from mortar attacks on night defensive positions. Aside from the obvious danger from falling trees, some of which ranged up to six feet in diameter, there were other natural hazards. Perhaps the most notable of these was the bee. Swarms of these insects often brought clearing activity to a standstill, and many operators had to be hospitalized, some in serious condition. Green smoke flares proved the best means for repulsing bees. No other color than green seemed effective.

On average, a land-clearing company could be expected to clear between 150 and 200 acres of medium jungle each day. Of course, in any specific operation, production depended on many variables including terrain, weather, maintenance, and enemy action. Because of the intense command interest in land-clearing operations, daily production reports received careful scrutiny at all echelons. Unit commanders and even the troops themselves quickly learned this fact and competition between land-clearing companies became intense. The most forthright production report ever received was submitted by a company commander whose Rome Plows had all become hopelessly mired in the monsoon mud before reaching the cut area. His report for the day in the line reserved for “acres cleared” was the most famous one-liner in land-clearing history. It said, “one tree.” Needless to say, this report created great concern as it filtered up through channels. An investigation clearly disclosed the impossible situation of the unit; in fact, to cut down a single tree under the circumstances was a major achievement. Queried on this point, the company commander admitted that when one of his plow operators attached his winch cable to a dead tree in an attempt to extract his tractor from the mud, the tree fell over and was counted.

From a strategic standpoint, the cumulative effects of land-clearing operations in Vietnam had a decided impact as the enemy was forced increasingly to adjust to the disappearance of his operational bases or to interdiction of connecting trails. The vastly improved capability of allied forces to observe, shoot and move throughout hundreds of thousands of acres of what was formerly "enemy country" represented dramatic progress, not only in a strictly military sense but also in terms of pacification and economic development. In the wake of land-clearing operations came a distinct revitalization of the countryside as villages began to spring up in once-threatened areas, agriculture bloomed where only the impenetrable jungle had stood, and traffic appeared on hundreds of miles of roads made safer by pushing back the jungle growth that once concealed the enemy. This was accomplished at a cost, and that cost was borne primarily by the Engineer Corps soldier who served in the land-clearing units throughout Vietnam. While statistics are usually bland and often misleading, in the case of these young engineers they are extremely interesting. In most land-clearing companies, two out of three men became casualties from enemy action during a one-year tour. Those who were specifically assigned to operate Rome Plows were statistically a cinch to earn a Purple Heart. That all of them did not is attributed to the fact that some received more than one. Add to this the other physical hazards inherent in land clearing, and the occupation appears to be one to be avoided. Yet the rates at which land-clearing specialists re-enlisted or voluntarily extended their tours in Vietnam were consistently at or near the top of the U.S. Army, Vietnam, statistics. Of even greater significance is the fact that these engineer soldiers were not specially trained or screened for land-clearing assignments. In fact, many initially resisted being assigned because of what they had heard about land clearing and its hazards. Yet once assigned, almost universally these men acquitted themselves most admirably. •

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For electric utilities, even brief power outages can disrupt homes, businesses, and critical infrastructure. These interruptions can also impact public safety and diminish customer trust, so quickly identifying and resolving electrical line faults is essential.

The challenges can be even greater with underground systems that distribute electricity through cables buried below ground. Unlike overhead lines, underground cables are not easily accessible. When a fault occurs, locating and repairing the problem often requires specialized tools and possibly excavation. Even minor failures can turn into extended outages.

To identify the probable location of the fault, linemen rely on data such as feeder loads, breaker activity, and SCADA information before going out into the field to make repairs. However, this is where the work becomes more challenging. Physical signage at the site is a critical tool for directing utility crews to the precise location of underground cables, access points, and other infrastructure so the work can begin.

Therefore, when cable markers are missing, mislabeled, or damaged, the entire fault-response effort is delayed. Dispatchers often require more time to narrow down the field location. Technicians must wait for updated locations. Electromagnetic detection, ground-penetrating radar, and vacuum excavation may be required.

This underscores the importance of signage that is accurate, visible, and legible over many years, despite the harsh underground environment.

"Cable tags and markers play a critical role in warning utility personnel about potential hazards, but also can help utilities minimize any downtime by facilitating the location of cables and other equipment underground faster," explains Daniel O'Connor, General Manager of Tech Products, Inc., a New York-based manufacturer of industrial identification solutions with over 75 years of experience.

O'Connor emphasizes that markers that are "good enough" for a few years may be slightly less expensive but are ultimately poor choices in the long run.

"The graphics should remain highly visible and legible for thirty to forty years after installation, even in harsh environments above and below ground," says O'Connor.

Signs Everywhere

In underground electrical distribution systems, signage must be installed in several critical locations. The rules for signage are largely derived from OSHA regulations, the National Electrical Safety Code (NESC), the National Electrical Code (NEC), and ANSI standards for safety signage. Utilities also maintain their own detailed signage and labeling standards that often exceed the general codes

Above ground, labels are posted on transformer enclosures, switchgear, cable risers, junction boxes, and utility access points. Common warning signs include "DANGER: High Voltage," "Underground Electric," and "Authorized Personnel Only." Pad-mounted transformers and sectionalizing cabinets must include an equipment ID number, voltage and phase information, kVA rating, and manufacturer information.

Below ground, buried cable marker tape is often placed 12–18 inches above URD cables or conduit with warning text such as "Caution: Buried Electric Line Below" to alert excavation crews that electrical lines are present.

In underground vaults, manholes, and handholes, it is standard to label ducts, phases, and splices, using durable cable tags that include circuit and

feeder IDs. These tags serve as essential safety warnings and help identify cable racks, grounding systems, junctions, and protective devices.

Unfortunately, the same underground environmental conditions that affect cable systems can also have an impact on any installed signage. For example, moisture can cause painted and laminated signs to fade or delaminate. Temperature extremes can cause plastic signs to become brittle or warp. Exposure to chemicals can also degrade plastics and coatings.

All these factors make it essential for utility signage to be made from materials designed for long-term outdoor or underground use.

One of the most common options are write-on tags, which allow users to add information using Sharpies, pens, or pencils on materials like plastic, paper, metal, or coated cardboard.

Despite their simplicity and convenience, write-on tags have notable limitations. Handwritten information is often illegible and can smudge and fade over time. In addition, only some write-on tags are designed specifically for harsh environments.

A better solution is high impact polyolefin plastic products like the EVERLAST® brand from Tech Products. The company offers a range of identification products for electric and gas utilities, telecommunication and cable companies, OEMs and pipeline companies.

EVERLAST cable tags and markers display text or pictograms that are permanently embedded through the entire thickness of the substrate. UV stabilizers and antioxidants are added to provide complete protection and weather resistance in all climates. The polyolefin plastic is impervious to sun, wind, rain, humidity, salt water, fumes, and acid/alkali solutions.

The tags and markers are not painted or screened but instead designed with solid black polypropylene characters permanently embedded into the substrate. Custom wording, logos, and a range of color options are available.

To speed the process of locating and isolating the exact URD cable or urban feeder during a fault or outage, the EVERLAST line includes phase markers in 1” and 3” sizes that indicate the phase (A, B, or C) of each line.

When close-up reading is required in tight or confined spaces, miniature markers with raised, 3D characters, called FastTags by Tech Products, Inc., remain legible even in low light, oily, or dusty environments. The raised 3D characters are hot stamped with high quality UV stable foil and are nonconductive and non-corroding.

Underground Cabling Grows

Today, demand for underground electric cabling is only growing. Dense urban cores and downtown districts rely on underground networks because real estate is scarce, outages and safety incidents carry high consequences, and aesthetics matter.

Regions exposed to severe weather and wildfire risk, including parts of California, Florida, and Hawaii, increasingly place distribution feeders and laterals below grade to reduce tree contacts and wind-borne faults. Planned communities, campuses, and industrial parks frequently specify “no-pole” covenants.

Given the increasing adoption of underground systems and with the stakes so high to quickly restore power, utilities need to effectively utilize industry best practice signage, tags, and markers to help technicians quickly and safely identify and resolve any faults.

For more information, call 1-800-221-1311; email info@techproducts.com; or visit ***www.techproducts.com*** •

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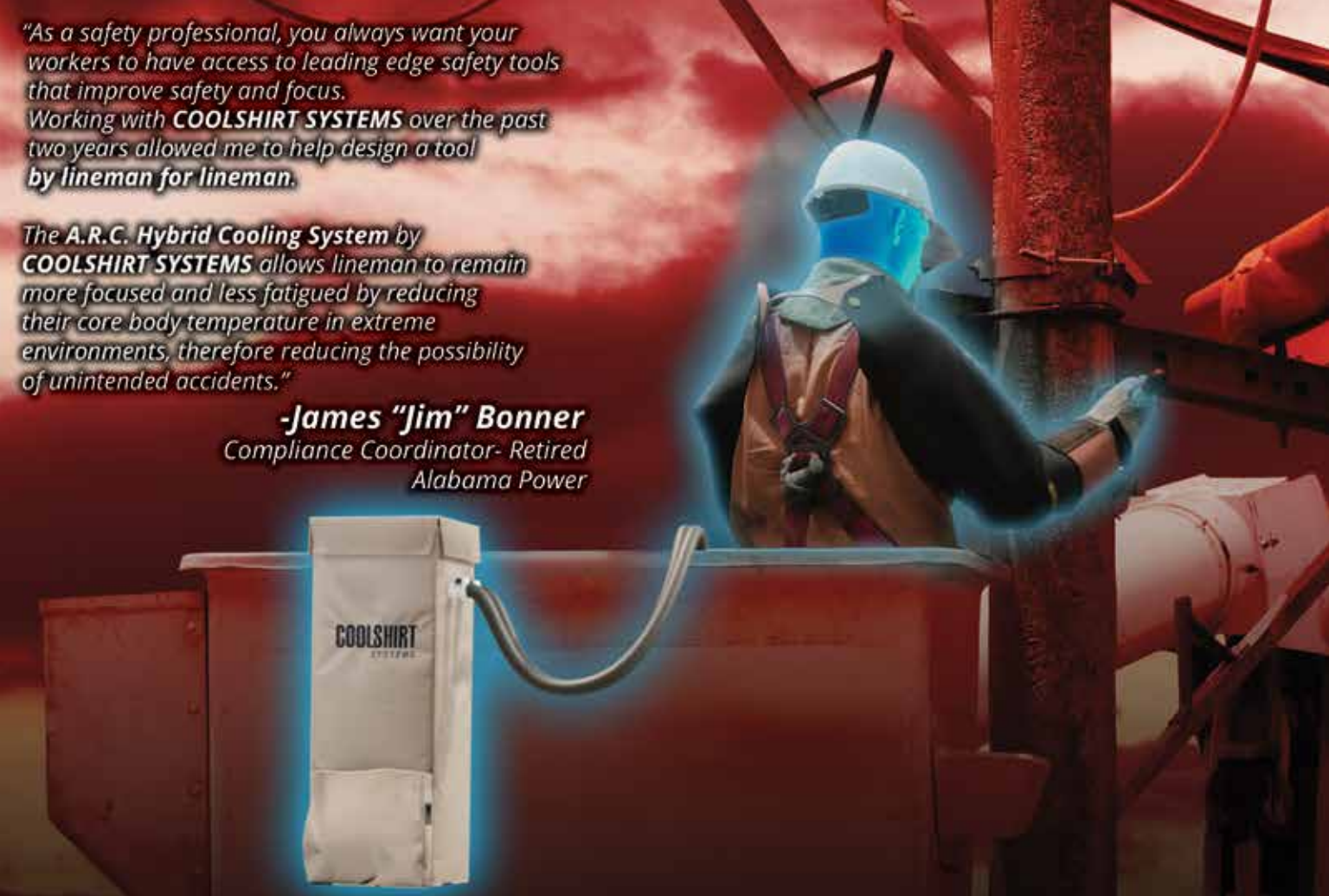

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