

eastern iowa copy exchange -- eastern iowa copy exchange
september, 1986

The eastern iowa copy exchange is a newsletter based principally on issues of war, peace and personal conscience. Its success is measured in recipient response. We are very nonprofit, donations are welcome. Written contributions, comments, and additions to the mailing list should be sent to John Tinker, Box 66, Olin IA 52320. The senior editor and distributor is Franklin Seiberling, 199 6th Street #1, Coralville IA 52241. By the way, if you wish to help this little enterprize, now would be a good time to do it. We are spending too much money on copying costs, and want to buy an inexpensive used copier. Contributions are most welcome, thanks.

U.S. blocks tool shipment to Nicaragua

WASHINGTON, D.C. (AP) — The Reagan administration has refused to let a private relief agency send farm tools to leftist-ruled Nicaragua, prompting a charge the United States is playing the "politics of hunger."

The administration rejected an application from Oxfam America, a Boston-based relief agency, to ship to Nicaragua \$41,000 worth of donated and purchased supplies, including rakes, seeds, shovels, agricultural books, wrenches, chain saws, hammers and water pipes, Oxfam officials said.

John Hammock, Oxfam executive director, said the shipment to two non-government agencies in Nicaragua was aimed at alleviating food shortages in the war-torn Central American country, which has been the target of a U.S. trade embargo for more than a year.

"We are dealing with the politics of hunger," Hammock said in an interview. "This is a clear example of the government playing politics with the poor overseas."

"The administration seems to be taking the position that anything that helps Nicaraguans, helps the Sandinistas," Hammock said.

Although the U.S. trade embargo permits shipments to Nicaragua "to relieve human suffering," the administration's denial, dated Aug. 26, said Oxfam's supplies were rejected because "such transactions are inconsistent with current U.S. foreign policy."

State Department officials were not immediately available to elaborate on the reasons for the denial.

Support:

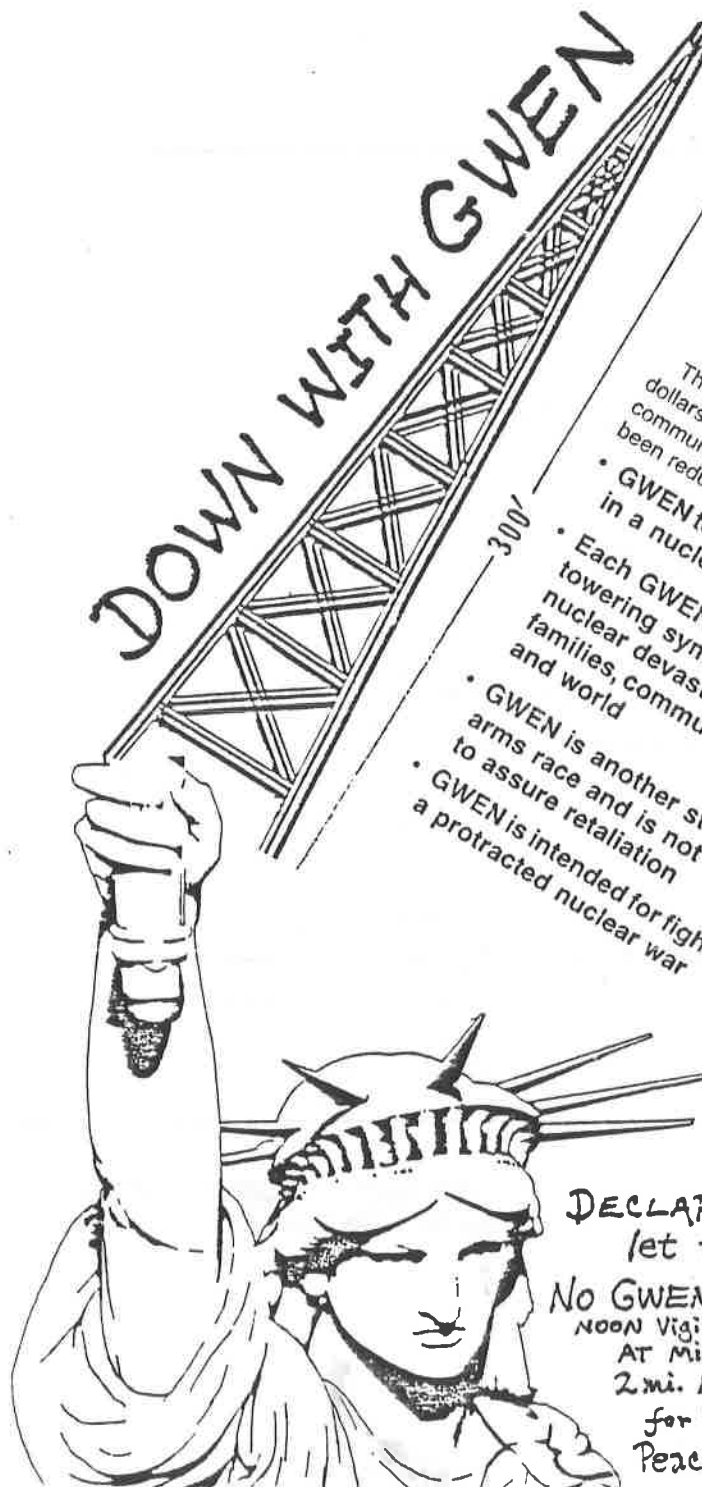
**Oxfam
America**

115 Broadway, Boston MA 02116 (617) 482-1211

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About a dozen of us marched in the Cedar Bluff 4th of July Parade (just about 10 miles south east of GWEN) with a miniature tower, banners, and signs. We passed out a number of leaflets, including the one below.

We'll be out September 20th. See you there! Our tower is available for loan to other events at which it would be useful.



DOWN WITH GWEN


The Ground Wave Emergency Network, GWEN, is a Pentagon planned nuclear war fighting communication system. The Air Force is quietly planning to build 240 GWEN towers in communities across the United States.

GWEN towers stand for nuclear war

The Pentagon wants to spend a billion dollars so that military leaders might communicate, after the rest of us have been reduced to ashes!

- GWEN towers may be targeted in a nuclear attack
- Each GWEN site will be a towering symbol of the nuclear devastation of our families, communities, nation and world
- GWEN is another step in the arms race and is not needed to assure retaliation
- GWEN is intended for fighting a protracted nuclear war

milepost 277
Highway 30
2 miles east of Mechanicsville



At times it is difficult to get a handle on the arms race. Now we have a chance to confront it in our own backyard.

DECLARE INTERDEPENDENCE!
let the earth survive
NO GWEN TOWERS! NO NUCLEAR WAR!
NOON Vigils - 3rd Saturday of each month
AT Milepost 277 Hwy 30
2 mi. East of Mechanicsville
for information write:
Peace Alliance - Box 2906 - IC 52244

- LABOR DONATED -

Edited by Lois Barber and Nancy Foster, Co-Directors of the GWEN Project
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HOUSE APPROPRIATIONS COMMITTEE SLASHES FUNDS FOR GWEN

On August 14th the House Appropriations Committee voted to cut the FY 87 budget for the Ground Wave Emergency Network by nearly half. Following the lead of Representative Silvio Conte (R-MA) who began in the Defense Subcommittee by proposing a cut of all GWEN funds, the Subcommittee and then the entire Appropriations Committee lowered the GWEN allocation to \$51,187,000., down from the \$97,187,000. sought by the Air Force for expansion of the GWEN system.

After Congress reconvenes on September 8th this Committee recommendation on GWEN will be part of an appropriations bill coming to a vote on the floor of the House.

****Please call or write your Representative in the House asking that he or she vote to sustain the cuts recommended by the Appropriations Committee and to defeat any move to restore the funding.**

****A note to Congressman Conte thanking him for his initiative and encouraging him to continue his efforts would also be useful.**

[copy exchange note: The Defense Subcommittee votes the week of Sept. 8. The entire Appropriations Committee is scheduled to vote the week of Sept. 15. Tom Harkin is on the Appropriations Committee. Please take the following action:

Call Harkin's aide, Greg Thielman in Washington. The number is (202) 224-3254.

- . Urge that Harkin sponsor Silvio Conte's amendment in the Senate.
- . Urge cessation of preparations for a 'protracted' nuclear war.
- . Speak directly to the question, "Many feel it is important to let the Russians know that they could not prevent retaliation by knocking out our communications systems on a first strike; how do you respond?"

Write to Hon. Tom Harkin, US Senate, Washington DC 20510]

ENVIRONMENTAL ASSESSMENTS CHALLENGED IN COURT

A temporary stay on construction of GWEN towers in Eugene, Oregon and Chico, California has been granted as the No-GWEN Alliance of Lane County appeals a U.S. District Court decision this month denying their request for an Environmental Impact Statement on GWEN.

Their suit contends that neither the generic nor the site-specific environmental assessments prepared by the Air Force conform to the National Environmental Policy Act which requires analysis of the effects of a project in use. In other words, they charge that the Air Force failed to consider the environmental impact of GWEN sites' being targeted in a nuclear war.

The outcome of this appeal could greatly strengthen No-GWEN efforts across the country. Contributions toward the cost continue to be welcome. Make checks payable to the No-GWEN Alliance of Lane County and mail to P.O. Box 3197, Eugene, OR 97403.

Value of Radio Towers for Nuclear Orders Debated

By MICHAEL R. GORDON

Special to The New York Times

WASHINGTON, Feb. 16 — A new network of radio towers designed to send warning information and retaliatory orders to United States nuclear forces is the focus of a dispute among experts over whether it could survive the opening minutes of a nuclear war.

Donald C. Latham, the senior Pentagon official in charge of command and communications programs, said in an interview that he believed the system could survive and should be expanded beyond current Air Force plans, to help the United States direct nuclear weapons in a war that could last days, weeks or longer.

He said that more of the towers should be built in the United States and that consideration was being given to extending the network into Alaska and Canada to communicate with bases for aircraft that intercept bombers.

But other Pentagon officials and some non-Governmental experts questioned the need for a large network, saying that both the radio system and the bases and command facilities linked to it would be among the first targets struck in a nuclear attack.

"Even if the system somehow remained intact, it would not have anyone to talk to," said Bruce G. Blair, an expert on strategic communications systems, who recently worked for the Defense Communications Agency.

At the heart of the debate is the ground-wave emergency network of unstaffed radio towers that will transmit data using low frequency signals.

The Air Force plans to have 56 of the 300-foot relay towers operating by the

end of this year, along with additional receiving and transmitting equipment at military sites, a spokesman said.

The entire network of 130 radio sites, already under construction, is to be completed by the early 1990's at a cost of \$750 million. It would link bomber and aerial refueling tanker bases, missile launching centers, warning radars, facilities for airborne command posts and ground-based command centers.

Many of the towers are to be placed in regions that are remote from military centers, and the plans have aroused controversy in some communities under consideration for towers, such as Amherst, Mass.

Views of War Disputed

Antinuclear activists there have complained that the system would make their town a target and have charged that the system reflects the view that a "protracted" nuclear war is feasible.

Planning for the ground-wave emergency network began in the early 1980's when the Air Force sought a communications system to provide warning information to its bomber forces that would be resistant to jamming and the disruptive effects of nuclear blasts.

But over the years the plans became more ambitious. The system is now intended to transmit retaliatory orders as well as warning messages.

Franklin C. Miller, director of strategic forces policy in the Defense Department's office of international security policy, said that the system would deter the Soviet Union from pursuing a strategy of interrupting United States communications early in an attack with high-altitude nuclear blasts to dis-

able electronic components.

"The system is important for the first 35 minutes of an attack," he said.

But while many Pentagon officials agree with this, the Pentagon has not spoken with a single voice.

Initial Air Force plans had called for at least 240 of the relay towers, instead of the 130 now planned, for an additional cost of \$160 million, according to an Air Force spokesman. And Pentagon officials had talked of an eventual network of 400 to 500 radio sites.

Mr. Latham, the senior Defense Department official in charge of command and control programs, said in an interview that the current plan "is an Air Force temporary position that I absolutely do not agree with."

"They came in and briefed me and I sent them back to the drawing boards to do a lot more analysis to show that they have not covered all the possible needs," said Mr. Latham, who added that the plan for 130 towers reflected budgetary concerns.

Doubts on Aid in a Long War

Mr. Latham contended that the system needed to be expanded to make it more resistant to attack, adding that the Pentagon was reviewing a proposal to extend it into Alaska and Canada to link up with air defense units there.

A Pentagon official who asked not to be identified said that Mr. Latham's vision of a large network that could extend into Canada had not yet been formally endorsed. The official, who supports other communications systems intended to "endure" a nuclear strike, questioned whether the ground wave system would contribute to the American ability to fight a long nuclear war.

"If the Soviets wanted to attack the system they could do that and still have enough warheads left," he said.

Some experts agree with this. Mr. Blair said that some Defense Department studies justified skepticism that the network "could function coherently in the wake of any attack involving significant numbers of weapons unless the attacker decided not to target" the relay towers.

He said that the relay towers could transmit signals about 200 miles and that "tens of weapons" directed at specific relay towers would be sufficient to "dismember the network into essentially useless segments."

Mr. Blair said that he saw a role for the system in providing warning information to bombers but argued that there was no persuasive rationale for trying to build a system for a long nuclear war because the bomber bases, missile fields, underground command posts and radar installations linked by the system were important and vulnerable targets and would be destroyed. The missile-carrying submarines, considered the element of the American strategic forces most likely to survive attack, are not served by the network.

But Mr. Latham argued that defense planners "have gone to extraordinary means" to make the system more "survivable" so that it could function after an attack. Such a capacity, he said, would help deter an initial attack.

Such measures involve equipping the towers with auxiliary diesel generators that would operate the transmitters for up to a week after regular power was lost.

Further, a switching system is used



Mara Cherkasky

Bruce G. Blair, an expert on strategic communication systems, questions the need for network of radio towers for nuclear war.

so that if some towers are knocked out, the network seeks out an alternative route.

Mr. Latham also noted that placing the towers in remote areas away from military centers lessened the chances that they would be attacked. He argued that that the Soviet Union would not try to attack a large system because it would be likely to want to use its most accurate warheads on other targets. "It is hardly worth trying to target those towers," he said.

Air Force officials who oversee strategic communications programs declined to be interviewed. Asked about Mr. Latham's criticism, the Air Force issued a statement saying that as a result of "continuous studies," the plan had periodically been adjusted.

The Washington Post

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SUNDAY, JULY 27, 1986

Building a Force for World War IV

Pentagon Designing Systems to Survive Protracted Nuclear Conflict

By Fred Hiatt
Washington Post Staff Writer

GETTYSBURG, Pa.—In the farmlands a few miles from America's bloodiest battlefield, the GWEN tower of Gettysburg rises above a quiet cow pasture—a slender link in the Reagan administration's preparations to fight a nuclear war.

The gray Gettysburg tower and scores of identical structures across the continent are intended to transmit messages to missile silos, bomber bases and submarine ports

in the event of a nuclear attack. But GWEN—the Ground Wave Emergency Network—is designed to do more: to survive a nuclear attack, aid U.S. leaders during a prolonged nuclear war and marshal whatever forces remain for the next conflict.

Or in the jargon of a Joint Chiefs of Staff document, GWEN would “support operations in the trans- and post-attack period, including reconstitution.”

The projected cost of the GWEN system is \$800 million, according to Air Force officials, a relatively small investment by Defense Department

standards. But GWEN is part of a complex, \$40 billion plan, drawn by the administration and approved by Congress, for a military infrastructure that can survive a protracted nuclear war.

Most senior officials stopped talking publicly about nuclear war-fighting early in the administration, after Defense Secretary Caspar W. Weinberger triggered a storm of criticism by calling for a U.S. strategy to “prevail” in a nuclear conflict. Critics quickly insisted that nuclear weapons are so terrible that no one can win a war in which they are

used, and President Reagan began saying that such a war “can never be won and must never be fought.”

The change in rhetoric did not reflect a change in programs. Behind the scenes, often in secret, the military has spent nearly \$20 billion for a command, control, communications and intelligence network—what the Pentagon calls C³I (and pronounces “cee-cubed-eye”)—much of which is intended to survive a protracted nuclear war into the “post-attack phase.”

“In other words,” said critic and nuclear weapons expert William M. Arkin, “it will get the United States ready for World War IV.”

The C³I network, in turn, fits into a larger administration program that includes civil defense plans to protect local officials in a nuclear

See WAR, A16, Col. 1

Pentagon Building Systems to Survive Protracted Atomic War

WAR, From A1

war and weapons—such as the "Stealth" bomber and SRAM II short-range nuclear missile—designed for a flexible, war-fighting strategy. Scientists at the Defense Nuclear Agency, meanwhile, are studying how to "train our troops to better understand the impact of enemy nuclear firepower and thereby better prepare them to cope with operations on the nuclear battlefield," according to congressional testimony.



Critic William Arkin: United States is getting ready "for World War IV."

According to interviews, testimony and unclassified documents, many pieces of a purportedly "enduring and surviving" C³I network are being constructed:

■ The Milstar satellite constellation, which will cost \$10 billion to \$20 billion and will be, according to Pentagon C³I czar Donald C. Latham, the first communications satellite able to support a "multiple-exchange campaign," in which adversaries would fire nuclear weapons in salvos.

■ A satellite-based Nuclear Detection System that could report which targets have been destroyed and which need to be hit again, capable of "long-term operation in an enhanced nuclear environment," according to Air Force testimony to Congress.

■ A fleet of "covertly deployed" 18-wheeler trucks from which generals could run the war in the days and weeks after airborne command posts have been destroyed or have been unable to land—designed "to operate beyond the initial stages of a nuclear conflict," as Weinberger has said.

Other systems being developed or studied include rapidly inflatable balloons that could be sent aloft trailing radio antennas if GWEN towers were destroyed; communications satellites that could be launched from submarines after existing ones no longer functioned; command posts built deep underground, aboard small merchant ships, or on railroad cars, and a new generation of airplane command

posts that could land on highways after all U.S. airstrips are gone, refuel from hidden caches and take off.

"We've looked at everything you can imagine to see how you would survive the C³I function and missions in strategic nuclear war," Latham said in an interview.

Latham and Franklin C. Miller, the Pentagon's director of strategic policy, said in interviews that U.S. preparations aim to deter the Soviet Union from launching a nuclear attack and do not reflect any U.S. belief that a nuclear war could be won. As long as the United States is prepared to fight any kind of war, they said, the Soviet Union will see no advantage in starting one.

In addition, Latham said that what he termed Soviet preparations for a protracted nuclear war—including deep underground bunkers and the ability to reload missile silos—force the United States to follow suit.

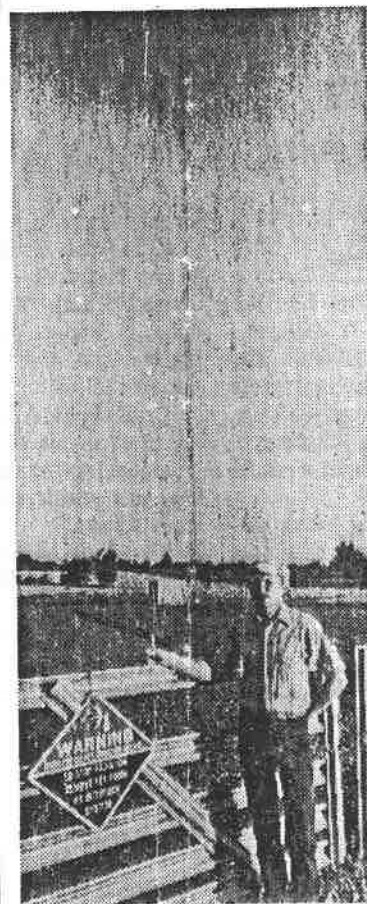
"It's the other guy who appears to be gearing up," Latham said, "so that if you ever did go to nuclear war by some madness or miscalculation, that it would not simply be a spasm situation that would be over in a matter of minutes . . . It's not likely to end in the first hour or the first day. And so you need to be prepared."

Critics charge that preparing for anything beyond assured retaliation is foolish, because of the utter devastation that a nuclear attack would cause. And they say such preparations are not only wasteful but dangerous if they convince leaders that the nation could ride out a nuclear war.

Paul C. Warnke, a senior Pentagon official in the Kennedy-Johnson years and the chief arms control negotiator under President Jimmy Carter, said in an interview: "To the

extent that you prepare to fight a limited and protracted nuclear war, you may find yourself closer to using nuclear weapons . . . You can't conduct a limited or protracted nuclear war, and I know of no combat general or admiral who believes you can."

Jerry DePew, a Gettysburg carpenter who led an unsuccessful move to block the GWEN tower here, said: "They can waste all the money on this stuff they want, as long as they promise not to use it," he said. "But I don't trust the promise."



Opponent DePew near gray tower built for postwar communications.

McNamara's Declaration

During the early days of the administration, when officials inadvertently energized a nuclear freeze movement with talk of fighting and surviving a nuclear war, they protested that they had been unjustly singled out.

It was Defense Secretary Robert S. McNamara, after all, who declared in 1962 that "we will use nuclear weapons to prevail, if this becomes necessary." It was Defense Secretary James R. Schlesinger who called in 1974 for a strategy of "limited options" in nuclear war. And it was Carter who emphasized the need for survivable command and control in a 1980 presidential directive.

"The requirement for C³ that can endure in a protracted conflict is nothing new," Miller said recently.

What is different, he said, is this administration's determination to back doctrine with hardware.

"For the first time in maybe 20 years, we've really put our money where our mouth is in indicating that we're serious about command and control capabilities," Miller said.

Miller denied during the interview that the administration is seeking the ability to fight a "protracted" nuclear war, although he used the word at times. He said that most of the administration's C³I improvements are aimed at giving the government sufficient warning and time to permit a considered judgment about retaliation, perhaps defusing a crisis that would otherwise explode out of control, capabilities that are applauded by liberals and conservatives alike.

Miller also noted that the military in the early 1980s had been roundly criticized for failing to invest suf-

ficiently in early warning systems and reliable communications equipment capable of enduring an attack.

In fact, during a public hearing in Gettysburg before several dozen GWEN opponents, Miller dismissed as "patent nonsense" a critic's assertion that GWEN is intended to survive a long war.

"Nobody has tried to plan for a protracted nuclear war," he said at last fall's hearing. "I don't know what protracted nuclear war is."

But in testimony to Congress and at other times when they are not in the presence of their critics, officials speak differently. GWEN would continue to operate "even after a nuclear laydown," Latham told the Senate Armed Services Committee; furthermore, an entire generation of systems is being developed to provide "high confidence that our strategic C³ systems will survive and endure through trans- and post-attack phases of a Soviet nuclear strike," the Air Force said in a fiscal 1985 report.

During the first minutes of a nuclear attack, according to military plans, U.S. forces would be controlled from fixed command posts, including centers built inside mountains in Maryland and Colorado. Strategists assume, though, that the Soviets could blow those up, along with Washington, and they count on generals, and perhaps the president or vice president, to carry on the war from airborne command posts—Boeing 747 and 707 jets crammed with computers and radios.

With the help of refueling planes, the command posts might stay aloft for three days before their engine lubricating oil ran out, forcing the jets to land. Previous administrations assumed those three days would suffice, but Anthony D. Sal-

vucci, assistant deputy commander for strategic systems at the Air Force Electronic Systems Division, said in a recent interview that the military is looking for more endurance.

"We are demanding more on-station time for the aircraft, but at the same time we are recognizing that you probably have to go a step beyond that," Salvucci said. "In the next generation, they're talking about a system that's capable of not only surviving because of its mobility, but surviving for longer periods of time by being able to land if it had to, and get whatever assets or resources it needed to take off again."

The next generation of command post jets, he said, will carry more spare parts, including fuel nozzles that could operate at commercial airports, and might land on highways where parts and fuel had been cached.

"We can be faced with the fact that, 'Jeez, everything looks great except the airfield we're supposed to land at isn't available, now what do I do?'" Salvucci said. "And the guy says, 'Well, there's a highway nearby that isn't too bad, we might be able to make a landing there, and we could haul off across the grass to pump the fuel out of the tanks. . . . We're looking to operate an airborne command post in a not-very-friendly atmosphere and a not-very-friendly ground environment.'"

Gen. Larry D. Welch, recently installed Air Force chief of staff, said in a March article in *Signal* magazine that such a new system is needed "for effective wartime force management."

In the meantime, the Pentagon is purchasing 40-foot trucks that resemble ordinary vans rumbling down the highway but carry sophisticated communications gear for fighting a nuclear war. In his 1983

annual report, Weinberger said the Defense Department was "concerned" about the airborne command posts' "ability to operate beyond the initial stages of a nuclear conflict" and was developing mobile systems to "supplement or take over" as needed.

Discussion of that program was subsequently dropped from his annual reports, and a spokesman for the Army—purchasing agent for the vans under the code name "Island Sun"—said last week that the subject is classified.

But companies that produce the vans advertise openly at industry conventions. Goodyear Aerospace distributes color brochures promoting its 18-wheel Survivable/Mobile Command Control System ("designed to be utilized in covert operations") and the smaller Survivable Enduring Shelter ("to meet the most stringent technical requirements for survival during a nuclear event").

A Goodyear executive who asked not to be identified said his company's equipment would last longer than any troops exposed to nuclear attack.

"But new troops could be moved in," he said. "Our equipment will last longer than theirs [the Soviets], so in the long run we have an advantage."

The Strategic Air Command in Omaha, according to congressional testimony, has bought a mobile command post called HERT (Headquarters Emergency Relocation Team). The Aerospace Defense Command in Colorado Springs last year requested \$46 million for RAPIER (Rapid Emergency Relocation Team).

Together, Latham told Congress in 1983, the airborne and highway-driven command posts "provide a

strategic C³ system capable of spanning the full spectrum of modern warfare, from crises operation through execution of an initial nuclear exchange and conduct of a prolonged nuclear war to conflict termination."

Still, Latham said recently, the Pentagon continues to weigh other options for survivable command posts: at sea, on trains, deep underground. Deep bunkers in particular, he said, with fiber optic antennas radiating out along the earth's surface, hold promise.



U.S. preparations, Latham says, are to deter Soviets from nuclear attack.

"There are commercial tunnel-boring machines that will drill 30-foot-diameter, completely smooth holes right through hard rock at 20 feet an hour, and they make beautiful holes," Latham said. "The technology to dig deep and do it fast is here today."

To, keep some generals alive throughout a nuclear war, there are other ideas the Pentagon won't discuss.

"Mobility is one way to do it, deception is another, covertness another," Latham said. "Add all those together, and that's what we're doing to approach this."

Network of 130 Towers

The Defense Department knows that surviving generals aren't much good unless they can communicate with their forces, and that is where GWEN comes in.

A network of 56 radio towers will be in place by the end of the year, and 130 to 150 will be built in the next few years, Salvucci said. Although any single tower can easily be destroyed, Latham said, the system can switch messages through alternate routes, so that most of the system would have to be destroyed to knock out GWEN.

"Is the Soviet rich enough in war-heads?" Latham asked. "If he's going to take down GWEN, he's got to put a lot of weapons on it. . . . My feeling would be that that is not on the top of his priority list by any means."

Still, GWEN carries only short messages typed on a keyboard. The eight Milstar satellites and hundreds of Milstar radio terminals on planes, subs and bases, by contrast, will provide the "ultimate global connectivity," Latham said, a system designed to operate for months after a nuclear war begins.

Officials are reluctant to discuss why they believe Milstar, scheduled to be operational in the early 1990s, would survive. But some of their ideas to protect satellites from nuclear attack include launching decoys and spares in deep space, "hardening" solar panels and instruments against nuclear effects and building satellites that can maneuver or shoot back.

At the same time, satellites are being built to work autonomously for months, in case ground control stations are destroyed; the ground stations, in turn, are being installed in mobile vans. Even the Pentagon's



A color brochure for the Goodyear Aerospace Survivable Enduring Shelter advertises a vehicle built "to meet the most stringent technical requirements for survival during a nuclear event." The drawing depicts what appear to be two missile launch control officers, in headsets; carrying on their work while a mushroom cloud and blast of fire take shape above the plain behind them. Though on fire itself, the truck remains operational and the officers inside, comfortable. The 12-foot-long van was exposed to "simulated nuclear blast overpressure" and survived, Goodyear says.

weather satellite station near Fairchild Air Force Base, Wash., "will be hardened against collateral damage . . . caused by strikes on Fairchild AFB and Spokane," according to congressional testimony.

Col. James H. Heilman testified this year that the Air Force wants to outfit satellites with nuclear power to allow more on-board processing, reducing "reliance on vulnerable ground stations during stress-

ing periods" and aiding the "timely reconstitution of ground operations."

A Reagan directive also mandates that commercial satellites be made more survivable to support the "continuation of government functions during all phases of conflict," Lt. Gen. Winston D. Powers, director of the Defense Communications Agency, said this spring.

Besides Milstar, the satellite most important to the military's nuclear war strategy is the 18-craft constellation carrying the Nuclear Detection System. NDS is built to function for six months without ground commands and to provide generals with information on the progress of the war.

"If you can't contact the governor of New York, does it mean you have no communication, or that Albany has been destroyed? NDS will tell you that," Miller said.

"If the war continued," he added, "you would know what you didn't have to hit again . . . Some would say that's a nuclear war-fighting mentality. I would argue those are the logical kinds of questions that have to be answered if deterrence fails."

Retargeting Missiles

Those questions are forcing dramatic changes in U.S. nuclear forces. To take advantage of their new command and communications systems, the generals need something to control as the "protracted" war grinds on—and that means missiles that can be retargeted, bombers that can be reloaded, ships and submarines that can operate in the midst of nuclear war.

Lt. Gen. William E. Odom, now chief of the Defense Intelligence Agency and then a member of Carter's National Security Council staff, emphasized at a Harvard University seminar in 1980 the need to "be able to conduct a long campaign in which you may choose new targets."

To meet that need, Lt. Gen. Richard Saxer told Congress that his Defense Nuclear Agency is developing a "field-deployable" computer facility that could instantly reprogram nuclear missiles to attack a changing array of targets.

The Pentagon will only hint at how long it expects to keep fighting. Latham told Congress in 1984 that a "strategic reserve force" of nuclear missiles would be left aboard specially designated Trident submarines, "so that you really want to have an assured connectivity to them over a period of weeks or months."

A research plan this year notified Congress of efforts to support strategic bombers and tankers "for re-strike during the extended conflict phase of strategic nuclear war (i.e., days to months after an initial exchange)."

How could bombers return from the Soviet Union, refuel, reload and take off again with new instructions in the midst of nuclear war?

"It's being very smart in how you handle the spares, the logistics, the stationing of equipment," Latham said in an interview. "There's lots and lots of things you can do if you're very clever about it, and we're looking at all of those."

Washington Post

7/27/86

The Covenant of All the Generations

by Carl Sagan

Does the human race have "tenure" as a species on this planet? Let's look at the history of the dinosaurs. What destroyed them? Probably a large object from space about ten kilometers across, which carved a hole in the ocean bottom, created a tsunami — a tidal wave, or flood, of unprecedented scale — and sprayed particles of smoke and dust high up into the atmosphere. These particles blocked the sun, darkening and cooling the earth, and wiped out the dinosaurs, who were unprepared for sudden chills.

It's stretching things a little to say that the "flood" killed the dinosaurs; but still, this is sufficiently close to Genesis, chapters 6-9, that we can try to seek some further wisdom from the story of Noah.

In Genesis 6-9, after Noah twists God's arm a bit, God promises him that there will be no more floods. But God reserves his option for other forms of

Carl Sagan, of Cornell University, was 1984's recipient of the SANE Peace Award. In February he received the Brit HaDorot (Covenant of the Generations) Award from the Shalom Center for his work on nuclear winter. This article, an adaptation of his acceptance speech, is copyrighted by The Shalom Center, 1986.

planetary catastrophe.

Such catastrophes are now within our own hands to make. Indeed, there is a midrashic tradition of a different sort of flood, a "flood of fire," *mabul esh*. We ourselves have the capability to cause such a flood of fire through our own actions — unprecedented devastation, worldwide. Unprecedented, at least, during the tenure of the human species on earth.

We have accumulated since 1945, almost without noticing it, 60,000 nuclear weapons, almost all of which are more powerful than the bombs that destroyed Hiroshima and Nagasaki. Think of it! Sixty thousand nuclear weapons! Of them, something approaching 25,000 are what we call strategic nuclear weapons, meaning they are intended to destroy the homeland of the potential adversary.

How many cities are there on the planet Earth? If we define a city as having 100,000 people or more, there are 2,300 cities on earth. That means that the United States and the Soviet Union could completely wipe out every city on earth and have 20,000 strategic weapons left over, with the targeters wondering what to do with them.

What if we did much less than this — burned only between a dozen and a hundred cities? (That would be by no means

a "large" nuclear war, considering how huge the arsenals are.) From the burning cities and forest wildfires, the dust and smoke from airbursts and groundbursts would produce a thick cloud of dark, fine particles that would stay up in the atmosphere, block out the sun, cool and darken the earth, in a parallel to what we think happened 65 million years ago at the end of the Cretaceous period of geological time.

Our calculations indicate that the temperature would drop below freezing for very long periods of time — not just 40 days and 40 nights, but in some of the calculations for years. The light level would go down to something like one percent of ambient average over the northern mid-latitude target zone.

So nuclear war posits a fundamental threat to all of us. Nations that might have contemplated sitting this war out find that they can be utterly destroyed without a single nuclear weapon falling in their territory, without any hostilities in their vicinity. Indonesia, say, or Nigeria, or Brazil, could be utterly wiped out by the destruction of agriculture, the cold, the dark, the disease, and the radiation, without being involved in the hostilities.

So, suddenly we find that we're all in this together.

The Fallout Dangers of Star Wars

by Dr. E.J. Sternglass

A technologically perfect missile shield that is capable of intercepting every incoming nuclear warhead would in all probability still fail to protect the US. No shield, no matter how effective, would prevent radioactive fallout produced in space from damaging all living things on our planet. Not only would bombs exploded in space drop radioactivity on earth — but the defensive system itself could add to the fallout.

The Pentagon is considering deploying hundreds, even thousands, of X-ray laser weapons, each of which would be powered by a hydrogen bomb explosion. At least half of the resulting long-lived radioisotopes (such as strontium-90, cesium-137, and plutonium-239) would disperse into our atmosphere. Several life-threatening results would certainly follow, including depletion of the ozone in the stratosphere. Ozone filters much of the sun's damaging ultraviolet radiation; weakening of the ozone layer would contaminate crops, livestock, milk, and water all over the globe, as well as produce blindness and skin cancer in epidemic

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proportions.

Even the "cleanest" H-bombs (those producing the least radioactivity) would inject into the atmosphere large quantities of radioactive carbon-14, which has a half-life of 5770 years. Linus Pauling and Andrei Sakharov both demonstrated in the late 1950s that carbon-14 is one of the most destructive radioisotopes because it damages the carbon present in all molecules, including in the DNA of genes. The two scientists calculated independently that a single one-megaton bomb detonated anywhere above the earth's surface would cause between 10,000 and 60,000 human deaths and a comparable number of serious birth defects, some of which would result in additional early deaths. Cancers and ordinary infectious diseases would be the main killers. Because the body's immune system is damaged or destroyed by radiation (as in the AIDS disease), those exposed might die from an infection as simple as the common cold.

Even if a Star Wars defense does not use such X-ray lasers, deadly fallout would nonetheless threaten us, for offensive missiles exploded in space would rain radiation on earth. Nuclear warheads can be designed to explode on sensing imminent destruction (sensors detect intense heat or fast-moving projectiles, and "salvage fuses" detonate the bomb), as Richard Garwin detailed recently in the *Journal of International Affairs* (Vol. 39,

No. 1, 1985). Warheads might be equipped with this mechanism to enhance their destructive power in the face of a missile defense; for example, they could disrupt communications-and-control systems.

A space-based defensive system would pose radiation dangers just by being deployed — whether or not it was used. The hundreds of satellite stations necessary to fire missiles, lasers, and particle beams and to coordinate battle would require highly powerful energy sources, small and lightweight. A nuclear reaction is the only known means of producing energy at that level of efficiency. Theorists such as Eliot Marshall envision numerous multi-megawatt nuclear reactors orbiting in space. The dangers of reactors on earth, constantly monitored and adjusted, are familiar, but imagine the difficulty of maintaining them in space. If an accident occurred — or if some force deflected them from their regular orbits, causing them to burn up — vast amounts of radioactivity could descend to earth.

Most experts foresee grave, perhaps insurmountable, problems in developing a missile shield to defend only a limited number of military sites. But if scientists somehow succeed in building a system that protects ground structures from destruction by blast, fire, and heat, the shield will not protect life on the planet. Radioactive fallout would most likely devastate the environment and the human race.

Peace Postcards and Bumperstickers

John Tinker is printing postcards and bumperstickers which he supplies at a nominal cost. Postcards may be had for 8/\$1 or \$7 for 100. Bumperstickers are \$1 each; ten or more at \$.50 each; a hundred or more at \$.35. You can mix your selections and still qualify for the quantity prices. Suggestions for new cards or stickers are always welcome. Below is a list of what he has on hand at present:

Postcards

"Reagan's subversion of truth and the rule of law is the greatest threat facing the American people and indeed the world... If we care for the truth and for who we are, and if we want to restore the integrity of our constitutional system, we must demand the impeachment and trial of Ronald Reagan." --Ramsey Clark, Former Attorney General of the U.S.

THE NEUTRALITY ACT OF 1794

"If any person shall, within the territory or jurisdiction of the United States, begin or set foot or provide or prepare the means for any military expedition or enterprise to be carried on from thence against the territory or dominions of any foreign prince or state with whom the United States are at peace, every such person so offending shall upon conviction be adjudged guilty of a high misdemeanor and shall suffer fine and imprisonment at the discretion of the court in which the conviction shall be had, so as that such fine shall not exceed \$3000 nor the term of imprisonment be more than three years."

--Perhaps someone should tell the Reagan gang.

"Every gun that is made, every warship launched, every rocket fired signifies in the final sense, a theft from those who hunger and are not fed, those who are cold and are not clothed. This world in arms is not spending money alone. It is spending the sweat of its laborers, the genius of its scientists, the hopes of its children.

... This, I repeat, is the best way of life to be found on the road the world has been taking. This is not a way of life at all, in any true sense. Under the cloud of threatening war, it is humanity hanging from a cross of iron." --Eisenhower, April 16, 1953.

"Controlled, universal disarmament is the imperative of our time. The demand for it by the hundreds of millions whose chief concern is the long future of themselves and their children will, I hope, become so universal and so insistent that no man, no government anywhere, can withstand it." --Dwight D. Eisenhower

"Registering for the draft is like lining up for Kool Aid in Jonestown."

--Daniel Ellsberg

"Show me who makes a profit from war and I'll show you how to stop the war."

--Henry Ford

"Because everything we do and everything we are is in jeopardy, and because the peril is immediate and unrelenting, every person is the right person to act and every moment is the right moment to begin." --Jonathan Schell

"I confess that I cannot understand how we can plot, lie, cheat and commit murder abroad and remain humane, honorable, trustworthy and trusted at home."

--Archibald Cox

Bumperstickers

Peace is More Patriotic!

PEACE would make MY day!

Don't Tolerate WAR CRIMES! Ever, by anyone -- including Reagan.

THE ARM\$ RACE is totally insane.

Americans & Soviets let's be friends!

If reagan is right, then Jesus is wrong.

PEACE would be awesome.

MECHANICSVILLE nuclear target

IOWA CITY nuclear free zone

Send orders to John Tinker, Box 66, Olin IA 52320. Phone (319) 484-2909.

*** FOOD NOT BOMBS *** LIFE NOT DEATH *** PEACE NOT WAR ***

FARMS NOT ARMS

JOIN US SATURDAY, SEPTEMBER 20, 1986

*** DOOMSDAY GWEN TOWER *** 2 MILES EAST OF MECHANICSVILLE
MILEPOST 277 ON U.S. HIGHWAY 30

In the fall of 1985 the U.S. Air Force built a 300 foot radio tower on 15.5 acres of prime Iowa farm land. A component of the Ground Wave Emergency Network (GWEN), this tower is meant to be used after electromagnetic pulse and radioactivity black out conventional communications in the first minutes of a nuclear attack. In theory, GWEN would allow the government to continue fighting World War III even if most of us were already dead.

PEACE VIGIL

3RD SATURDAY EACH MONTH

AN INVITATION

Come join us on the third Saturday of every month at the GWEN site, two miles east of Mechanicsville on Highway 30, in a silent vigil to witness to the life on earth and to the death symbol of the GWEN tower.

From 12:00 to 12:30 we will stand in a silent line along Highway 30. At 12:30 there will be a discussion of our concern for the future of life and growth in Iowa where farms are going bankrupt and pessimism is deepening, while tax dollars are readily available for means of destruction.



"...But other Pentagon officials and some non-Governmental experts question the need for a large (GWEN) network, saying that both the radio system and the bases and command facilities linked to it would be among the first targets struck in a nuclear attack. "Even if the system somehow remained intact, it would not have anyone to talk to," said Bruce G. Blair, an expert on strategic communications systems, who recently worked for the Defense Communications Agency." (— From New York Times, February 17, 1986)

ON SEPTEMBER 20, 1986, At 11 A.M. THERE WILL BE A "FARMS NOT ARMS" PEACE WALK FROM THE IOWA D.O.T. TRUCK SCALES, one-half mile East of Mechanicsville on Hiway 30 TO THE GROUND WAVE EMERGENCY NETWORK (GWEN) TOWER, ALSO KNOWN AS "DOOMSDAY TOWER". For those who can't take part in the walk and do wish to take part in the 30-minute vigil, please meet at the tower, near Milepost 277, 2 miles East of Mechanicsville from 12 noon to 12:30. Those walking or vigiling can bring posters, balloons, signs for your jacket-backs, etc. For further details, transportation sharing, etc., phone Cedar Rapids area (319) 854-7026; Davenport Area (319) 324-0800; Iowa City Area (319) 337-5187; Mt. Vernon area (319) 895-6678.

MAILING LIST CHANGES

Please () Correct my address () Correct name spelling
() Add my friend to list () Remove me (us) from list
() Place me (us) on a list for vigil notices only.

Send to: John Tinker, Box 66, Olin IA 52320
or call: (319) 484-2909

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with 2000 of
these this month
we can win!

Farms not Arms T-shirts

*Show your support for
peace and agriculture*

color choices: navy, fuschia, aqua,
burgundy, black, purple, lt. blue, and
green. I

Adults

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☐ Medium
☐ Large
☐ Ex. Lg.

Children

lt. blue, navy, green
☐ Small
☐ Medium
☐ Large

Rates: 1-5, \$8; 6-11, \$7.50; 12-20, \$7;
21-50, \$6.50; 51-100, \$6.00;
101-200, \$5.75

Hats also available (black or navy) for \$8 each.



FARMS NOT ARMS T-shirts,
buttons, hats, and cards
are available from North
American Farm Alliance
in Ames. In the Iowa City
area you can get them
From Rebecca Rosenbaum.
Call (319) 337-5187, or
show up at the vigil on
Sept. 20 and look for a
red Chevy Citation with
T-shirts (etc) in the
back. Also for sale is
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