ORTHWEST







QUESTION OF CONSCIENCE

Dissident Nuclear Scientists

Story by Tim Connor Photographs by Randy L. Rasmussen



Scientist Maurice Warner, right, sacrificed his job and career rather than work on the development of the MX missile. Nuclear scientists on such projects as the N Reactor at the Hanford Nuclear Reservation, far right, where electricity and weapons-grade plutonium are generated, are beginning to raise questions about their profession.

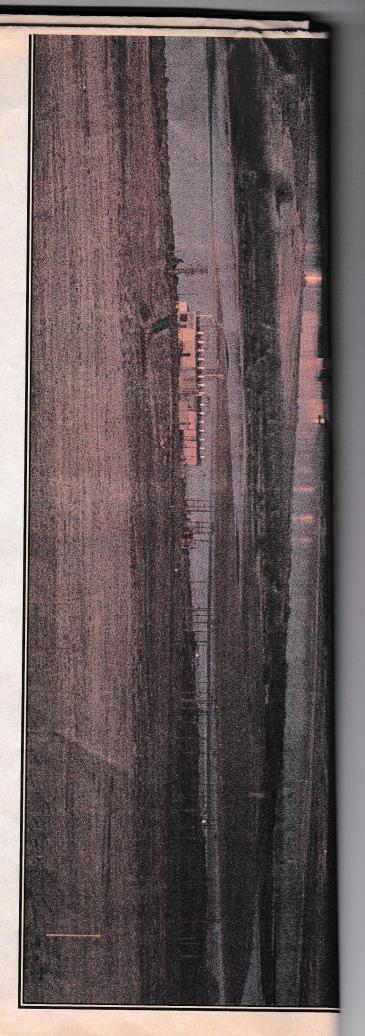
6 Northwest Magazine

efore December 1942, before Enrico Fermi supervised the first controlled nuclear

chain reaction beneath the grandstand at the University of Chicago football stadium, Pasco was a dusty railroad town with a two-lane bridge across the Columbia River to Kennewick. Kennewick could claim the other end of the bridge and an annual grape festival that drew big bands and beauty queens. Richland had 240 citizens and that enormous turkey of ington State Fair in Yakima and the Interstate Fair in Spokane.

Then, as suddenly as a chinook wind wipes the snow off the Horse Heaven Hills, came the Manhattan Project, the Allied effort to beat Nazi Germany to the atomic bomb. The massive undertaking forced 6,000 locals out of

TIM CONNOR, who was born at Hanford, now lives in Spokane and is a former associate editor for Spokane Magazine. RANDY L. RASMUS-SEN is the magazine's staff photographer.



Richland and points west. Some had three months' notice, others two weeks. Crops were left to wither in the fields, and 177 caskets were exhumed from the White Bluffs cemetery and hauled to Prosser, part of the effort to make way for more than 50,000 construction workers brought in to create the Hanford Nuclear Reservation. In a year, 11,000 moved into temporary dwellings in Richland as fast as the E.I. du Pont Co. could put them up. The government owned every home. All the work was top-secret.

Hanford's reactors produced plutonium for the Manhattan Project. They also became the seeds for what took root after the war: an *ad hoc* community, known internationally as "Atomsville, U.S.A.," which took its wealth, pride and politics from the narrow, headlong pursuit of nuclear technologies. Hanford produced most of the plutonium for American nuclear weapons. Hanford received most of the billions of dollars that the Washington Public Power Supply System spent on its ill-fated public power projects. Hanford stored more than two-thirds of the

nation's high-level nuclear wastes, and still does

Today the Tri-Cities remain marked by the neon tubing that inscribes a whole lexicon of atomic symbols on such local landmarks as the Atomic Lanes bowling alley and the Atomic Body Shop. The golden mushroom clouds still rise on the scoreboard above the field where the Richland High School Bombers play.

But the boosterism is to be expected of any community that owes its livelihood to a particular industry, be it nuclear technology or the logging of trees. The visitors who pass through the Tri-Cities and giggle, say, at the sight of the atomic symbol marking the entrance to Richland's Sunset Gardens cemetery may be missing the point.

If the history of the Tri-Cities demonstrates anything, it illustrates just how capable almost all Americans have been of accommodating the most radical change in humankind's relation with itself and nature. When Hanford plutonium fell on Nagasaki 39 years ago, more than 70,000 Japanese were indiscriminately killed. When the

City of Richland was incorporated in December 1958, the city highlighted the celebration with the detonation of a simulated atomic bomb blast that sent a small mushroom cloud above uptown Richland.

But even the human psyche's enormous elasticity has its outer limits. In 1958 the entire country's collective consciousness was struggling to accommodate the horror of nuclear weapons. They not only were widely viewed as the crowning touch to democracy's arsenal, but also as the initiation rite past which waited a golden age of unlimited energy and the power to transform the Earth.

That mythological world has faded now, and the proof of its passing may lie in Hanford itself. There, in this bastion of the nuclear future, small numbers of scientists and technicians have drawn a personal line of conscience in front of the Reagan administration's hard charge toward nuclear re-armament. For the first time, their dissent has disrupted the placid acceptance that has prevailed in the very heart of the beast.

Sunday, April 8, 1984 7

he crowd gathers in front of a white-washed wooden platform in the shade of three maple trees that rise above the grass in Richland's John Dam Plaza. Fewer than 60 demonstrators - counting the children, the invited clergy, a few journalists and a dozen visitors from Portland - have turned out for this event, an Aug. 6, 1983, memorial for the 38th anniversary of the Hiroshima bombing. They ignore the firetruck siren that drowns out their first hymn, "Peace Keeps Flowing Like a River."

Among those speaking on this day are Patrick Buller, a Kennewick resident and Hanford communications engineer, and Jim Stoffels, a Hanford physicist who lives in Richland. Both are members of a local group called "World Citizens for Peace."

The day is marked by Pat Buller's first public talk critical of Hanford's role in the nuclear arms race. Like those before him, he speaks softly but solemnly, as if more listeners stand in front of him than are actually within earshot. He begins by identifying himself both as a member of the peace group and an employee of Rockwell Hanford, the largest government contractor on the nuclear reservation. He concludes by

reminding his audience that he and they are exercising constitutional rights to freedom of assembly and speech. The remark is an allusion to an earlier protest gathering in front of the Kennewick City Hall. Several crowd members wore their government-issued security badges, thus identifying themselves as Hanford workers. John Burlison, who worked for a major Hanford contractor, made the mistake of giving his name and an opinion to a reporter. "The fact I work for Battelle," he said, "is immaterial. I have to stand up for what I believe no matter where I work."

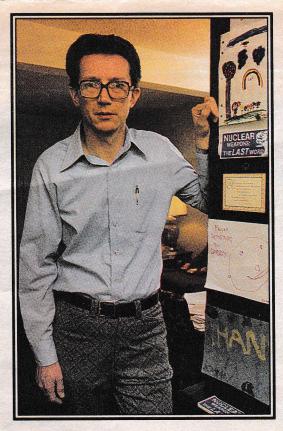
He was fired, and a memo from a Battelle executive specifically cited his "improper" wearing of his Battelle badge at "a public political meeting." Today nobody wears a security badge.

"A lot more Hanford employees would have liked to have been here today," Pat Buller says. "But many of them are deeply committed both financially and psychologically. That's the environment out there."

A family of five empties out of a wood-paneled station wagon across the street and saunters into the Hanford Science Center. Waves of heat shimmer off the pavement. A young man wearing mirrored sunglasses, without a shirt, spots the demonstrators and yells an obscenity from the back of a passing blue pickup truck.

ut in the desert, from a guarded gate just off Washington Highway 240, looking north and west toward the Saddle Mountains that ripple like a dropped cloth westward from Othello, what looks to be an ordinary smelter rises out of a sea of sagebrush. It is known as PUREX and it is the induction office of nuclear physics, where the "peaceful" atom gives up its overalls on the way to the nose cone. PUREX is short for "Plutonium-Uranium Extraction," an abbreviation for the chemical process whereby plutonium for nuclear weapons is separated from spent nuclear reactor fuel assemblies.

On the banks of the Columbia River to the north, connected to PUREX by 12 miles of railroad track, is the



Groups must face 'the moral dimension of this issue.'

— Jim Stoffels

Pat and Eileen Buller have been subjected to taunts of 'return to Russia.'



tor's cooling system is fed into an adjacent powerhouse, where it generates 860 megawatts of electricity to ignite street lights in Seattle, to run aluminum potlines in Wenatchee and to set blenders whirring in Eugene. When N Reactor works for the nuclear arsenal, technicians periodically remove its fuel assemblies and ship them to PUREX, where the weapons-grade plutonium is extracted.

Nine plutonium production reactors once operated at Hanford. But that was 20 years ago, just after N Reactor was built. The federal government was then pumping more than \$100 million a year into Hanford, and the operation's payroll accounted for 70-75 percent of the local economic base. Hanford dominated the local economy even before local people knew what Hanford was about. They would learn on the same day as people did half a world way in Hiroshima: Aug. 6, 1945.

"Almost unbelievable," reported that day's Pasco Herald. "The news so closely guarded throughout two and a half years was out. Atomic bombs.... And in the hearts of men and women of Pasco Monday was pride coupled with the intense interest they had always felt for the big war project that had grown up practically across the back fence from them since the spring of 1943."

For Americans as a whole, pride and interest in the new superweapon gave way to more fundamental emotions. Fear lurked below the good times facade of the '50s, a chilling fear cloaked in the security of back-yard bomb shelters, rampant materialism and an idealized vision of secure family life that pulled women back into the home to mother a baby boom. But the bomb would not go away. The natural psychological reaction was to find some good in it

Dwight D. Eisenhower's "Atoms for Peace" campaign pursued just that line of self-protective logic. Eisenhower countered advice that the whole question of nuclear power be opened to vigorous national debate with the observation that "we don't want to scare the country to death." He launched the campaign on Dec. 8, 1953, before the

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tary casing and adapt it to the arts of peace . . . for the benefit of all mankind."

The prevailing conviction among scientists, military men and public policy makers, wrote David Lilienthal, the first chairman of the Atomic Energy Commission, was "that somehow or other the discovery that had produced so terrible a weapon simply had to have an important peaceful use." Thus: "We were gravely determined to prove that this discovery was not just a weapon. This led perhaps to wishful elevation of the 'sunny side' of the atom."

But "Atoms for Peace" was more than just rhetoric. It entailed a headlong rush into the development of nuclear power, and - as the nuclear arsenal filled and the need for new warheads declined - it had very real effects on the nuclear weapons economy that had come to dominate the Tri-Cities. Eight of the nine military reactors at Hanford were shut down. And, in 1972 - the year the U.S. and Soviet Union signed the first Strategic Arms Limitation Treaty — PUREX itself finally was closed. The Tri-Cities were left with the choice of exploiting the peaceful atom, or giving up the entire economic base that had fueled its growth since 1943. The way out seemed to lie in projects like WPPSS.

am Volpentest, at age 79, is a spry, energetic man who uses the telephone in his modest Richland office the way an accomplished traffic cop wields a flashlight at a busy intersection. He is one of those men historians are prone to underrate for the lack of a title or particular moment; the sort of person who gets built the buildings dedicated to others. Most of the buildings Volpentest gets built get built at Hanford. He is a co-founder of the Tri-City Nuclear Industrial Council, commonly called "TICNIC," which, man for man, dollar for dollar, is arguably the most effective nuclear lobby in the country.

Twenty years ago Sam Volpentest owned several local taverns, was a newly elected bank president and had just completed a term as president of the Richland Chamber of Commerce. Glenn Lee and R.F. "Bob" Philip owned the Tri-City Herald, the area's crusading daily newspaper. On a Friday, in mid-February, 1963, the three got into a car and traveled 75 miles on black ice to the Harris Hotel in Ritzville, Wash. There they met Sen. Henry "Scoop" Jackson, then an influential member of the Congressional Joint Committee on Atomic Energy, and the man who was to do more than any other to keep Hanford the center of the nuclear industry. Within a month Jackson prodded the Atomic Energy Commission, from commissioner Glenn Seaborg on down, into action on a plan for bringing Hanford new work. TICNIC's influence on state and national politics is still far greater than the votes available from its relatively small, Tri-Cities-based constituency.

Volpentest is quick to suggest the secret of TICNIC's success. He says he's raised more money for the campaigns of former senators Jackson and Warren Magnuson than any other supporter. He and TICNIC still promise sizable contributions to sympathetic politicians "and that's the closest to a politician's heart you can get. If you can raise money for them, why you're a friend."

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By Paul Pinta

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PAUL PINTARIC an's book review editor.



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only a quarter of Hanford workers was engaged in military programs. Then, and throughout the decade of the '70s, it seemed as though Hanford would indeed become a model high-tech nuclear energy ranch for the future. A variety of reasons now makes that unlikely. Foremost is the downfall of WPPSS and the bitter irony of the nuclear industry's costliest debacle occurring at Hanford, a veritable shrine for the promises of the atom.

But there is more unraveling at Hanford than the multibilliondollar WPPSS program or the overall plight of civilian nuclear power.

Volpentest tried to retire two years ago but the "Whoops disaster," as he puts it, brought a call for his re-enlistment. His job now is to help pull the Tri-Cities out of the dire post-WPPSS slump.

"A lot of people say, 'We've been through this before; we'll bounce back,' "he said last summer. "I'd like to know where we're going to bounce back because I'd love to have some leads on where to go."

There is at least one lead and it goes right to what Sam Volpentest considers "the only solution" — the U.S. military budget. "We're back to square one anyway," he explains. "Hanford was

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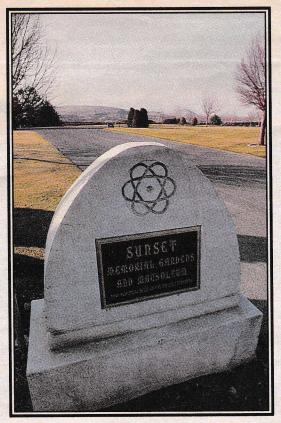
In Hanford's case, square one takes the form of the PUREX plant, which reopened last fall to process plutonium for some of the estimated 17,000 new nuclear warheads that will help rebuild the U.S. arsenal over the next 15 years.

Whatever the revival of PUREX implies for the future of the world at large, parochially the focus is on the local economy, the daily bread. PUREX means \$150 million and 600 new jobs, 500 of which are likely to be permanent. And that is just the new tip of an old iceberg. The federal government plans to spend \$890 million at Hanford this year. More than \$500 million will be spent on armaments projects employing more than 7,000 of Hanford's 13,000 workers. Naturally, the vast majority is happy for the work.

"One thing about the Tri-Cities area," Sam Volpentest explains, "is that nuclear power has acceptance. There are very few dissidents and they've only sprung up in the last two or three years and there are very, very few. After all, you're going to have those kind of people everyplace nowadays, that like to get their name in the paper or like to get on TV."

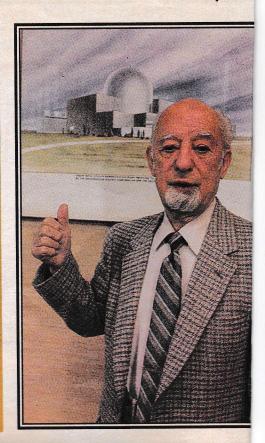
For Sam Volpentest, the widespread Tri-Cities support for both civilian nuclear power and weapons production is more than just a willingness to turn a blind eye toward the source of a paycheck. "Everybody," he says, "has the faith in what they're doing out there."

aurice Warner chose to break the faith in the spring of 1979. The decision tore at his allegiance to science and to his company. He at first told his superior at Battelle Pacific Northwest Laboratories that he would, as a routine assignment, direct his small team of scientists as they worked to help land an MX missile contract for Battelle. His first response, he later surmised, was reflexive, a practical judgment that the job could be done and that he and his team were



In Richland, even the cemetery is adapted to modern nuclear realities.

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night after accepting the job.

The MX would carry 10 warheads, each with 23 times the power of the Hiroshima bomb. The missile, he felt, was an evil. The cooperation being asked of him — to contribute to an environmental impact statement on the basing of the missile — was not something he could, in all conscience, provide. That decision, for Maurice Warner, was the beginning of the end of his career as a professional scientist.

Maurice Warner's physique, his reserved demeanor, the pressed cotton shirts, slightly rumpled slacks, conservatively styled sandy hair and all else available for first impressions beam with non-distinction. Anyone who noticed him in an elevator probably would stereotype him as a routine man busily approaching middle age, working in a cubicle somewhere. The impression wouldn't be far from the image Warner would prefer. He does not think of himself as extraordinary.

But Maurice Warner returned to work the next day and quietly announced his refusal to work on the MX project. Roughly a year later, he says, he was asked for a second time to contribute to work related to the MX plan. Again he refused. His team worked without him.

"The reason it was a watershed experience for me is that it was a personal choice of being either a person who was alive and doing what I believed in or of being a shadow person. To me, in that case, I made the decision to lead a life in which I could respect myself."

Maurice Warner left Battelle in December 1982.

"I don't expect to remain a scientist at this point," he said shortly after. "Contract research depends on money and it occurs to me that those institutions in our society which have money are not well-matched with social and ecological concerns."

Eight months before Warner left Battelle, Hanford's long reliance on the peaceful atom began to unravel in earnest. Out on the reservation, in that stretch of the southeastern Washington desert between Rattlesnake

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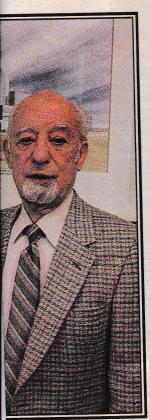
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the Washington Public Power Supply System had been constructing at Hanford since the early '70s. Still the plant was only half-finished and further work was jeopardized. Seven men were on their way to discuss borrowing another billion dollars to add to the \$2.2 billion already spent on the plant.

Outside the WPPSS building, in a parking lot bigger than a football field, a curious throng of more than 10,000 gathered, Should the men inside vote no, more than 6,000 workers whose salaries averaged more than \$40,000 a year were going to lose their jobs. All along George Washington Way, the artery leading to WPPSS headquarters and Hanford job sites beyond, yellow ribbons streamed down from trees, light poles, traffic signs and car antennas. The ribbons symbolized the sentiments of a community seeing itself held hostage. "Unemployment is UnAmerican," stated one of the placards bobbing above the demonstrators in the parking lot. Maurice Warner observed this. He then went home to write a letter to the local newspaper.

"Forty years ago this community helped usher in the nuclear age. Four days ago several thousand of us demonstrated support for completion of a nuclear

power plant. Collectively we figure prominently and vocally in all aspects of the nuclear industry — save one. On the threat posed by the worldwide build-up of nuclear weapons we are silent."

His questions were explicit: "Is it somehow antinuclear to be pro-survival? Do we fear that nuclear arms control is an economic threat? Do we individually fear that if we openly express concern we may stand alone in this community and be subject to scorn or worse from our neighbors and friends?"

It was that letter that spawned "World Citizens for Peace."

im Stoffels is a Hanford physicist and was, for the greater part of his life, a supporter of nuclear energy. He has lived in only two places. The first was Milwaukee, Wis., where he graduated magna cum laude in 1960 from Marquette University with a degree in physics and a minor in philosophy. The other is Richland, where he has lived since beginning his career at the Atomic Energy Commission's Hanford laboratories in June 1962. His professional specialty is mass spectrometry — which involves using an instrument, a mass spectrometer, to measure the different isotopes of elements. He also is a former Richland city councilman and for the past four years has served with the Tri-Cities Chaplaincy, a lay ecumenical ministry. Early last year he became chairman of World Citizens for Peace.

As with Maurice Warner, there is little to find in Jim Stoffels' character that would suggest a predisposition to dissidence. He, too, is a quiet man, given to conservatively dressing his lanky frame, and possessing a steady, intense, articulate voice that does not seem to rise even when he is addressing a crowd.

His first action on behalf of the peace group was to suggest publicly that TICNIC was missing the real challenge of economic development at Hanford by avoiding "the morel dimension of this issue."

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Even when his activities with the peace group marked him as a dissident to the Hanford establishment, Stoffels remained a supporter of civilian nuclear energy. It was, after all, General Electric — one of the prime movers in the development of commercial nuclear power — that recruited him to Hanford from Marquette 22 years ago.

What changed his mind was the August 1983, announcement that a new \$750 million Hanford plant would use a laser beam process to separate plutonium isotopes. The government calls the plant a "Special Isotope Separation" (SIS) facility. It advertises the technology as promising to make the stockpiling of weapons-grade plutonium more cost-effective. Stoffels knew very well it promised more than that. The laser technology will help make possible the separation of weapons-grade plutonium from spent commercial reactor fuel and thus, insist Stoffels and other critics, effectively removes an historic distinction between the "peaceful" atom and its lethal brethren.

The rise of SIS technology merely forces the issue further into the open by making it abundantly clear the separation between the civilian nuclear fuel cycle and the nuclear arsenal is a matter of political intent rather than technical know-how.

Department of Energy officials followed the announcement of the new plant with a solid week of verbally acrobatic denials about its potential use. The government, they said, "had no plans" to reprocess commercially spent fuel. The plant would "not be designed" to handle commercial fuel. The public was being misled. For example, both Charles F. Gilbert, the department's deputy assistant secretary for nuclear materials in Washington, and Oscar Elgert, the department's deputy assistant manager of defense and energy programs at Hanford, told reporters that no American plant then existed that could prepare spent commercial fuel for further processing at the SIS facility. Both officials told the truth. They merely neglected to add that \$7.5 million had already been placed in Energy's 1984 budget to begin modifications to the Hanford PUREX plant to give it just such capabilities.

Finally, a high-ranking Energy official in Washington, requesting anonymity and then reading from a prepared statement, conceded that the planned modifications to PUREX could have "a limited capability to handle (spent) commercial light-water reactor fuel," the type of

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waste that is produced by all of the nation's commercial nuclear power plants. At the same time, an Energy official at Hanford acknowledged the PUREX modification was being designed with "some expansion capability, without identifying what the potential feed (of material for reprocessing) would be."

In other words, yes, spent fuel from civilian reactors could become a source of plutonium for the modified PUREX plant, and yes, the plant could be expanded once it became operational and then "clean" plutonium from an as-yet-unidentified source. The new SIS plant then could complete the processing for weapons production.

By the end of the week an unamused Jim Stoffels had pared his comments about official statements regarding the plant to one word:

The political motives that underlie the new SIS technology and the PUREX modifications are twofold — first, to more readily obtain weapons-quality plutonium 239, and second, to provide a means to reprocess commercial reactor wastes that pose a growing storage problem. This idea of killing two birds with one stone was floated before the scientific community by former Energy Secretary James B. Edwards. As quoted in the journal Science, Edwards in September 1981, told one group of scientists "that we are going to be needing some more plutonium fo our weapons program, and the best way I can see to get that plutonium is to solve your waste problem."

Edwards didn't concoct the idea out of thin air. The scholarship supporting it included a remarkable August 1981 paper drafted by A.T. Peaslee Jr., a staff member at the Los Alamos National Laboratory. Peaslee's premise: The government must assure the supply of the staff of of

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Edwards didn't concoct the idea out of thin air. The scholarship supporting it included a remarkable August 1981 paper drafted by A.T. Peaslee Jr., a staff member at the Los Alamos National Laborato-

Further, Peaslee suggested the government welcome a debate that would explode "one of the myths" persisting from President Eisenhower's "Atoms for Peace" initiative that began in 1953. "It should be manifest to all," he wrote, "that there is no technical demarcation between the military and civilian nuclear reactor technology and that there never was one."

Reaction to the Reagan administration's idea of recovering weapons-grade plutonium from commercial reactor waste included the Hart-Simpson-Mitchell Amendment to the Atomic Energy Act, which Congress passed in 1982. The amendment makes it illegal to reprocess commercial waste for nuclear weapons. And yet, it has hardly slowed the push to develop SIS technology. Thomas Cochran is the Natural Resources Defense Council scientist whose warnings about the applications and implications of SIS technology were instrumental in bringing the Hart-Simpson Amendment. He says the blueprints of the new Hanford PUREX modification are such that, without substantial modification, commercial waste reprocessing for nuclear weaponsgrade plutonium will be possible. Possible. But for the time being, at least, illegal.

im Stoffels finds a certain tragic irony in the recent technical developments. A major tenet of "Atoms for Peace" was the export of civilian nuclear reactors to developing countries. At

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the same time, the U.S. government invoked a hard line against the proliferation of nuclear weapons. Now it is the United States that pioneers the technology that makes it easier to refine bomb material from reactor wastes. Stoffels isn't optimistic that the United States will avoid using the technology for commercial reprocessing. Laws, he says, can be changed.

"Where in our history have we exercised the willpower not to do something we've become technically able to do?" he asks. "Particularly in the military area?"

at and Eileen Buller chose to mark Oct. 1, 1983 — the day set for the reopening of PUREX Hanford — with Pat Buller's resignation from Rockwell Hanford. He no longer works at Hanford. They no longer live in the Tri-Cities. When Pat Buller left Utah five years ago to work at Hanford he thought he'd be contributing to the peaceful development of nuclear energy. His arrival, though, only coincided with Hanford's redirection toward military pursuits. Now he wants nothing more of that, not even to be around any longer.

For Eileen Buller it was the end of an emotional ordeal. For two years before they left the area, she devoted herself full time to the work of World Citizens for Peace and to the founding of the Seattle-based Hanford Oversight Committee. Her visibility resulted in a fair share of personal abuse. She endured countless obscene gestures and routine invitations to "return to Russia."

"The 'America, love-it-or-leave-it' attitude," she explains, "is much more intense in the Tri-Cities.'

The Bullers now live in Issaquah, a small western Washington community, where Pat Buller works for the Washington State Patrol, earning \$13,000 a year less than he was paid at Hanford.

The peace group in the Tri-Cities struggles on. Average attendance at its meetings is about 10. Still, monthly vigils and a newsletter continue. The newsletter's mailing list now holds more than 150 names. One member says the group members draw their commitment from one another and are inspired by the examples of dissidents such as Maurice Warner and Jim Stoffels. Another sees the fight against nuclear weapons as a religious duty, something human beings owe to themselves and their children even if the worst is to happen.

Jim Stoffels had been up very late the night before he walked up to the white-washed platform on John Dam Plaza and gave his speech. He could have said many things about the arms race, about Hanford, about the Tri-Cities.

He chose, instead, to start at the beginning. He opened the gold, cloth-covered Bible on the rostrum and began to read from the book of Genesis, Chapter 18, the conversation between God and Abraham concerning the destruction of Sodom and Gomorrah. Stoffels, though, had done a bit of editing. Instead of Abraham asking God whether he would spare Sodom but for the sake of progressively fewer good Sodomites, Abraham asked God if He would spare the Soviet Union but for the sake of progressively fewer good Russians. Perhaps because Hiroshima and same question with 45 million good Russians, then with 40 million, and so on. His voice trailed down to 10 million good Russians and then stopped. If there were only 10 million good Russians in the Soviet Union, would God spare it? He closed the Bible, stepped down from the platform and walked through a most somber kind of silence to a folding chair.

Maurice Warner wasn't there because he was looking for a

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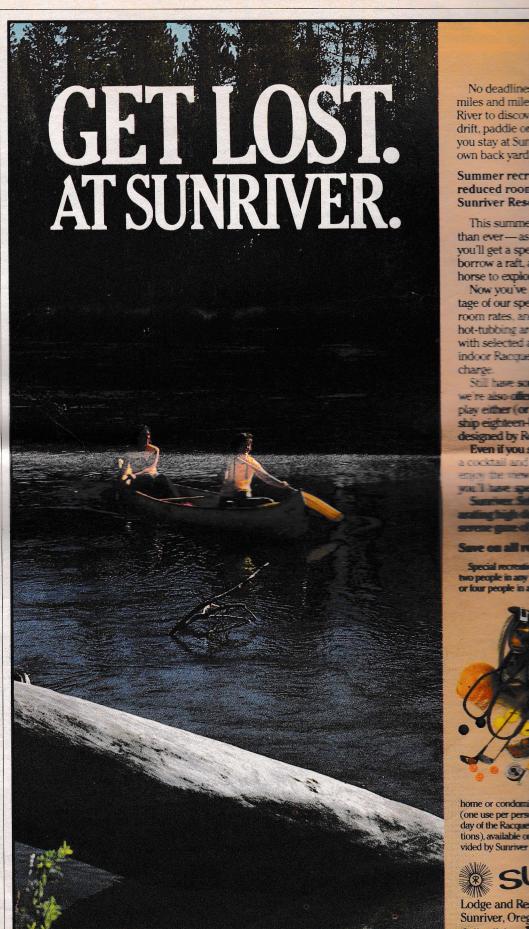
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"I really love," he says, "the excitement of living thingir.

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