

By CARY WILLIS/Kernel Staff

## Packed house

While 17,000 people stood up and cheered the Who's final number Monday night, ambulances and medical personnel were treating at least 20 injured

concertgoers. Most of the people in the crowd, as well as the band, were unaware of the fact that 11 people had been killed.

# KENTUCKY Kernel

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University of Kentucky  
Lexington, Kentucky

## UK student was part of pileup at open door

By EVAN HAMMONDS  
Reporter

On Monday, a group of my friends and I went to Cincinnati's Riverfront Coliseum to see the British rock group, The Who.

Arriving a little after 4 p.m., we found a crowd of about 500 people sitting around the doors. There is nothing unusual about this — most avid fans wait so they can get a good "spot" from which to view the show.

Some fans were drinking bourbon while others were wrapped in blankets and playing cards.

At around 5 p.m., everybody stood up and walked in the general direction of the doors. In the past, the doors were usually opened a little after 6 p.m.

By 6 o'clock, the rapidly growing crowd began pushing in both directions. The people in the back were shuffling towards the front and the people in the front began moving backwards to keep from suffocating.

As the pushing continued, the sun started to go down as did the temperature. But no one in the crowd noticed because of all the bodies which seemed to be sweating as they were

Other stories on the tragedy at Cincinnati, including a list of those killed, appear on page 3.

pushed back and forth. Then the door opened.

Staring everyone in the face were eight doors, with only one opened by the security guard. The crowd was totally out of control.

After what seemed to be 15 minutes, I was further away from the door than when I started. I raised my head to look for the people I came with but they were no where in sight. Instead, all I could see was about 4,000 to 5,000 people all trying to get inside.

It was not known at this time that eight doors had been opened on the other side of the entrance, only 50 feet from the mob. The Cincinnati police and the security officers made no attempt to tell the ticket holders — possibly they couldn't.

There were a few people up front who wanted to get out of the crowd but couldn't. Some passed out, others were helped by their friends. . . . but there was no room for people to get out. I was beginning to feel queasy.

As I started to move closer to the



EVAN HAMMONDS

door, I saw what looked like a gap about 10 feet in diameter with people pushed to fill it. There was a heap of bodies, all trying drastically to get up but unable to because people behind them were being pushed on top of them.

Then I was pushed into the heap while trying to keep the person in front of me from the same fate. We both leaned over on the pile, unable to move our feet because people were laying on top of them.

Somehow, I regained my balance and returned to an upright position. But then I was pushed back on the pile while people began to climb over it. Luckily, someone grabbed my arm and helped me to my feet.

Turning around to get out of the

Continued on page 6

## UK students say concert personnel were at fault at The Who concert

By RICHARD McDONALD  
Cops Editor

Rick Rushing believes the deaths of 11 people at Cincinnati's Riverfront Coliseum Monday night can be blamed on poor security arrangements at the arena.

Rushing, a landscape architecture senior, was near the front of the crowd that tried to push its way into the arena through a single door. The single door was the problem, he said.

"If they'd just opened more than one of those doors, none of this would have happened," he said.

There are 18 doors in the arena. Officials say the 11 people died of trampling and suffocation. In addition, at least 20 were injured.

Rushing and Mike Stephens, a business administration sophomore, were in Cincinnati to see an 8 p.m. concert by The Who. They arrived shortly after 7 p.m., just as the stampede began.

"It's like a patio (outside the coliseum.) The crowd was shaped like a triangle, with the apex near the door," he said. "That's where all the people were falling and that's where we were standing."

There were several security guards blocking one of the doors when the pair arrived. "There was one busted

door. Two cops wouldn't let anybody in," Rushing said. (Minutes earlier, one of the glass doors had been broken and several people had entered the arena.)

"We were trying to pull people up, but people were hitting us and knocking us down," A few minutes later, he said, the area outside the doors looked like "an air crash scene."

"I just saw about 20 people in a pile about three deep. We were trying to pull people out, but you couldn't really do it. Their legs were trapped inside and it was hard to get them out."

"I'm sure some of the people we had our hands on were dead. Some of the people I picked up were dead, so I put them back down. Those people at the bottom just couldn't breathe. They would grab you around your legs while you were standing there."

Eventually, the crowd started to walk on the piles of people. "Some of them were still trying to get inside and some of them were trying to climb on top of (the pile) to get to the second floor."

(A concrete ledge runs around the

perimeter of Riverfront Coliseum, about 10 feet above the ground.)

"It was horrible," Rushing said, "nobody was moving, nobody was breathing."

Then the single door was opened. The crowd surged forward. "It was crazy," he said.

As people fell, Rushing and Stephens stopped to help them up. Few of the others in the crowd stopped.

"We were yelling and banging on the doors. But the little men in their little yellow coats (security guards) wouldn't help."

After carrying one woman into the arena, Rushing gave up. "My shirt was half torn off and my legs were tired. I just couldn't carry anyone else," he said. "One of the ushers made me put the girl down and show my ticket."

The real irony of the situation, Rushing said, was that a bank of doors was open on the opposite side of the arena, with an orderly crowd flowing through them. "But we didn't know anything about it at the time. And even if we did, you couldn't get out of that crowd," he said.

Stephens and Rushing both say they will contact Cincinnati's police about the incident. They are concerned that what they think is the real cause of the deaths and injuries — the single door — will be overlooked.

Said Rushing: "So far, the press has made it look like a drug-crazed rock 'n' roll riot — and it wasn't that."

## Two SG senators resign, cite inaction of senate

By STEVE MASSEY  
Campus Editor

Two UK Student Government senators resigned yesterday in the wake of recent controversy over last semester's election of President Mark Metcalf and Vice President Sid Neal.

Arts & Sciences senators Mike Breen and Lynne Crutcher, who held seats on the University Senate, resigned yesterday over what they termed a "matter of principle."

Academic Affairs committee chairman Vincent Yeh, expressed disappointment over the senate's lack of action, saying some of the senators tend to "stick their heads in the sand and forget about issues."

"I don't have any desire to work with a body which chooses to remain ignorant about certain issues confronting it," Breen said. "I'm disappointed in the ethical conduct of my cohorts and peers."

"As far as I'm concerned, SG's the joke everybody always says it is."

Breen was referring to Monday's SG meeting. At the meeting, the senate voted to accept Metcalf and Neal's explanation of "getting a good deal" on the printing of campaign materials used in last spring's elections.

However, two discrepancies were ignored by a majority of the senators: In their campaign expenditures

report, Metcalf and Neal failed to report \$198.28 worth of donated paper used for posters printed by Shenco Printing Company.

Article IV, Section 6 (e) of the SG bylaws states: "All monetary, material and commercial services donated to candidates shall be attributed as expenditures of that candidate at a retail value."

The \$198.28 would have caused Metcalf and Neal to exceed their \$300 campaign expenditure limit by \$193.12 had it been reported. Although this was mentioned to the senators at the meeting, they dismissed it as an honest mistake and, instead, applauded Metcalf and Neal for finding a good deal.

Also in their campaign expenditures report, Metcalf and Neal listed that 2,000 posters and brochures were printed by Shenco at a cost of \$140.65.

But Steve Armstrong, Metcalf's campaign director during last spring's elections, said Metcalf printed a little less than 2,500 posters alone.

Furthermore, Armstrong said Metcalf used between 1,000 and 2,000 brochures. The combined number of posters and brochures reportedly used comes to between a little less than 3,500 or 4,500, depending on what the actual number of brochures printed.

"I don't think the senate has realized what it has done," Breen said. "I don't have any desire to work with a senate which chooses to remain ignorant."

Crutcher, who has been active in SG for a year and a half including her duties as political affairs committee chairman this semester, said "I don't feel like I can serve under an executive board I have no faith in."

Breen served as press secretary for SG last year and was a member of the academic affairs committee. One major piece of legislation the committee lobbied for and got passed at a University Senate meeting involved getting the student withdrawal policy changed from one week to three weeks.

A senior majoring in English, Breen has studied at Oxford University in London, England as an English Speaking Union scholarship recipient and recently was inducted into the Omicron Delta Kappa leadership honorary society.

Crutcher, political science senior, was director of political affairs last year. As political affairs committee chairman, she was instrumental in getting Louie Nunn to speak at the gubernatorial forum earlier this semester. She also helped to establish campus input into SG's lobbying efforts this year.

## today

### state

**BY THE FINAL ESTIMATE** of the inaugural committee, Gov.-elect John Y. Brown Jr.'s inauguration day parade next Wednesday will last two hours and 11 minutes.

Twenty-six bands and 14 floats will form at Main and Wilkinson streets in downtown Frankfort shortly before noon for the march of almost one mile to the Capitol — led by a car containing the Democratic governor-elect and his wife Phyllis.

After watching the parade from a reviewing stand, Brown will be sworn in at 2 p.m. in front of the Capitol.

**WATER SAMPLES FROM A MUHLBERG COUNTY** creek will be tested this week to determine the level of chemical contamination resulting from a fire Sunday at the Greenville Southern States Cooperative.

The fire resulted in the contamination of a section of Caneey Creek by a mixture of pesticides and herbicides, according to Natural Resources Secretary Frank Harscher. A portion of the mixture, which resulted when water used by firefighters mixed with packages of chemicals and contents of ruptured drums, flowed into a ditch that leads to the creek, Harscher said in a release.

### nation

**ROBERT B. BEGLEY**, board chairman of the Begley Drug Co., died yesterday while on a business trip to New York City. He was 67.

Begley apparently died of a heart attack, according to Donald Snyder, vice president and secretary-treasurer of the statewide drugstore chain.

**SEN. EDWARD KENNEDY'S** comments about the former Shah of Iran may have been a major campaign gaffe, one of Kentucky's senators said yesterday. "Frankly, I think it will hurt his presidential candidacy," said Sen. Walter Dee Huddleston, D-Ky. "The American

people will see it as politicizing a very serious problem."

Sen. Wendell Ford, D-Ky., did not mention Kennedy by name but expressed hope that "the Iranian situation will not become a political football."

The Massachusetts Democrat, in a television interview Sunday night, said the deposed shah, Mohammed Reza Pahlavi, "ran one of the most violent regimes in the history of mankind." Kennedy also claimed that the former shah had stolen "umpteen billions of dollars from his country."

### world

**IRANIAN MILITANTS**, who have said they will kill American hostages if the United States attempts a military rescue, now are threatening to execute the captives "if they fail to cooperate," a White House official said yesterday.

The official, who asked not to be named, refused to say when the threat was made and would not elaborate on the type of "cooperation" the Iranians want from their 50 American hostages.

He said the hostages "have been threatened with execution if they fail to cooperate with their captors," adding:

"You can assume that I don't mean cooperation just ... in routine matters."

**THE U.N. SECURITY COUNCIL** called on Iran urgently yesterday to release immediately the U.S. hostages being held in Tehran.

A council resolution, approved unanimously by a show of hands by its 15 members, also urged both Iran and the United States "to exercise the utmost restraint in the prevailing situation" and to resolve the remaining issues between them peacefully.

### weather

**MOSTLY SUNNY, BREEZY** and warm today with highs in the upper 50s to low 60s. Partly cloudy and not so cold tonight with lows in the mid 30s.

# KENTUCKY Kernel

editorials & comments

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## Tragedy at Cincinnati concert could easily have been averted

By CARY WILLIS

Try to explain what happened Monday night. It can not be done properly.

I went to Cincinnati's Riverfront Coliseum to see the Who, arguably the greatest rock 'n' roll band in the world. But what happened was more madness than music.

This is not to say the concert was bad; in fact, the band was in top form — the music was superb. Pete Townshend's trademark — his windmill-style guitar strums — were in full force and Roger Daltrey's flawless vocals were sharp and exhilarating. But, in retrospect, the performance only served as a grim reminder of the violence that can accompany such an energetic art form. The heaving, howling mob of cold, drunken rock fanatics made my entrance one nightmare I know I can never erase from memory.

Eleven people died in the name of rock 'n' roll, being crushed and trampled to their cruel and painful deaths.

I could have been the twelfth. Police and coliseum guards were checking for tickets several hundred yards from the doors. Inexplicably crazed young people were hurling beer bottles and setting fires, one of which was in the back of a Ford pickup.

I and the eight others who traveled up to the Queen City from UK showed our tickets and moved closer to the auditorium.

It was 6:15 p.m. Not being particularly eager to fight a huge crowd, we stood around the periphery and calmly waited. It wasn't

long before the chilly nighttime breezes coming off the river moved us in closer to the warmth of the pack. That was to be our mistake.

At first we were comfortably intermingled with the rest of the concertgoers. Gradually, though, we were being engulfed. It soon became

### staff column

evident that for the nine of us to remain together, we'd have to hold on to each other.

By 6:45 or so, that was impossible. But while I could only see two of the people I came with, I sensed no danger. I was warm, and I was in line to see the Who.

I recalled the group's rock masterpiece, *Quadrophonia*. It is the story of a young man — confused — searching for meaning in life. He, too, went to see the Who in concert. I felt like that youth. I was humming "Baba O'Riley" and "My Generation" and I was fired up.

But suddenly I realized making it inside was not going to be easy. Stories of the rowdy crowds at Cincinnati resurfaced in my mind. I had heard of how Zappa once flipped the bird at an unruly Cincy audience and walked offstage.

"Ah, but that kind of thing won't happen here," I thought.

By 7, I could not move any part of my body. A door opened to my left, and a surge — a mighty gush of humanity the likes of which I hope I

never encounter again — lifted me off the ground and transported me 15 feet in that direction.

I will not attempt to describe everything I experienced there on this editorial page. It would more likely fill the entire newspaper.

Suffice it to say the experience was traumatic. At 7:45 or so, after battling with thousands of delirious teenagers for an hour and a half, I pushed, kicked and shoved my way out of the madness into fresh air.

I saw people going down. I saw glass bottles being broken. I saw very little police protection.

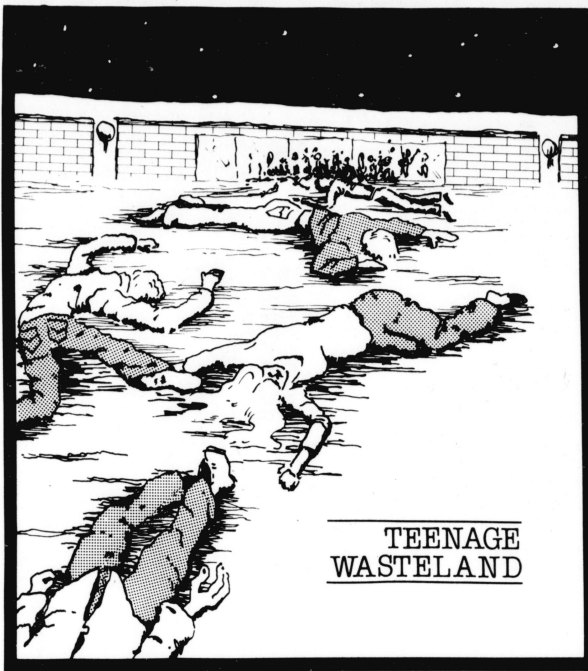
I found out yesterday (Tuesday) that there were only 25 Cincinnati policemen at the event to protect and control 17,000 rock fans. I'm not saying I like to be hassled by cops. I'm just saying there should be more around to make sure things don't get out of hand.

That wasn't the only problem. General admission, or "festival seating," should be abolished. That first-come, first-served bullshit is absurd. It only makes thousands of fans gather early to make sure they get those choice seats.

And what really puzzles me is — why weren't the doors opened earlier? The stampede could have been avoided if only people were admitted by 6 o'clock or so. It was 8:15 before I finally got through the gates, and many were still behind me.

Some will respond with, "The band was still warming up."

The group had better practice a little sooner if they want their followers to stay alive.



TEENAGE  
WASTELAND

Artwork by MARK KAMENSH

As I was finally going in, I saw ambulances and other emergency equipment rushing toward the coliseum. I thought perhaps the firetrucks were there to hose down the throng and force them to back up from the doors. I didn't realize anyone had died.

As a matter of fact, I didn't know anyone had died until I got back home to Lexington and heard it on the radio. I knew some were hurt, but killed?

As I read the facts in this morning's *Herald*, I broke down and cried. I cried not only because I know I could have been one of the 11, but because actions

could have taken to avoid such a tragedy.

It is a tragedy that even the great music of the Who will not soften.

Editor's note: Cary Willis is a telecommunications junior, and is Managing Editor of the *Kernel*.

## Civilization of today is going through changes similar to ancient Greece

In his classic *The Greeks and the Irrational* (Berkeley: University of California Press, 1951), E. R. Dodds emphasizes how Greek civilization viewed the implications of its great achievements in philosophy, art, and poetry, and how the Greeks realized that they had created a context of limitless further possibilities. Great names stud the listings of Athens and Greece in the 5th and 4th centuries B.C.: Aeschylus, Sophocles, Socrates, Aristophanes, Euripides, Plato, Aristotle, Herodotus, Thucydides, Demosthenes, and dozens of others are instantly familiar to even the most casual student of history. But something happened, so Dodds thinks, in the late 4th century B.C. Alexander launched his military adventure and conquered most of the known world, but art, literature, history, and related cultural expressions soon took on a markedly introspective mood as contrasted to the enthusiastic, almost bubbly tone of the erstwhile "Golden Age" of Greece. After Alexander's death in 323 B.C., came the limp semi-soap operas of Menander, the overly fulsome epics of

Apollonius, and the marvellously empty and clever obscenities of Herodas. The 300 years of Greek civilization (called "Hellenistic") following Alexander's march to the banks of the Indus, generally settled

### 'in mente agitare' by john scarborough

down to a contented commentary and summary of recollections about the "Good Old Days." So what happened? Dodds calls this radical switch from child-like optimism to quasi-dependence on *tyche* ("luck"), a "fear of freedom." The poets and playwrights, philosophers and artists, and historians and political theorists of 5th century B.C. Greece had offered a path to intellectual freedom that terrified most Greeks, once they realized the implications. Succeeding generations rushed into acceptance of various brands of certainty: astrology, Stoic philosophy, magic, and the numerous religions that festoon the pages of Hellenistic history gave people a sense

of security apparently lost in the heyday of Greek civilization. A Fear of Freedom?

We happen to live in a similar period. Science proffers an almost unlimited array of questions, each leading to further questions that promise to alter our basic perceptions of the universe around us and the universe within us. American law and politics has shown a creativity in the mid-20th century, so that our grandfathers might mutter how different is this world from the one they knew. Experiment has characterized the work of writers of all stripes, art that was "modern" is now "great" art (who can forget the furor raised by Matisse and Picasso in the early 20th century?), music now sports conventions that include 12-tone scales and the haunting cacophonies of Ligeti and Penderecki, and all aspects of our culture say they pride themselves in seeking questions and solutions unthought by our fathers, and undreamed by even the most imaginative of the science-fiction writers. In 1969, when man walked on the surface of another world, one

could argue that we entered a totally new worldview, an outlook that demanded we see the globe for what it was: an Island in the Sky. We still shared the exhilaration when Apollo 11 saw the earth, shorn of political boundaries. The New Age was upon us. Man's greatest adventure was about to begin. But has it?

A Fear of Freedom. We hear loud cries by opponents of ERA that somehow this "new" addition to the Constitution would take away "protection" for women. We hear from opponents of easy access to various literature that exposure of the young might cause them to "stray" from known values. We note the rush "back" into conservative religious sects, since they offer "certain" answers to imponderables: life, death, and the meaning of man. We cringe at the continual barrage in the media about industrial waste, and we are encouraged, by implication, to shut down offending factories. Nobody seems to be saying anything concerning new technological approaches. Newstadsms brazenly

display numerous tomes on astrology, which (as in its Hellenistic version) promises a sure guide to everything in one's personal life. No thinking required. We howl with collective rage when there are hints of the coming demise of the automobile. Did we scream as a society when Henry Ford started giving us his black Model A to replace the long venerated horse? Why not? Might the science-fiction dream of anti-gravity be worth pursuing?

What happened to the New Age? The coming century where ever more bold ventures would take place, expanding the human intellect? What has appeared, instead, is a numbing unwillingness to think, an ominous refusal to reject assertions by authorities from the Reverend Jones to the panders of astrology. Nostalgia is "in," reading is "out." Give us Security, so the public cries. But were the "Old Days" so secure? The age of Einstein, Hitler, World War II?

It may be that we are in one of those occasional resting periods, in which

our society takes a bit of a snooze, gathering energy for the next portion of our journey into the future. Or, it may be that the West has reached a point in its development where it is confronted with the limitless possibilities suggested by science and technology. Those rampantly uncertain potentials may, indeed, serve to frighten those who long for smooth, unchallenging times. But if we succumb to this Fear of Freedom, we may simply lose freedom in all of its most important aspects. Not only does this freedom include the traditional exercise of political participation, but it also incorporates our freedom to change — rapidly if we choose. Societies that back away from the Freedom in an age like the one approaching, are condemned to molder and be subsumed in some other Great Ideal.

John Scarborough teaches history and the classics. His column dealing with books, academics, the bureaucracy, questions of teaching and the like appears every Wednesday.

## Pro-Arabian sentiments are not necessarily anti-Zionism, anti-Semitism

By DAVID THOMAS

I would like to reply to Steve Goldstein's editorial in Friday's *Kernel* (Nov. 30). Why is it that you, and unfortunately most of the American Jewish community, equate anti-Zionism with anti-Semitism? It might be very secure to scoff at the critics of the Israeli government by calling them all anti-Semitic, but this is not always the case. By your all-encompassing phrase I would be considered anti-Zionist, and hence anti-Semitic. I consider myself neither. As an American I oppose many of the policies of the present Israeli government as detrimental to peace. That means I must be anti-Semitic, right? I am sorry to disappoint you, but I do not hate Jews.

My parents are of Lebanese/Christian ancestry, and I find that their

culture, goals and ideals are closer to Jewish culture, goals and ideals than of any other minority. Upon realizing this it made me wonder why, with all the similarities, there has been so much Arab/Israeli animosity throughout

### opinion

the ages. The fact is that there was very little Arab/Jewish resentment of one another until the creation of the Jewish state. As a matter of fact, Jews often fled European prejudices and went to the Arab world for refuge. I'll be the first to agree that a Jewish state is not only justified, but it is a necessity. Why, though, should the Palestinian people have to pay for German anti-Semitism?

In your article you spoke of a "dual refugee problem." Don't be absurd. Arab Jews immigrated to the new Jewish state. The very small number of Arab Jews who chose to stay on in their Arab country were allowed to do so, if they chose to face increasing Arab resentment. They were not, as the Palestinians, systematically deprived of their land and rights. Yes, there are 429,000 Israeli citizens who are Arab, but they are treated as second class citizens. The Germans paid out huge reparations to Israel for confiscation of Jewish land and property. Has one dollar been paid to the Palestinian refugees? The mistakes continue: Israeli settlements on occupied Arab land continue to develop and spread. You asked why other Arab countries don't take in the Palestinians as Israel took in Jewish immigrants. The fact is that Israel gets

more U.S. military and economic aid than any other country in the world. In spite of the fact that what was Palestine, and what now is Israel, is the most fertile land in all of the Middle East, Zionists claim they made the desert bloom. Most of the rest of the Middle East, excluding the already over-populated Nile delta, is barren and unfruitful. Where do all the petrodollars go? They go toward developing ancient countries into modern societies. The Arab world has neither the money or the facilities to accommodate the thousands and thousands of Palestinian refugees.

You also claim that the U.S. supports Israel because it is the only democracy in that part of the world. Is that why the United States supported the shah till the end; and even after the fact?

Concerning your comments on the

Ayatollah Khomeini, let me first say that I think he is cracked, and that I would fully support U.S. military intervention if the situation deemed it necessary. I can, nevertheless, see where he gets some of his thwarted ideas (sic). The U.S. was the number one supporter of the shah. The shah was the number one supplier to Israel. Israel is the number one recipient of U.S. military aid. Hence he sees the entire situation as of the shah as American imperialism and international Zionism in action. His perceptions may not be valid, but they do have some basis. Khomeini may be as brutal as the shah, but with one difference — the Iranian people support him. I agree with U.S. policy in action. In theory we only support democracies, but in fact the U.S. government realizes that in some cases a democracy may not be feasible. It

was in the best interest of the United States to support the shah. I feel that it is right for the U.S. to support Israel, but is it in our best interest? Why the two faces? I say that we should start doing what is right and what is in the best interest of our government. As soon as the shah was overthrown we should have said, "Oh well, we made a mistake," and started supporting the Khomeini government, which is in power because of popular support, not because of terror. We could have avoided this whole mess. It is too late for that now, of course, but from now on I think America should not be taking such inflexible sides, and start playing middleman. This is the only way there will be peace in the Middle East.

David Thomas is an arts and sciences freshman.





# Nuclear facility in UK's quadrangle perfectly safe

By NANCY E. DAVIS  
Reporter

The first observation one makes when entering the blockhouse inside the engineering quadrangle is how small the interior is. You ask yourself, "Is this it? How can a place of this size be potentially dangerous?"

Well, it's not. According to Dr. O. J. Hahn, engineering professor, the nuclear facility is perfectly safe. The blockhouse in the quadrangle, constructed in 1973, contains a

neutron generator, not a nuclear reactor, thus eliminating any danger of a Three Mile Island incident.

The neutron generator, used in research, combines two isotopes of the element hydrogen, deuterium and tritium, to create the element helium and neutrons, a byproduct of the reaction. Neutrons are one of the elementary parts of atoms.

Roger Eichhorn, dean of engineering, says this "innocuous facility" was created for student instruction

and research. It was more active a few years ago than today, he said, and is used now by two or three graduate students.

UK offers introductory courses for students, but no undergraduate program, for nuclear engineering. However, UK does offer a masters degree in the field, the only nuclear engineering program in the state. Hahn said the University of Louisville also sends students here to take courses.

"In view of recent incidents and opposition, there has been less and less interest in nuclear

engineering," Hahn said. "Therefore it would be impractical to start a program."

Enrollment in the nuclear program has fluctuated from 2 to 15 students with two or three faculty members teaching courses, Hahn said.

In addition to the neutron generator, the concrete blockhouse includes a tank approximately 10 feet deep that stores two and a half tons of aluminum-covered uranium rods. The blockhouse also stores some equipment used in the radiation therapy department at the UK Medical Center.

The blockhouse itself is safe because it has walls seven feet thick and a ceiling six feet thick. The minimum thickness allowed by law is five and a half feet, and according to Hahn, six inches must be added to account for the presence of people on the other side of the wall.

"If you had people sitting on the other side of the wall 24 hours a day, seven days a week, you still must have six inches for that," he said.

Another six inches is included to account for any possible upgrading done to the facility, inside or out alike. The final six inches is necessary in case the neutron generator is moved from its present location in the center to another area near the wall inside the blockhouse.

"The blockhouse was put there to house a neutron generator and was purchased with matching grants from the University and the old Atomic Energy Commission," Eichhorn said. "No matter what you do to it (the blockhouse), it

won't explode... it's perfectly safe."

He added that the total amount of nuclear material used and stored in the blockhouse since it was constructed "could fit into a wastebasket." The nuclear material "can't be reacted because 'it's not big enough.'"

As for the disposal of wastes, Joseph Carter of the nuclear engineering department said there isn't any particular method simply because there isn't any waste to dispose of.

To get to the heart of the blockhouse, one must walk down a sloped L-shaped hall which enters into the one room. It is designed so that in the rare event that radiation escapes (which it hasn't yet), it would have to make a few turns and an uphill climb to leave the blockhouse.

All individuals who are in the facility on a regular basis are required to wear film badges, which measure the amount of radiation one is exposed to. The film is removed from the badges monthly and sent to a monitoring facility.

The amount of radiation expended in the facility is

limited to five REMs per year, but the level is normally lower than that. The total level of radiation contracted by individuals regularly present in the facility is one ten-millionth of the dangerous level.

"Students get no significant exposure," said Hahn.

Most of the work and research, however, is done outside of the blockhouse. "The main focus is not in the generator end of the business, but in thermo-hydraulics (heat transfer in a flowing system such as a nuclear reactor). We are mainly interested in basic phenomena," Eichhorn said.

Dr. Hahn added that most of the work is done in the lab.

The research done is just "basic research" and experiments on new methods of coal gasification are being studied now. The nuclear facility is not in operation at this time, and will re-open in January for graduate research.

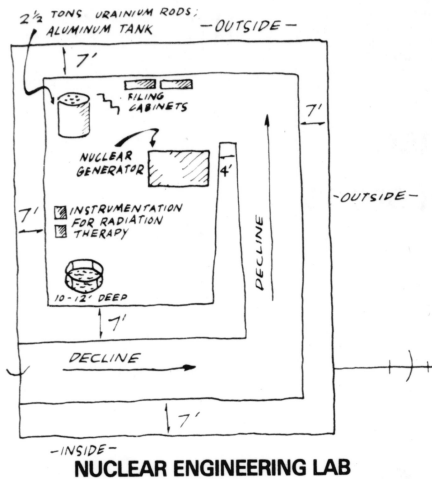
Hahn would not take a firm stand on the nuclear issue, but advocated further research and development. Since the cost of nuclear energy is only 60 percent of the cost of coal, he considers it a viable alternative to growing energy concerns.

"The United States is a country of luxury. Some African and European nations are not. They just can't afford the cost of coal and oil," Hahn said. "Nuclear energy is a practical alternative."

When questioned about the dangers of radiation from nuclear energy, Hahn compared the reactions of non-nuclear like Jane Fonda and Tom Hayden to the reactions of the public when electricity was developed in the late 19th century.

"They were afraid of it," Hahn said. "People used to tape up the electrical outlets in their homes so the electricity wouldn't escape. Oh, you laugh at it now, we all laugh at it. But they were serious. People who were anti-electricity used to electrocute dogs to prove how dangerous electricity was."

Search back into old newspapers and you'll find such incidents. "There was the same type of reaction when radios came out. There was a true fear of radio. 50 years later we laugh at such things, and perhaps 50 years from now, we will laugh at our notions of the dangers of nuclear energy."



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T.R. Robe, UK professor of engineering, checks his equipment in his Anderson Hall laboratory. Robe has been investigating various factors which contribute to trailer accidents on the road.

## UK professor studies trailer accidents

By JACKI RUDD  
Staff Writer

There is more involved in going camping or boat riding than meets the eye, according to a UK professor of engineering mechanics.

T. R. Robe investigates numerous factors that contribute to instability in various types of recreational tow trailers which could cause highway accidents. These types include travel, boat, camping and utility trailers.

A study conducted on recreational vehicles by UK's Accident Investigation Team sparked Robe's interest.

The study's statistics showed that although trailers made up only 2.5 percent of the traffic flow on Interstate 75, they accounted for 11 percent of the traffic accidents.

The accident team's principal investigator, Vince Sayre, said, "We found the risks of trailers to be disproportionate to their percentage in traffic stream."

"That meant the accident rate was four or five times greater than if you didn't have a trailer," Robe said. "I thus found it very worthwhile to look into why trailers cause accidents by focusing on their dynamics."

In his laboratory experiments, Robe has simulated highway dynamics and detected several trailer instabilities by testing models

in his Anderson Hall lab facilities.

According to Robe, a trailer's tire size can affect its safety performance. "In our analysis, we are finding that the smaller the tires and the closer together they are spaced (track width), the more stable the trailer is."

He has found that the length from the trailer axle to the hitch is an important stability factor. "The farther the distance from the axle to the hitch, the more stable it is," Robe said.

This explains why boat trailers are the lowest risk, Robe said. They have smaller wheels and a greater length from the axle to the hitch, he added.

Robe's research, presently funded by the department of engineering mechanics, has found that speed is a major factor in determining trailer safety.

"There are critical speeds at which you can tow without having instability. Basically, we are focusing on those configurations (meaning trailer types) that are unstable at given speeds," Robe said.

Wind from a passing vehicle can trigger instability, particularly in a trailer that has gained too much speed, causing the driver to lose control.

"The resulting trailer movement can become worse and worse to a point where neither braking nor speeding up is likely to bring the driver

out of it," Robe said.

This excessive lateral movement or oscillation at the hitchpoint is not safe according to Robe. In the investigation, lateral "damping" at the hitchpoint has been found to contribute to trailer stability. He has invented a type of trailer hitch that allows some lateral movement in order to increase lateral "damping."

Robe has applied for a patent and it is pending for the hitch that acts as a shock absorber helping the trailer remain stable at high speeds.

"In addition, it introduces a degree of freedom as it permits the trailer to roll over during an accident without overturning the car," Robe said.

Robe has been studying the problem of recreational vehicles for two years and has concluded that "it also makes a difference how mass is distributed in the trailer."

According to Robe, a trailer is more stable if the mass is located closer to its center.

The risk of towing travel trailers is greatest of all, partially because of the fact that their weight is distributed

more toward the outer edges.

"A trailer with a heavy, compact load could possibly be towed at a given speed with relative safety, but if the same weight were spread over a larger volume and towed at the same speed, the trailer could become unstable," Robe said.

The alternative method to Robe's method of testing would be full-scale trailer testing. Robe says although this method is very effective, it is a lot more expensive and is somewhat limited.

Robe said that his study possibly will influence future engineering designs of recreational trailers.

"One of the purposes of study is to understand fundamentals of trailer towing to prove that future designs can be improved. Although we do not have all of the answers, the study should uncover many of the problems," Robe said.

Robe hopes that the tests he conducts in Anderson Hall will influence the designing of future models, help inform the public of trailer hazards and possibly lead to better trailer regulations.

## Student tells tragic story

Continued from page 1

crowd, I saw 10 big men who were grabbing anything they could get their hands on to pull people up while knocking others out of the way. Another surge in the now vocal crowd put me down on top of two others.

There were many kids in the pile — between the ages of 12 to 16 — a few of them girls. One of the girls was screaming uncontrollably and clutching at anything to get back up.

Meanwhile, the pile was being pushed closer to the door. The air supply was very short under all the people. I knew if I didn't get up soon, I might not ever.

But about five feet from the door, I managed to get up. I helped to pull up another fellow wearing a green down jacket before being thrown down at the door. I crawled to the guardrail and pulled myself back up.

At this time, someone — not a security guard — opened another door, and, by so doing, saved a lot of lives.

Once inside the concourse, I had to present my ticket. There was still a crowd in there but smaller, much smaller. I searched for a water fountain in what was left of my sweat-drenched clothes, knowing that someone had to have been seriously hurt outside, if not killed.



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