The chemical wastes generated by the Department of Chemistry have been moved to an undisclosed location, safely isolated from University students, faculty and staff, Edward Q. Moulton, vice president for business and administration, said Friday.

The wastes, termed potentially hazardous by Richard Miller, manager of the Department of Chemistry, had been accumulating in a makeshift storage area in the Sawtooth Wing (the east wing) of McPherson Laboratory for more than five months, awaiting action from the University administration.

Previously, Miller said wastes were disposed of by dumping in commercial landfills, a practice he stopped because it was dangerous for both the environment and those handing the disposal, he said.

Moulton said the wastes will continue to be stored in this new "secure area" until a definite long-term solution, still under investigation, is decided upon.

The University is considering several commercial groups to handle the disposal and investigating potential bidders on a continuing basis, he said.

Moulton projected the expected cost of such a disposal method at "several hundred dollars per trip plus unit charges which may vary from $2 per quart for small quantities down to $1 per gallon for large quantities."

Miller said about 25 gallons of chemical wastes are now being stored. He said 10 are volatile.

Miller first brought the problem to University administrators' attention more than three months ago. However, no action was taken until Sept. 30, when Miller sent a memo to Colin Bull, dean of the College of Mathematics and Physical Sciences, saying the problem would be dealt with within two weeks.

The move came four and a half weeks after the memo and two days after a Lantern article appeared outlining the full potential danger of the chemical wastes.
Safe storage found for chemicals

By Mark Sroufe

The hazardous chemical wastes generated by the Department of Chemistry were moved to a small building off Kenny Road, the Lantern learned Monday.

Inspectors revealed that the isolated shack was converted recently into a storage area for such wastes.

These WASTES, including 10 gallons of volatile chemicals, had been kept in a makeshift storage area in the Sawtooth Vane (the east wing) of McPherson Laboratory for more than five months.

The building, a metal structure about eight feet wide and five feet long, is vented, padlocked, only three feet from a fire hydrant and has a newly erected warning sign on the door.

Also, the building is more than 200 feet from any inhabited building, 60 feet further than the distance recommended by the Institute of Manufacturers of Explosives for the 10 gallons of volatile chemicals stored there.

GEORGE J. Bailey, plant engineer for physical facilities, said the building is "suitable for the purpose" of storing these chemical wastes, which are hazardous by-products of experimentation within the Department of Chemistry.

Bailey said the movement of the wastes was a joint effort between the Department of Chemistry and Physical Facilities and will probably continue to be so until a long-term solution, now under investigation by the University administration, is decided upon.

UNIVERSITY officials Edward Q. Moulton, vice president for business and administration, and Thomas B. Smith, associate vice president for physical facilities, were unable to say how long the wastes will have to be stored in this manner.

Moulton said long-term plans for the chemicals are under investigation and a commercial group, several of which are being investigated on a continuing basis, may be contracted to handle the disposal.

Chemical wastes formerly stored in McPherson Laboratory are now under lock and key in this shed behind the print shop on Kenny Road, between the railroad tracks and the freeway.
OSU has trash troubles

By Susan Chace
3-26-78

Several streets in the university area were classified as problem areas by the Columbus Board of Health's Environmental Health Division in a list compiled in mid-March.

The university area and other areas in Columbus are suffering garbage and litter problems due to winter weather difficulties.

In a letter sent to Mayor Tom Moody March 17, Councilperson Pam Conrad requested the mayor "appoint a cabinet-level Trash Clean-Up Task Force to solve the problem."

Conrad suggested the current level of 50 Comprehensive Employment and Training Act (CETA) workers be increased to 250 and be assigned cleanup activities.

The city does not have the personnel to supervise more CETA people, said Gene Pierce, administrative aide to the mayor.

To service the problem, the city has set up a series of "neighborhood-by-neighborhood cleanup" using the current level of 50 CETA workers, Pierce said.

CETA workers cleaned up the university area for three weeks and have now moved to the near East side, he said.

Radiation burial site near OSU

By Carolyn Rutlich
5-16-79

Ohio State buried low-level radioactive wastes in an open burial site on campus from 1964 to 1969.

Wastes generated by OSU science-related departments were buried monthly in a fenced-off field north of Lane Avenue between Northstar and Kenny roads.

Although there may still be a residual level of radiation, there is no current danger, nor was any danger there when it was buried, according to Jerome G. Dare, director of radiological safety.

The area, now identified by small radiation warning signs in accordance with Nuclear Regulatory Commission (NRC) regulations, was approved and licensed as a "low specific activity" radiation burial site by the Atomic Energy Commission (now the NRC) in 1964, Dare said.

The university buried the radioactive wastes rather than shipping them out or incinerating them due to economic considerations, Dare said.

The waste burials stopped when the space was used up, he said.

Ohio State now has a contractor pick-up and dispose of the wastes, he said. The radioactive wastes are capable of being dispersed with groundwater movements and were isolated for that reason, Dare said.

Wastes, which were not in sealed containers, were buried in a trench, 6 to 10 feet deep, Dare said.

Most of the wastes have reached the end of their half-lives — the length of time which the element remains radioactive, he said.

However, some elements buried in the trench have long half-lives, such as Carbon-14, with a half-life of 5,700 years. Dare said very small amounts of those elements were buried at the site, and the quantities buried each month did not exceed the fractional amounts allowed by NRC guidelines.

The possibility of short-term or long-term effects from the burial is "non-existent," Dare said. The amount buried is "one-billionth of what is questioned to cause short-

Large amounts of radioactivity could cause death, or lead to long-term serious effects like leukemia or life-shortening, he explained.

Dare said the radioactive level on the surface of the land "has never been a problem," and there is no airborne dispersion of the radioactivity, he explained.

The site cannot be used, according to regulations, until it is "decommissioned," Dare said. This would involve doing a groundwater analysis and a coring (testing sample of the land). The decommissioning, which would now cost about $8,000, will not be done until someone wants to use the land, Dare said.

Until then, fences and signs will remain posted, and water downstream will be tested for radiation annually according to NRC regulations, he said.

The groundwater is tested to see if radiation dispersed from the site falls within an acceptable level. Dare said virtually no radiation has been found during the tests. "It seems to be non-existent," he said, "but we're legally bound to keep checking."

Groundwater patterns show the water from the site flows into the Olentangy River, Dare said. He questioned whether building the overpass several years ago, which changed the path of the river 50 to 100 feet, would affect the groundwater.
OSU toxic wastes to be shipped

By Carolyn Rutchik

Arrangements now are being made for the pickup and disposal of the potentially hazardous wastes stored on campus, according to Alan J. Miller, OSU director of public safety.

Miller submitted a purchase request Tuesday to hire Chemical Waste Management, Inc. to handle the 56, 55-gallon drums of toxic wastes.

The wastes, now stored in an isolated area of West Campus, should be picked up sometime between June 1 and June 15, Miller said. The wastes will be disposed of in Alabama, he said.

Miller said the company will charge $42.50 per drum plus a total transportation cost of no more than $3,000. Miller estimated OSU will have a total of 58-60 drums to be picked up by June.

OSU patenting questioned

Inactivity rapped

By Leslie Flemmig

A logical and often lucrative extension of the research process is the patenting of new ideas.

How active the university is in pursuing patents for ideas with commercial possibility is a matter of contention.

Donald T. Witiaik, professor and chairman of medicinal chemistry, said, "the university does very little to facilitate patenting of biologically active compounds."

"The university should take a more aggressive policy towards patenting," Witiaik said, "the university must be willing to gamble a bit."

Witiaik's comment is a "common faculty reaction across the country," said Kenneth W. Sloan, executive director of the Ohio State University Research Foundation (OSURF).

"The foundation is as aggressive in prosecution of patentable ideas as the university wants it to be," Sloan said. "If the university decided to be more aggressive in patent disclosure, the foundation would clearly follow that lead."

OSURF is an "administrative arm for the university," Sloan said. OSURF is a separate corporate entity with its own bylaws and regulations, but, "is very functionally integrated with the university," he said.

According to an Ohio law, all new concepts or procedures developed by faculty, staff or students in university facilities are owned by the university, said Lester Stout, project administration officer in charge of OSURF's patenting procedures.

OSURF administers all research sponsored by industry, government agencies, foundations and associations, said Stout. This research encompasses the majority of research on campus, he said.

When a researcher submits a disclosure on a new process or idea, Stout sets up a panel of people from the field to assess the concept for practicality and commercial possibilities, he said.

New ideas commonly come from the engineering field, new drugs or chemicals and medical equipment, Stout said.

"I obtain what help I need from others and rely on their advice," he said.

OSURF nets about $10,000 to $15,000 a year from patents, Stout said. "It's an up and down thing," he said. "The amount varies each year."

OSURF "would like to be aggressive," Stout said. "We like to patent those things which industry can develop and would be useful to the public."

Witiaik suggested that a more aggressive patenting policy would enable OSURF to supply the university with funds in the form of student stipends and fellowships.

Witiaik's doctoral research was funded by a Wisconsin Alumni Research Foundation (WARF) fellowship.

According to John Pike at Wisconsin, WARF gave the University of Wisconsin about $4½ million this year. The chancellor and a standing research committee allocates the funds.

Most of the money WARF gives the university comes from the foundation's investment portfolio which has built up over 53 years, Pike said. WARF began its patent success with Vitamin D in 1926 and Warfarin, a rat poison, in the 1950s.

"Everyone is looking for a big one, like Warfarin and Vitamin D." Stout said, but, "most inventions are not filed, and of those that are, only a small percentage become licensed. I don't see it changing in the future."

"WARF is all by itself in respect to patenting," Sloan said.
OSU study shows dangers of hazardous material spill

By Greg Codispoti

A preliminary study into the transportation of hazardous materials in Ohio has been completed by OSU’s National Center for Research in Vocational Education.

Thomas Miller, director of the study, said his findings are “sobering, to say the least.”

The study shows that in 1977, in Ohio alone, one-fourth of the spills of hazardous materials were transportation related. However, it is estimated that only 5 percent of all spills are reported.

The study also shows that there is no way of knowing what cargoes are being shipped, their destinations or routes on any given day.

It also reveals that random chance is the only element that prevents a small spill from becoming disastrous.

Miller sent surveys to the sheriffs and two fire departments in each Ohio county and to officials in other states.

The report found “a role conflict between police and fire agencies as to who should be in charge at the scene” of a hazardous material spill in Ohio.

State law names the “local fire commander” in charge of such a situation. But the law does not provide those in charge with the necessary training to do so, the report reveals.

Miller said a major problem is identifying the compounds that are spilled. “There is a serious problem with the existing placards that identify hazardous materials. There are too many and they’re too confusing.”

He added that the firefighters recommend using no more than three signs. One would indicate extreme danger, that no one should come close to it.

A second would advise that a hazard does exist and caution should be used. The third would indicate no danger.

According to the report, fuels and flammable liquids represent the largest threat, both in the number and volume of spills.

The second biggest threat rests with acids and corrosives, labeled “dangerous chemicals.”

Campus toxins removed

OSU sends hazardous wastes to Ala.

By Greg Codispoti

The drums of potentially hazardous waste that have been stored on West Campus for several years are soon gone, according to Ian J. Miller, OSU Director of Public Safety.

He said the 56 fifty-five-gallon drums were transported to a landfill in Alabama in mid-July. The transporter was Chemical Waste Management, Inc.

The drums contained bottles, stoppered glass and coffee jars of strong acids, bases, carcinogens (cancer-causing agents), corrosives and other toxic substances. The primary containers were placed in vermiculite, a reproof, liquid-absorbing material.

The drums were to have been hauled in June, but Miller said the truckers’ strike forced a delay. He added that all the waste was packaged for transit according to federal Environmental Protection Agency (EPA) guidelines.

Miller also said his department designed a complete manifest system for tracking the waste. He explained that the transporter signed the manifest and the landfill operator in Alabama signed it upon receipt of the waste.

A copy of the manifest will then be sent to Miller, verifying that the waste was properly delivered and disposed. This manifest system also follows EPA guidelines.

Miller estimated that OSU will generate about 50 to 60 fifty-five-gallon drums of waste per year. He said the biggest percentage of the waste is liquid, and it is packaged in various containers, from small vials to gallon bottles.

These containers are not opened, but are sealed directly into the drum, he said.

Miller explained that the amount of generated waste will fluctuate according to the number of research grants awarded to the university and what areas these grants are in.
Toxic wastes moved from stadium

By Karen Sue Smith

Containers leaking toxic chemicals were transferred Wednesday from Ohio Stadium to a suitable storage area on campus, Martin DeLille, the director of facilities maintenance, said Thursday.

Three empty polychlorinated biphenyls (PCB) transformers and two 55-gallon drums were moved after DeLille was notified of their presence by an Ohio State broadcast student.

The student's report, which aired on WOSU Tuesday, told of a slight leak discovered in one of the drums located within 20 feet of the stadium's dorm food service area.

One of the transformers had corroded, DeLille was told, and was suspected to be PCB.

DeLille was unsure but thought that the containers might have been placed in the stadium in late December.

PCBs are non-biodegradable toxic substances which are used in electric transformers and capacitors. In the past five or six years, the federal government has determined that there are several possible health hazards associated with the material.

According to Ed Glof, coordinator of the land pollution and toxic waste section of the Ohio Environmental Protection Agency (EPA), significant exposure to PCB has been linked with liver problems, skin problems, possible birth defects and cancer.

The drums have been moved to a "non-public suitable storage area on campus" that DeLille "feels basically meets federal EPA requirements."

DeLille would not disclose the exact relocation site of the containers for security reasons. He said he did not want to name the site because "it would lead to more talk."

He also said he wanted to "keep people away from it."

The EPA requires facilities storing any PCB article or PCB container to meet several criteria, including adequate roof and walls to prevent rain water from reaching the PCB articles and a non-porous floor with continuous curbing to contain spills. No drain valves, floor drains or other openings that would permit liquids to flow from the curbed area are permitted.

The containers found on the west side of Ohio Stadium did not appear to be located in a room in the vicinity of where the containers were found for short-term storage, said Mike Dolan, superintendent of athletic facilities.

However, when the Electrical Shop was given this area, Dolan said he expected them to control its usage and ensure that nothing dangerous was placed there.

When Edgar Aldridge, superintendent of the Electrical Shop, was asked for comment, he refused comment, directing all questions to DeLille.

"We do temporarily store things there. If they can't find Dolan there at the time, they place things there to check afterwards," said DeLille.

Dolan, however, was not aware of the presence of the PCB containers in the area and said he "couldn't tell you what's in the room."

DeLille stated that the PCB containers should have been taken to a "secure storage area" and that he was not previously aware of their storage at this site. However, DeLille said he is investigating the situation.

To prevent a similar situation in the future, DeLille said he intends to develop guidelines and "procedures for the handling of this material," but has not had the time to formulate the plans.

DeLille described the situation as the "first of its kind," and said he believes that there was no "serious exposure." He said that the "situation did not present a hazard to anyone."

In order for the EPA to investigate situations like this, it would require a "catastrophic exposure," said Dr. Sheldon Simon of the office of toxic substances with the U. S. EPA.

Simon said that they are understaffed in the inspection area and that they would not come to OSU to inspect unless a catastrophic exposure occurred.

Included in a massive contamination, according to Simon, are large spills of PCB in food areas and the spraying of PCB.

Simon indicated that he may be contacting DeLille to follow up on the situation.

DeLille is currently working on contacts and proposals with different contractors to dispose of the PCB containers.

"It costs us to store them (the PCB containers) with maintenance of the area and inspection costs," DeLille said. "If an approved contractor can be found, then we can legally pass this responsibility on to them."

Two or three electrical and waste disposal contractors have been notified by DeLille. "We have made contacts to dispose of the containers through EPA authorized standards," and, according to DeLille, should be taken care of "within the realm of a month. It will involve the contractors schedule," said DeLille, as to when it can be accomplished.

The only approved method by the EPA to dispose of PCB containers is to incinerate them at 3,000 degrees Fahrenheit. "And I'm not aware of any incinerators that are EPA-approved at this time," said DeLille.
EPA to inspect OSU toxic wastes

By Karen Sue Smith

The Ohio Environmental Protection Agency (EPA) is making arrangements to inspect the current location of toxic waste containers moved from the Ohio Stadium last week, according to Ed Glod, coordinator in the land pollution and toxic waste section of the Ohio EPA.

Glod said Tuesday he did not know when the inspection would be made, but thought it would be sometime this week.

Three empty polychlorinated biphenyls (PCB) transformers and two 55-gallon drums were moved last Wednesday from approximately 20 feet away from stadium dorm food services to an undisclosed location. PCB contamination has been linked with liver and skin problems, birth defects and cancer.

Martin DeLille, director of facilities maintenance, supervised the move after he was notified of their presence. The containers appeared to violate federal EPA regulations governing the storage of toxic chemicals and one of the transformers was corroded and seeping residue PCB.

Joe Arar, a district engineer of the Ohio EPA, will be inspecting the present location of the PCB containers, Glod said, to ensure their storage is meeting EPA regulations concerning the proper storage and disposal of PCB containers and articles.

The focus of the inspection is to examine the location of the PCB containers now and not to investigate their presence in the Ohio Stadium last week, Glod said.

The Ohio EPA has been in contact with Region Five of the U.S. EPA, which governs this area, Glod said. "It's hard for them to rationalize a large inspection at Ohio State since they are so busy with other things right now."

The EPA requires facilities storing any PCB article or container to meet several criteria. This includes adequate roofing and walls to prevent rain water from reaching the PCB articles and a non-porous floor with continuous curbing to contain spills.

Openings such as floor drains or other drain valves that would permit the flow of liquids from the curbed area are not permitted.
Nuke site needed for OSU wastes

By Donna Huffman

Much of the research done at OSU may be threatened if an Ohio disposal site for low-level radioactive waste is not found by the end of the year.

The national Nuclear Regulatory Commission (NRC) issued an announcement last month ordering each state to handle its own radioactive waste by Jan. 1, said Jerome Dare, Director for the OSU Office of Radiation Safety.

The NRC also offered technical assistance for the development of sites and interim storage of wastes for five years, Dare said.

There is speculation the Department of Transportation would reinforce the order by prohibiting transportation of wastes across state lines, Dare said.

Between 50 and 60 percent of the research done at OSU involves liquid scintillation, a form of low-level radioactive waste, Dare said. Liquid scintillation poses a special problem for storage and disposal because it is flammable.

The only sites which now accept wastes nationally are in Richland, Wash. and in Beattie, Nev. The Richland site, the only site to accept liquid scintillation, has announced that it will stop accepting liquid waste at the end of the year.

However, both State Rep. Mike Stinziano, D-Columbus, and State Sen. Mike Schwarwalder, D-Columbus, said they are opposed to a disposal site in Ohio.

Stinziano called the move by the NRC "passing the buck." He said the responsibility would be on the federal government to develop a disposal site in an area with less dense population and better geographical formations.

Schwarwalder said more study is needed before a permanent disposal site is started. "I hope we wouldn't rush into anything," he said.

He said more information is needed on the type of containers to be used, the geological formations and long term health hazards before a permanent solution is formulated.

Ohio State is the biggest disposer of low-level radioactive waste in Ohio, Dare said. If Ohio does not develop a disposal site, storage of the waste will become more expensive and research might have to be cut back.

"It would hurt us in our ability to continue," Dare said.

Currently, low-level radioactive waste from research and clinical treatments is stored in Upham Hall and is near capacity, Dare said. "We are up to our ears," he said.

The waste has been piling up because the Office of Radiation Safety has been unable to get a shipment out since last November due to a national shortage of disposal sites, Dare said. Normally, waste is removed from storage every two weeks.

Because of the increase in storage, Dare said he is looking to find a new place on campus to store the waste by June.

The NRC does not limit the amount of waste that can be stored, but does regulate security procedures and proper storage of the waste.
OSU waste site in violation of EPA standards

By Karen Sue Smith

The Ohio Environmental Protection Agency's (EPA) inspection of three empty polychlorinated biphenyl (PCB) transformers and two 55-gallon drums found that the site does not meet federal EPA standards, but does not present any dangers to the Ohio State community, Joe Arar, a district engineer for the Ohio EPA, said Tuesday.

Martin DeLille, OSU director for facilities maintenance, was notified by a letter sent Feb. 8 of the deficiencies and should be working to upgrade the undisclosed site, Arar said.

DeLille, though, said Tuesday that he had not received the Ohio EPA’s report, but would abide by their recommendations when he becomes aware of them.

Arar said he would provide another copy of the letter to DeLille if the original is not received.

Both DeLille and Arar refused to disclose the storage site.

Federal regulations require PCB containers to be stored in an enclosed area with adequate roofing and walls to prevent rain water from reaching the PCB articles and on a non-porous floor with continuous curbing to contain spills.

According to Arar, the only violation of EPA standards is the absence of continuous curbing around the containers. Arar said this does not present a hazard.

“They seemed reasonably pleased with what they saw during their inspection and did not mention the curbing,” DeLille said, who was also present at the inspection.

The Ohio EPA’s inspection was a result of the recent removal of the PCB containers from the Ohio Stadium’s dormitory food services area Jan. 30.

The transfer was made after DeLille was notified of their presence and that they appeared to violate federal EPA regulations governing the storage of toxic chemicals. One of the transformers was corroded and seeping residue PCB. DeLille said at that time that he did not feel the situation had posed a threat to anyone.

PCB contamination has been linked with liver and skin problems, birth defects and cancer. Because of these dangers, federal legislation in 1978 required that the further manufacturing and distribution of PCB cease within the next two-and-a-half-year period.

Three areas were inspected by Arar: the present site of the containers, the Ohio Stadium site and the area where the PCBs had been in prior use.

Arar will be checking the present location again to ensure the modifications are made to include the curbing.

“I’ll also be making checks on a regular basis for leaks,” Arar said. A regular basis is considered about once a month, Arar said.

DeLille said he is still working with some input from the Ohio EPA on guidelines directing the proper disposal of toxic chemicals to prevent future incidents of this type.
Carcinogens and toxic waste kept at OSU in unsafe area

By Diana Moore and Sherry Welch
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Both cancer-causing agents and dangerous chemicals are being kept in a small storage building on campus which is "not 100 percent safe" and has been accused of violating state and federal regulations.

Corrosive acids, toxic inorganic chemicals and radioactive carcinogens are included among a variety of chemicals which have been accumulating since late 1979 in a dilapidated building at the southeast corner of Lane Avenue and Kenny Road.

The chemicals are not accessible to the public because of padlocked doors, but the building is not completely safe, said Joseph Arar, section chief of land pollution control for the Ohio Environmental Protection Agency (EPA).

However, he said the EPA is working with the OSU Fire and Safety Department to improve storage conditions.

Chemicals in the waste storage building are transported every few weeks from campus laboratories and hospital facilities.

George J. Bailey, chief of the OSU Fire and Safety Department, called the storage building a "staging area" — a temporary holding place for chemicals to be kept until they are shipped to an EPA-approved burial site in Alabama.

Bailey said the chemicals are shipped when they accumulate to a certain point. Fire and Safety officials determine when that point is reached. The last shipment went out in July 1979.

The chemicals will be processed, or put into metal drums, for another shipment sometime in the near future, weather permitting, Bailey said.

A proposal for a new EPA regulation sets a limit of approximately 90 days that chemicals may be kept in an area before the area must follow EPA building regulations for "storage," Arar said.

This is only a proposal and it has not been formulated or accepted by the federal EPA, he added.

Bailey said he does not currently see the building as a hazard because it is "isolated" from people.

If the EPA proposal were to go into effect, a new storage site might have to be found, Bailey said, either by constructing a new building or just finding a different one.

Something like that could have to go through the "higher-ups" to determine the need for it, he said.

For what we are doing now, the building is all right, he said.

The building was specified as being in "violation of state and federal laws and regulations" concerning the proper packaging and storage of hazardous chemical wastes in a letter sent approximately one month ago to state and university officials.

The letter, signed "Concerned Constituents," requested action to "ensure emergency funding" for improving conditions at two specific areas.

Included with the letter was a report from Donald Lewis, public employee coordinator for the Department of Industrial Relations. The report included various sections from federal EPA laws that allegedly had been violated.

The second area cited was a liquid waste dump site located east of the OSU Printing Facility off Kenny Road.

Various types of oil waste created from OSU maintenance areas are dumped at the site, Bailey said. These wastes do not include chemicals, he added.

Bailey could not explain plastic jugs resembling laboratory chemical containers seen in the liquid waste dump site.

Similar jugs were cleared off the site last summer, he said. Fire and Safety officials do not know where the jugs came from.

Arar said, "only solvents are dumped." These solvents evaporate and would cause no hazard to underground water sources.

Two residents of Clinton Township near the liquid dump site received water from underground sources, according to Lucy Henthorne, a spokeswoman for Clinton Township.

Neither of these residents has complained of any problems with the water, she said.

Bailey and Arar said that chemicals in the storage building at Kenny and Lane are segregated in order to prevent hazardous chemical combinations in case of an accident.

In case of fire, it would be best to let it burn, said Lt. William Mitchell of the Clinton Township Fire Department. Water cannot be used on a chemical fire, he said.

Bailey agreed that it would be best to let the building burn, taking precautions to "protect surrounding buildings."

Signs on the building read "In case of fire, do not use water on contents."

Surrounding buildings contain equipment from several OSU departments, including some machinery and herbicides. A gasoline pump is approximately 100 yards from the storage site.

Among those who received copies of the letter and report regarding the building and the liquid waste site was Rep. Mike Stinziano, D-Columbus.

"I don't sense an emergency" in the way the letter conveys the situation, Stinziano said.
However, Stinziano sent copies of the letter and report to OSU President Harold L. Enarson, who referred him to Dr. H. Spencer Turner, director of the Office of Environmental Health and Safety, and the OSU Wilee Student Health Center.

Turner and Enarson were unavailable for comment.

Dr. Walton Garner, chief of the Office of Environmental Health and Safety, was unaware of the situation. He said he received a copy of Lewis' report some time ago, but did not receive any kind of letter or list of the specified problem areas.

Lewis' report was in response to a safety and health investigation at the university conducted by his department, according to a letter from Lewis to Allen Miller, director of the Department of Public Safety.

Lewis was also unavailable for comment.

The inside of this Quonset Hut contains exposed wires and possible water seepage. The small spot of light on the building's right rear wall is coming through a hole the size of a fist.
A Quonset Hut at the corner of Kenny Road and Lane Avenue contains corrosive acids, toxic inorganic chemicals and radioactive carcinogens which have been accumulating since July 1979. The building is secured by a single padlock.

Broken jugs are strewn on the ground of a liquid dump site east of the OSU Printing Facility off of Kenny Road. The site contains various types of oil wastes. The chief of the OSU Fire and Safety Department could not explain the presence of the jugs.
Waste storage building plan delayed

By Sherry Welch
and
Diana Moore

A new storage building following federal and state EPA regulations for chemical storage has been planned for over a year, said Alan J. Miller, director of the OSU Department of Public Safety.

However, the planning has been delayed because six different authorities must submit guidelines for the building's construction. The new building will replace the present site at the southeast corner of Kenny Road and Lane Avenue.

A letter which was sent to various state officials claimed the dilapidated building violated state and federal regulations. Corrosive acids, toxic inorganic chemicals and radioactive carcinogens, as well as other chemicals, are being stored in the building.

OSU public safety officials decided a year ago that there "should be something better" for chemical waste storage than the building currently in use, Miller said.

On a temporary basis, the current building is adequate because it is isolated from people, he added.

The authorities involved in the planning of the new building are from the Office of Campus Planning and Space Utilization, the Office of the Vice President for Business and Administration, the Office of Physical Facilities, the Office of the Vice President for Business Management, University Public Safety and university architects.

John F. Probasco, facilities planner for OSU Campus Planning, said "a program of requirements is underway" for a new building which will provide space for storage of chemical wastes in a secured area.

No decision has been made on the actual construction or site of the building, Probasco said, because it still must be approved by the trustees.

However, OSU officials seem to favor a new building. "I don't see any problem with the construction of it," Probasco said.

Probasco said architects will be hired very soon to draw up specific plans for the building. It will be a simple building, so it will not take long to construct, he said.

Approximately one month ago, a letter was sent claiming the current storage building was in "violation of state and federal laws and regulations" concerning the proper packaging and storage of hazardous chemical wastes.

The letter was signed "Concerned Constituents."

Miller, who did not receive a copy of the letter, said he feels the building is not in violation of the regulations because it is a "staging area."

This concurred with a statement made by George J. Bailey, chief of the OSU Fire and Safety Department, who said a "staging area" is a temporary holding place for waste chemicals until they are shipped to an EPA-approved burial site in Alabama.

Bailey said the chemicals are shipped when they accumulate to a certain point.

Miller said a normal shipment consists of between 50 and 60 metal drums. The 55-gallon drums are EPA-approved, Bailey said.

The last shipment of 56 drums was sent in July 1979. The chemicals had been accumulating since January 1979, when a formal pick-up system replaced a previously disorganized system, Miller said.

The new formal system requires departments to follow guidelines set up by the University Occupational Safety and Health Coordinating Committee.

Specifications for proper identification and packaging for storage of hazardous wastes and carcinogens containing radioactive material are listed in the guidelines.

For example, each department must put chemicals in a properly labeled, leak-proof container. The containers must then be placed in a box or other container protected from each other by a suitable packaging material, such as shredded paper.

Following this, Fire and Safety officials pick up the chemical waste for burial at the Lane Avenue and Kenny Road site.

Miller said the risk of explosion at the storage building is minimal. Because there is some risk, the waste is being stored at this site rather than in campus laboratories, he said.

Since the exact location of the building has been disclosed, additional padlocks will be needed on the building, he said.

Also, windows and holes will have to be boarded up in order to prevent vandalism.

This could be dangerous because the holes provide ventilation, he added.

Sen. Michael Schwarzwalder, D-Columbus, commented that the situation should be "dealt with pretty quickly."
EPA Checks OSU's Waste Handling

State environmental inspectors earlier this year ordered the removal of potentially hazardous transformer oil from Ohio Stadium and are monitoring Ohio State University's handling of chemical wastes.

Joseph Arar, section chief in the Central District Office of the Ohio Environmental Protection Agency (EPA), said the PCB-laden transformer oil was removed from the stadium because the compound is a known health hazard and should not be stored in areas accessible to students and staff.

ARAR SAID three 55-gallon drums of the transformer oil were removed from the west side of the stadium after a February inspection, and three large unused transformers were moved a month later. The drained oil in the drums was sent to a Dayton disposal firm, while the transformers are being stored in a more isolated area of the campus, he said.

PCB's, or polychlorinated biphenyls, are chemical compounds found in transformer oil. While direct contact has been shown to cause reproductive failures, gastric disorders, skin lesions and tumors, EPA officials said there is no danger if PCB oil is sealed in the transformer or containers.

Arar, however, noted that the transformers in the stadium had valves which could have been opened by any curious passer-by, spilling the oil into public areas.

THE UNIVERSITY was not cited for the situation, he said, but EPA is continuing to monitor university handling of transformer oil and chemical wastes.

OSU plans to take additional precautions in its handling of chemical wastes after receiving a letter this week from a state legislator expressing concern.

"We have found no problems with our current procedures, but we want to make sure we are doing things carefully and correctly," said Alan J. Miller, director of public safety at the university.

STATE REP. Mike Stinziano, D-Columbus, in a letter, asked the university to review the situation. The letter was sent Tuesday to Dr. H. Spencer Turner, OSU's director of environmental health and safety.

Stinziano said his concern about the matter was the result of an anonymous letter he received warning that the wastes were not being properly handled by university personnel.

University officials, however, said the storage facility and all handling procedures have been reviewed by governmental agencies which found no deficiencies.

MILLER SAID additional security measures will be put into effect because of publicity about the storage facility, a small building near the southeast corner of Lane Ave. and Kenny Rd.

"We've had good security because we haven't publicized the location or the purpose of the building," he said.

But the university's student newspaper, The Lantern, Thursday carried a story and photos about the facility, which the newspaper termed "unsafe."

Miller acknowledged that the building, which temporarily houses waste chemicals before they are shipped to an approved burial site in Alabama, is in disrepair.

But, he said all the waste chemicals are stored in government-approved containers that are sealed and present no danger to the public.

None of the stored chemicals, which accumulate from laboratories and medical facilities on campus, is flammable or explosive, he said.

In addition, the building is located away from pedestrian traffic and is padlocked to prevent unauthorized entry, OSU officials said.

"We have never denied keeping wastes in that building," Miller said, but he said OSU has complied with all federal and state regulations concerning handling of the substances.
Waste-handlers' training questioned

By Diana Moore

Controversy exists among OSU and public officials as to whether OSU employees handling and transporting hazardous chemical wastes have received proper training for their duties.

Hazardous chemical wastes are transported about once a week from campus laboratories and hospital facilities. The wastes are placed in containers and packaged by people within those areas and then transported to temporary storage by the employees of the OSU Department of Fire and Safety.

Hazardous wastes include toxic chemicals such as corrosive acids, inorganic chemicals and different types of cancer-causing agents.

The people transporting these wastes are unfamiliar with them and do not know what to do in case of an accident or emergency situation, said Donald Lewis, public employees coordinator for the Ohio Department of Industrial Relations.

Alan J. Miller, director for the OSU Department of Public Safety, said that although employees have not actually taken any courses, training in this area is being provided by a safety coordinator from the Department of Chemistry.

Lewis sent a report to Miller in February, which Lewis said was "strictly a recommendation," summarizing findings and recommendations from a safety and health investigation at OSU.

Our main concern is with the handling of chemicals and for the employees, Lewis said. Those handling the chemicals are doing it incorrectly. We have had recommendations about this to Miller, he said.

Lewis cited two improvements for the problem areas. The first is to make sure there are qualified people doing the packaging and labeling.

We know the qualified people are there, but we don't know if they are actually doing the work, Lewis said.

The second improvement is having a qualified person accompany those picking up the hazardous waste, he said.

Miller said the Department of Public Safety does not get involved with the departments creating the chemical wastes. This responsibility is placed on the people in the departments, he said.

Guidelines for Disposal of Chemical Waste and Carcinogens Containing Radioactive Materials state "Departments generating chemical waste shall have the responsibility for identifying the substances being disposed of and to facilitate their disposal" through the proper procedures.

The guidelines were developed and adopted in January 1979 by the University Occupational Safety and Health Coordinating Committee.

The departments are responsible for sealing and properly labeling wastes in proper containers. They must also pack the containers in cardboard boxes with the necessary cushioning to prevent breakage.

Finally, the departments must seal the box and label it with the amount and types of chemicals contained.

Employees from the fire and safety department pick up the boxes about once a week and take them to the staging area, he said.

The staging, or temporary storage, area is a Quonset hut on the corner of Kenny Road and Lane Avenue.

George J. Bailey, chief of the Department of Fire and Safety, is in charge of opening the boxes and putting the containers of waste materials into 55-gallon drums, Miller said.

Once in the drums, the waste is ready to be transported to an Environmental Protection Agency (EPA)-approved dump site in Alabama.

A normal shipment consists of between 50 and 60 metal drums, Miller said. The last shipment of 56 drums was sent in July 1979. The chemicals had been accumulating since January 1979.

Since March, fire and safety department employees have been provided with training in the various aspects of handling and transporting these wastes, Miller said.

Tim Govener, coordinator of chemical safety for the OSU Department of Chemistry, is training the employees. The training is informal, done in the form of seminars, Govener said.

Two seminars have been presented so far, and two more are coming up in the next few weeks, Govener said.

Govener's position was created this year by the Department of Chemistry.

In his report to Miller, Lewis also cited a section of the Code of Federal Regulations dealing with the proper storage of hazardous chemical wastes.

The EPA and the Fire and Safety Department have been working to investigate and improve conditions at two specific OSU areas.

The areas are a liquid waste dump site east of the OSU Printing Facility off Kenny Road and the Quonset hut on Lane Avenue and Kenny Road.

Flammable solvents, which evaporate quickly, are being dumped at the liquid site, Miller said.

The EPA is checking things such as where the liquid waste will drain and whether or not there is a subterranean clay barrier (beneath the site) to stop seepage of the liquid waste.

"We're still reviewing the situation," said Joseph L. Arar, section chief of land pollution control for the central district office of the Ohio EPA.

Though the storage building may need to be upgraded, "I don't think it presents an imminent danger right now," Arar said.

However, the building, which contains corrosive acids, toxic inorganic chemicals and radioactive carcinogens, will have to be upgraded if a proposed set of EPA regulations is approved.

Upgrading would include possible improvements of the roof and walls of the building, the addition of six-inch curbing all the way around it and floor drains in case of leakage, Arar said.

OSU would be exempt from these restrictions if the chemical wastes are stored for less than 90 days.

Arar said findings of an investigation being done by several EPA authorities and a geologist will be sent in a letter to Miller in about 10 days.

The letter will tell Miller "these things are good, these aren't so good. Here's what you should do about it," Arar said.

The proposed EPA regulations, which are now going through public hearings and awaiting federal EPA decisions, should become effective by August or September, he said.
OSU to hire waste safety specialists

Handling, storage problems may be resolved

By Diana Moore

The hiring of a biological safety officer, an industrial hygienist and a safety engineer under the OSU Division of Environmental Health and Safety may resolve any improper handling or chemical waste transportation problems.

A biological safety officer was recently hired and the division is advertising for the other two positions, said Dr. H. Spencer Turner, director of the Office of Environmental Health and Safety and the Wilce Student Health Center.

Donald Lewis, public employees coordinator for the Department of Industrial Relations, said this may solve the problem of improper handling of chemical wastes by untrained or improperly trained persons.

Turner said the division has been looking for people to fill the positions since the first of the year. The process takes a long time because well-trained persons are hard to find, he added.

The Division of Environmental Health and Safety was formulated in early 1979 and has been in the process of pulling together its activities and responsibilities all along, he said.

In February 1980, Lewis sent a letter and report to Alan J. Miller, director of the OSU Department of Public Safety, summarizing findings and recommendations from a safety and health investigation done by Lewis's department in January 1980 at OSU.

The report contained the Occupational Safety and Health Act (OSHA) requirements for packaging, labeling, transporting, storing and handling of hazardous chemical wastes.

However, the OSHA regulations cited in Lewis's report are used to police private industry and do not apply to land grant colleges and universities or to state government.

Lewis said he knew the OSHA regulations did not apply to OSU when he wrote the report.

"I think they should cover all public employees," which is why he sent the report to the university, he said.

Fire and safety inspectors and maintenance repair workers currently transport and handle the wastes, said Miller. Both are employees of the Department of Fire and Safety.

Lewis says he does not feel these men are properly trained for the job. He said he will be meeting with Turner next week to discuss the hiring of technicians to handle the chemicals in the future, instead of fire and safety employees.

Since March, fire and safety department employees have been provided with training in the various aspects of handling and transporting these wastes, Miller said.

The training is informal, done in the form of seminars, including showing slides and lecture sessions, he said.

Lewis said the employees are required to wear proper attire when handling the chemical wastes. Depending on what is being handled, the men may wear rubber gloves, a fire coat or rubber boots, he said.

The materials being transported are packaged in primary containers, which must then be put into a second container, so there is little risk of the employee coming in contact with any chemicals, he said.

When volatile solvents, picked up from OSU laboratories and hospital and research facilities, are dumped at the liquid site, the employees are required to wear Scott Air Packs to protect them from the fumes given off by the substances.

Lewis said the investigation and his report were brought about by a complaint from a university employee about unsafe conditions at OSU.

Copies of Lewis's report were sent to various state officials accompanied by a letter whose authors chose to remain anonymous.

The letter, signed "Concerned Constituents," accused OSU of being "in blatant violation of state and federal laws and regulations" concerning various aspects dealing with hazardous chemical wastes at OSU.

Attached to the report was a list citing two specific OSU areas supposedly in violation of the rules.

One area was a Quonset Hut at the corner of Kenny Road and Lane Avenue, which contains hazardous chemical wastes transported there once a week from campus laboratories and hospital facilities.

Corrosive acids, toxic inorganic chemicals and radioactive carcinogens, as well as other chemicals, are being temporarily stored in the building.

A new storage building following federal and state Environmental Protection Agency (EPA) regulations for chemical storage has been planned for more than a year, Miller said. Space will be provided in the new building for storing the waste materials.

However, official plans have not yet been drawn up because of various stages the planning must go through, he said.

The second area cited was a liquid waste dump site located east of the OSU Printing Facility off Kenny Road.

Flammable solvents, which evaporate quickly, are being dumped there, Miller said.

The EPA and the OSU Department of Fire and Safety have been working to investigate and improve conditions at the two specific areas.

Joseph L. Arar, section chief of land pollution control for the central district office of the Ohio EPA, said he expects to send a letter reporting the findings by the end of the week.
Edward L. Aisel Sr., a maintenance inspector for the OSU Department of Fire and Safety, disposes of waste solvents at the liquid dump site off Kenny Road.
Temporary storage facility set for inspection

PCB site violates federal EPA standards

By Jim Smith

An inspection of the campus facility for temporary storage of polychlorinated biphenyl (PCB) will be conducted by the U.S. Environmental Protection Agency, according to Sheldon Simon, an investigator for the agency.

PCB is a non-biodegradable toxic substance which is used in electrical transformers and capacitors.

Because of a limited number of inspectors and an emergency priority system, Simon was unable to say when the inspection would be scheduled.

Early last quarter, the Lantern learned PCB containers were being stored on the west side of the stadium and two of the containers were leaking.

The agency requires PCB to be stored in secure buildings with adequate roof and walls to prevent rain water from mixing with it, since such a mixture would cause a chemical reaction.

In addition, EPA requires that nonporous floors with continuous curbing and no floor drains be used.

Martin E. DeLille, director for OSU facilities maintenance, said when he was informed of PCB storage in the stadium, he had the containers removed within a few days and placed in a new storage area.

The containers would not have been stored in the stadium if maintenance employees would have informed him of their intent to store the PCB containers there, DeLille said.

DeLille said the containers have been removed from campus by High Voltage Maintenance, a waste removal company in Dayton.

Since the removal, transformers containing PCB have been kept in a new storage area.

The location of the site of the transformers is kept secret for security reasons, DeLille said.

However, although there is no federal regulation requiring that the location of PCB storage sites be made public, there is also no regulation requiring that they be kept secret, Simon said.

The Ohio Environmental Protection Agency (OEPA) has made a few inspections of the current PCB storage site. The last inspection by the agency was made March 26.

During the inspection, OEPA inspector Joe Arar found the current site to be in violation of federal EPA standards. Apparently, there is an absence of continuous curbing around the containers. However, Arar said there is no danger to the OSU population.

Storage was permitted at the site because it was classified as temporary and because the facility was the closest to meeting U.S. EPA's requirements. Temporary storage is defined as 30 days by the EPA.

Even though the OEPA inspected the storage site, the U.S. EPA must also inspect the site under provisions of the Toxic Substances Control Act. It states the U.S. EPA cannot delegate authority to the state agency when toxic substances are involved.

Chuck Grigalauskas, a physical scientist for the EPA regional office in Chicago, said the PCB containers should not have been stored even temporarily if the storage facility did not meet federal EPA requirements.

"The law states that you are either in compliance or not in compliance... no in between," he said.

Both Grigalauskas and Simon said the EPA has the authority to fine the university if violations are found. Fines are determined by the amount of PCB contamination and the severity of the violation.

The stored transformers are in good working order, but were removed because they were too small to handle the increasing electrical needs of campus buildings.

As a result, they will become part of inventory and be reinstalled when they are needed. DeLille said the transformers do not have any leaks.

Simon also said that if the transformers were in good working order before they were stored, they would pose no problems. The transformers can be stored indefinitely at the site as long as they do not develop leaks, Simon said.

Regular 30-day inspections of the containers are made to ensure that they have not developed leaks and are secure, DeLille said.

However, Simon said problems can occur when the PCB transformers are in service. Damage can occur to the electrical system or to the container holding the PCB and can create leaks.

Federal legislation in 1976 required that further manufacturing and distribution of PCB cease within the next 25 years.

Some OSU transformers may be 50 years old, DeLille said. He added that he was not sure how many of the transformers contained PCB.

Arar said the university is planning to build a facility for PCB storage. DeLille said that the university is looking for an existing site to modify, not build, a new center.
Solution sought for waste problem

By Diana Moore

In 1979, incineration of liquid wastes and possible steam generation of a building containing chemical wastes was being studied as a solution for a current hazardous waste problem at OSU.

Edward Lazear, recently hired biological safety officer for the OSU Department of Environmental Health and Safety, said no incineration or OSU waste disposal were discussed last week when he met with officials from the Ohio Environmental Protection Agency (OEPA).

Lazear met with Joseph L. Arar, chief of Office of Land Pollution, and Kenneth M. Albrecht, hazardous-waste scientist, from the OEPA Central District Office.

Lazear says no firm commitments were made during the meeting, however.

An anonymous letter sent to various officials in February accused OSU of hazardous storage violations at two sites.

The area was a Quonset hut at the corner of Kenny Road and Lane Avenue, which contains solid wastes. The second area is a liquid waste dump site east of the U Printing Facility and Kenny Road.

The Quonset hut, currently serving as a temporary storage building, does not meet EPA rules, Lazear said.

The Quonset hut is being evaluated to determine if building renovation costs to meet standards would be worth the effort, Lazear says.

It is decided not to fix the present building, efforts will be made to try to think plans for a new chemical storage rehouse, he says.

OSU began making plans in the summer of 1979 for a chemical warehouse to be built near the OSU Printing Facility off Kenny Road. The new building will be used mainly to store incoming chemicals, space being provided for hazardous sites.

Long-range plans to solve the problem of liquid waste disposal include possible constructing an incinerator at OSU, Lazear says.

For now, the Department of Environmental Health and Safety is investigating possibilities of contracting to haul and inerteate liquid wastes elsewhere, he said.

Lazear's meeting with Arar and Humphrey resulted from a letter Arar sent to Dr. Walton R. Garner, chief of OSU Environmental Health and Safety, a few weeks ago.

The letter listed findings from a review of waste-disposal procedures at OSU by the OEPA.

Specifically, the letter stated that the solvent pit, or liquid waste site, should not be used as a disposal area, because it may violate OEPA Air Pollution Regulations. The regulations prohibit the "disposal of more than 1.5 gallons per day of volatile photochemically reactive material by evaporation."

Incineration was recommended in the letter as the most appropriate disposal method for the solvents.

"The procedure of labeling, segregating and properly packaging the chemical wastes is sound," the letter said.

Recommendations made for fixing present problems with the storage facility for solid wastes were:

- Spill prevention and containment precautions must be taken, such as the installation of continuous curbing around the containers.
- Final packaging of wastes must be performed regularly so no chemicals are left in "unprotected" containers for long periods of time.
- Fire and safety personnel should be instructed on safe handling procedures and should be given technical assistance by qualified, competent, technical personnel.
- An inventory of wastes should be maintained.

Donald Lewis, public employees coordinator for the Ohio Department of Industrial Relations, said the new program being put into effect by the Department of Environmental Health and Safety was explained to him in a meeting of the department officials and Lewis Tuesday.

"If and when the program is put into progress, it will solve the problem completely," Lewis said.

In February 1980, Lewis sent a letter and report to Alan J. Miller, director of the OSU Department of Public Safety, summarizing findings and recommendations from a safety and health investigation by Lewis's department in January 1980 OSU.

Lewis's report to Miller was attached to the anonymous letter sent to state officials.

The report contained the Occupational Safety and Health Act (OSHA) requirements for packaging, labeling, transporting, storing and handling hazardous chemical wastes.

The OSHA regulations cited in Lewis's report, however, do not apply to law enforcement colleges and universities or to state government.

The Department of Environmental Health and Safety's new program, which included the hiring of Lazear as biological safety officer, also involves the hiring of an industrial hygienist, a safety engineer and technicians to handle the chemical wastes, Lewis said.

The situation involving hazardous chemical wastes has been transferred to the public safety department to operate in an environmental health and safety capacity since the problems were reported by Lantern April 10.
Toxic waste storage site planned

By Larry Breiterman
The Lantern
11-14-88

As part of an effort to improve the handling and storage of hazardous wastes, OSU plans to build a facility to house and package such wastes.

The facility will contain three buildings in one, said Edward J. Lazear, biological safety director for the OSU Department of Health and Safety. A bulk chemical warehouse will store both unused chemicals and used chemical wastes. Separate storage areas will house flammable wastes and radioactive wastes.

The university is planning a 15,300-square-foot building behind the university service center at 2500 Kenny Road at a cost of almost $1.2 million. “The plans should be completed in the spring, and it’ll take about a year to build,” said Jack Probasco, facilities planner for OSU Campus Planning.

“Also, the radioactive wastes section is going to be ‘extremely safe,’” Lazear said. It is meant to Nuclear Regulatory Commission regulations, he said. These regulations are probably more stringent than are needed because the radioactive material that will be kept at the new facility is mostly low-level radioactive material that “could be stopped by a plastic bag.”

Radioactive wastes currently are stored in different parts of University Hospitals. “They’re having a real problem over there with space,” Lazear said.

Jerome Dare, director of the office of radiation safety, said 150 to 155 55-gallon drums of low-level radioactive wastes in June were being stored before they were shipped to a disposal site in Richland, Wash. Because the storage area only has space for 80 drums, some drums had to be stored on top of each other, he said.

The planned facility will also store flammable wastes which formally were dumped in a pit behind the university service center on Kenny Road. The wastes are now put into 55-gallon drums which will be transported out of the area by commercial transporters, Lazear said.

“We were looking for the most efficient way of handling the flammable wastes. I don’t think we found it,” Lazear said. “Now we’ve got this industrial hazard. Someone has to lift a five-gallon can up to a 55-gallon drum, plus about 12 inches for a funnel, and then pour,” Lazear said. If this is done for prolonged periods it can be harmful to the back, Lazear said.

The wastes are no longer dumped in the pit because of an order issued by the Ohio Environmental Protection Agency (EPA), said Joseph Arar, section chief of land pollution, central district of the Ohio EPA.
Future warehouse to store chemicals

By Jay Lewis

Planning is underway for the construction of a $1.19 million chemical warehouse which will contain facilities for manufacturing laboratory chemicals as well as processing low-level radioactive waste.

Specifications for the warehouse to be located at 2378 Kenny Road, call for more than half the building to be used for storage of chemicals before they are shipped to labs throughout OSU. The chemical manufacturing facility will specialize in production of distilled water and pharmaceuticals. The radioactive processing area will prepare materials from OSU research labs for transfer to disposal sites.

Waste processing entails a "comprehensive program to ensure safety," said Jerome G. Dare, director of Radiation Safety.

The building is designed to provide a "remote feeder area" for the university, said Thomas B. Smith, associate vice president of physical facilities. It will replace an existing facility in McPherson Lab. Smith said he is uncertain when construction will begin. "It depends on when we get the money from the budget," he said. "I'm hoping for the next six months."

The idea for a new warehouse had been studied for more than two years, Smith said. "McPherson is 30 to 40 years old. We need more space."
Bids in on chemical waste storage facility

By Leigh Hone

Bidding for a contract to build a 15,000-square-foot chemical waste storage facility on Kenny Road in the Services Center, has been completed and construction should begin once state officials confirm the low bidders.

The one-story warehouse, comparable in size to Independence Hall, would house low-level radioactive and chemical wastes generated as byproducts of university research and classroom laboratory experiments.

John Seilhamer, university architect, said OSU officials have met with the five apparent low bidders and are waiting for a state review of the contractors' Equal Employment Opportunity Compliance and confirmation of the low bids by the state architect.

Every contractor who is awarded a state contract must sub-contract a certain portion of the work to minority material suppliers and minority contractors.

Seilhamer said the storage facility should take a year to build once the state architect confirms the low bids.

The cost for the warehouse, to be paid for by University Investment Funds, "will be in excess of $1 million," Seilhamer said. "We're not really in a position to give an accurate cost. Until the low bidders are confirmed to us by the state architect we are not in a position to estimate the cost," he said.

Construction of the facility is one of the steps the university is taking to comply with Occupational Safety and Health Administration regulations.

Ohio State was found to be in indirect violation of 13 Occupational Safety and Health Act (OSHA) regulations last autumn. The university was cited for using improperly trained personnel to handle chemical wastes and for improperly packaging, handling and storing the wastes.

OSHA regulations don't apply directly to OSU because the university is a land-grant college and thereby is subject to Environmental Protection Agency regulations.

OSU officials, however, are trying to meet the more stringent OSHA regulations, said Edward Lazear, the biological safety director for the OSU environmental and health safety department.

The warehouse construction project was reviewed by the Ohio Environmental Protection Agency (OEPA) about eight months ago. "They did have some minor details they felt should be changed and we did change those details," Seilhamer said.

"The actual catalyst that triggered the action at this time is the expected replacement of McPherson Lab... popularly known as Sawtooth Lab.

"That will happen when the (Ohio) General Assembly moves a capital improvement budget, and we fully expect to be funded to remove and replace the (Sawtooth) building," Seilhamer said.

"A warehouse design is being used because it's cheaper to tack on more space if it's needed," said Jerry Dare, OSU director of radiation safety. "There won't be a finished interior... it'll be very plain."

A 75-foot by 20-foot area is allocated for radioactive material storage, he added.

"The building is completely fire-proofed," Lazear said. "The room where the hazardous waste will be stored is separated from the rest of the building by a fire wall, and an automatic sprinkler system will be installed as it's built. We anticipate no problems."

The people who will be handling the hazardous waste were specially trained, he said; they received both on-the-job and office training.

"This building will be merely a temporary holding site for the wastes until they are shipped out," Lazear said. Wastes generated from such departments as engineering, physics, and agronomy are currently housed in Graves Hall in 55-gallon drums, until they're shipped every 90 days to Richland, Washington.

"In a 90-day period we pick up about 25, 55-gallon drums of volatile materials. The number of solid chemicals we pick up differs each week depending on who cleans out a storeroom that week," Lazear said.

"When we pick it up, we pack it according to Department of Transportation regulations and add twice as much absorbent material around it when it's transported," he added.

The storage area will be inspected once a week at the minimum, Lazear said. The solid waste will be stored in another storage area about 100 yards from the facility.

"When we know what a hazard is ahead of time we plan for the safety. A warehouse like this is probably less of a problem than a building with a lot of students smoking and one of them happens to throw a cigarette down on
Chemical facility bids confirmed

By Becky Yersk

Low bids have been confirmed for a $1.38 million chemical warehouse to be built on Kenny Road within the next year, OSU officials said.

The warehouse will be used to receive, store, and dispense chemicals, and house some low-level radioactive and chemical wastes produced by university experiments.

University Architect John H. Seilhamer said before the construction can begin, all of the construction bids must be reviewed by the state to assure that the firms sub-contract some work to a minority supplier or contractor.

The warehouse, he said, will prove to be more economical for the university and more accessible to the different science departments.

A.L. Mathews, administrative manager of the chemistry department, said currently chemicals which are brought to the university must be picked up at Millikin Road and transferred to the docks near McPherson Chemical Laboratory by OSU trucks because the chemical trucks are too large to unload at the docks.

If an academic department in another building requests some chemicals, the OSU trucks must transport them again, he said.

Mathews said the new warehouse will decrease the number of trips the university trucks have to make to transport the chemicals.

The chemical trucks will then unload at the warehouse, and university trucks will only have to pick up the chemicals and transport them to the buildings that need them.

The warehouse must be built before construction begins on the Sawtooth part of McPherson lab, because the loading dock is connected to Sawtooth.

Joseph Nagy, manager of receiving stores which receives the chemicals, said the Kenny Road site was chosen because it is a non-populated area.

Augustus J. Vanburen, assistant vice-president for business management, said land availability and better gas, electrical, sewer and waste facilities also added to the site's attractiveness.

The building will be divided into three sections: a chemical storage section, a low-level radioactive waste section, and a chemical waste section, said Roger Stovall, assistant manager for receiving stores. Part of the chemical storage section will include a reagent lab, which makes distilled water and mixes certain chemicals.

Seilhamer said he expects no problems with the construction of the 15,000-square-foot warehouse, which is being funded by University Investment Funds.

Although the warehouse will store some low-level radioactive waste, Seilhamer said no municipality or regulatory agency has opposed the building.

The state Environmental Protection Agency (EPA) reviewed the project because the warehouse will store some hazardous wastes.

The EPA reviewed factors such as how the warehouse employees will handle the chemical wastes, how they will react in case of a crisis, the structure of the warehouse, and how they would deal with the chemicals in case the building would close down.

The warehouse will be constructed east of the Service Building Annex at 2578 Kenny Road.

On Dec. 10 the OSU Board of Trustees approved the following low-bid contracts:

• The general contract was awarded to M & P Construction Company, Inc., Blacklick, Ohio, with the low bid of $558,900.

• The plumbing contract was awarded to A-1 Plumbing and Heating, Inc., Columbus, with the low bid of $109,500.

• The fire protection contract was awarded to Fire and Safety Equipment Company, Washington Court House, Ohio, with the low bid of $88,450.

• The heating, ventilating and air conditioning contract was awarded to Radico, Inc., Columbus, with the low bid of $218,800.
Radioactive waste model housed in Robinson Lab imitates nuclear storage

By Richard Riski
Lantern staff writer

To safely store nuclear waste, we have to know how heat is transferred so we won’t damage either a (spent fuel) canister or the surrounding rock,” he said.

Researchers analyze the heat movement in several experimental models: a nuclear waste repository; the ventilated, horizontal shafts that hold the waste, which is sunk approximately a half-mile underground; and the spent fuel canisters that are housed just beneath the mineshaft, Christensen said.

Researchers already have produced a simulated, heat-tested nuclear repository. Its measured test values, projecting the heat’s behavior through metal and stone, have been compared with values from numerical or theoretical models, Christensen said.

The measured values between the experimental and theoretical models have compared well against one another, he said.

Another model, a repository tunnel or horizontal mineshaft, spans almost the entire length of the 50-foot Robinson lab room. Its silver-grey metallic shell is lined at its base with heating pads and wired for exact heat transfer measurements.

Results from the mineshaft model also have been good, Christensen said.

The remaining set of lab models simulate the spent fuel canisters that contain either used fuel or radioactive waste. These models will help scientists predict the peak temperatures in spent fuel containers depending on their immediate surroundings and their placement in the earth, Christensen said.

Radioactive waste has been disposed in nuclear repositories in West Germany and Canada, but none exist in the U.S.

“We in the U.S. have not actually designed and built a nuclear repository... yet. That’s what Battelle is doing.”

“Battelle has contracted with the (U.S.) Department of Energy to oversee the criteria for the selection of a repository site and its possible construction,” he said.

Spent nuclear fuel from civilian reactors is stored in pools of water at reactor sites where it is presently “piling up,” according to a recent issue of Congressional Quarterly (CQ).

Nuclear utilities only recently have been able to reprocess spent fuel by the lifting of a legislative ban by President Reagan, but utilities find the reprocessing too costly, according to CQ.

After explaining his model, he stepped away from the structure and held his hands apart.

“In engineering there’s a band of uncertainty (between test models and reality) — we’re trying to narrow that band,” Christensen said, closing the gap between his hands.
COLUMBUS, Ohio -- The Board of Trustees of Ohio State University on Friday (2/4) approved contracts for the construction of a $1.5 million bulk chemical warehouse in the university's service area off Kenny Road.

The new building will provide space to accommodate the storage of chemicals in bulk quantities, a light manufacturing laboratory operation specializing in distilled water and pharmaceuticals, and a low-level radioactive waste processing facility to prepare the materials for shipment to disposal sites in accordance with federal and other regulations.

Construction of the building is scheduled to begin early this spring and is expected to take about a year.

The construction contracts were awarded to the low bidder in each case: general contract, M & P Construction Co., $575,900; plumbing contract, Radico, Inc., $88,500; fire protection contract, Capital Fire Protection, $127,254; heating, ventilating and air conditioning contract, Radico, Inc., $335,290; electrical contract, Seco Electric, $167,761.

The trustees also approved the awarding of contracts of $51,170 to relocate a sanitary sewer from the building site of the cancer institute hospital; $35,985 to install primary 15KV - more -
3-phase electrical service from Sullivant Hall; and $13,350 to remove sealant from around masonry openings in Fontana Laboratory and to reseal with an elastomeric sealant to make the building weather tight and to prolong its life.

In other action, the trustees approved the plans and authorized the bidding for four projects: installation of the primary and secondary electrical power distribution system for the Farm Science Review operation at the Molly Caren Agricultural Center at an estimated cost of $300,000; exterior masonry repairs of Ovalwood Hall on the Mansfield campus and Galvin Hall on the Lima campus at a total estimated cost of $173,000; roof replacement and repairs at the Lima Technical Building on the Lima campus and at the Marion Technical Building on the Marion campus at an estimated cost of $160,000; an addition to a storage room in the Electroscience Laboratory at an estimated cost of $56,197.

The trustees agreed to seek an engineering firm to prepare plans for an energy conservation project at the university's Laundry Building. The project is estimated to cost $54,350. Half that cost would be paid by federal funds allocated for conservation efforts.
New warehouse to remove hazards

By Mark DePassio
Lantern staff writer 2-9-83

Construction of a new $1.5 million warehouse to store chemicals and process radioactive waste will eliminate a hazardous chemical storage area at Ohio State.

The new warehouse will be located northeast of the Vehicle Maintenance Building, 2879 Kenny Road. Construction is scheduled to begin in spring and should be completed by January 1984.

Chemicals now are stored in the basement of McPherson Chemical Laboratory, 140 W. 18th Ave., which fails to meet current city fire codes, said A.L. Mathews, chemistry department manager.

The code states chemicals cannot be stored underground because pockets of lethal gas could form and cause an explosion. "The resulting explosion could seriously endanger hundreds of students' lives," Mathews said.

"The warehouse was built in 1928, and met the codes of the day, but does not come close to meeting today's codes," he said.

Mathews emphasized that chemicals have been stored in the warehouse for 54 years and no accidents have occurred.

But OSU officials are trying to resolve the problem quickly, he said. "This is not just a cosmetic improvement."

In addition to storing bulk chemicals, the new warehouse will house a laboratory for making distilled water and pharmaceuticals, which now are produced in the Sawtooth wing of McPherson Lab.

The warehouse also will house a low-level radioactive waste processing facility, which now is located in Graves Hall, 333 W. 10th Ave.

Radioactive waste is produced by research throughout the university. After processing, it is transported to a disposal site in Hanford, Wash.

Moving the processing plant to the new warehouse will allow OSU to centralize operations, said Edward J. Lazear, bio-safety officer with OSU Environmental Health and Safety.

The new building also will allow OSU to convert McPherson storerooms into classrooms and demolish Sawtooth this spring, said Richard Eschliman, associate university architect.

"Sawtooth is being demolished because it's 60 years old and it's dilapidated. They talked about (demolishing) it 30 years ago," Eschliman said.

An architect was hired in 1980 to design the warehouse, but after the project was re-bid to meet government regulations, OSU officials decided to improve the designs to conserve energy, he said.

Funds for the project were approved by the OSU Board of Trustees on Friday and will come from the OSU Office of Business Management (OBM).

OBM raises funds by charging university departments for services they provide. "In the case of the chemical warehouse, we bring chemicals in bulk to the university and redistribute them to various departments for a mark-up," said Augustus Van Buren, assistant vice president for OBM.

John Davis, vice president of sales for Capital Fire Protection, which was awarded the contract for fire protection equipment, said the new facility will be equipped with sprinkler systems, an alarm system and a chemical fire suppressant.

The fire suppressant, Halon 1301, interrupts the chemical reaction of fire without removing oxygen from the area.

The current fire prevention system in McPherson uses an outdated exhaust ventilation system which takes fumes out of the warehouse 24 hours a day. There are no sprinklers in rooms where ether and alcohol — both explosive substances — are stored, he said.
OSU gets new chemical waste facility

By Veronika Taylor
Lantern staff writer

Construction of the $1.5 million Bulk Chemical Warehouse has begun and will be ready for occupation next April.

The warehouse, located northeast of the Vehicle Maintenance Building at 2378 Kenny Rd., will hold all hazardous waste materials collected from laboratories on campus until they can be disposed. It also will store bulk chemicals currently stored in the basement of McPherson Chemical Laboratory, said Joseph Nagy, manager of Stores and Receiving at OSU.

Nagy, who will supervise the new facility, said the current storage areas are outdated and no longer suit their purpose. "The new warehouse allows for safer ways to store hazardous waste and is not located in a highly populated area," he said. A.L. Mathews, administrative manager of the chemistry department, explained storage of a large number of flammable chemicals in the basement of McPherson does not meet current city fire codes. The codes prohibit storage of chemicals underground because pockets of gas could form and cause an explosion. While no accidents have occurred in 54 years, officials are eager to move the chemicals to a safer facility.

Environmental Health and Safety Service personnel at the Wilse Student Health Center, who collect the hazardous waste on campus, also expressed concern about the current storage area, a dilapidated barn near West Campus. Edward J. Lazear, bio-safety officer with Environmental Health and Safety Services, explained the collected hazardous waste is stored until it can be taken to disposal sites. Depending on the type of chemicals, they are either burned or taken to proper waste disposal sites in other states. This is done several times per year.

The low-level radioactive waste processing facility, currently in Graves Hall, 333 W. 10th Ave., will also move into the new building, said Walter E. Carey, interim director of the Office of Radiation Safety.

"We want to be part of the new warehouse because we can consolidate all of the waste disposal operations that require special handling," he said.

"This should reduce cost and will also ensure safety both for the workers and the public. The new facility will allow us to do a more effective job," Carey said.

"While our current processing and storage area in the basement of Graves Hall is adequate, it was not designed for this purpose. But even with the new facility, we do not have the capacity for long-term storage. We have to ship the waste to a disposal site in Hanford, Wash., or to South Carolina several times a year," he added.

Because of the research conducted at OSU, the university is the third largest generator of radioactive waste in Ohio, Carey said.

The new warehouse is designed to store hazardous flammable materials are stored in an isolated area and kept at a steady temperature. Acids and corrosive agents also are stored separately, Nagy said. Fire walls will separate the major storage areas to prevent possible chain reactions.

"We have sprinkler systems, as well as a Halone 1301 system, which we use if certain solvents and water reactive type chemicals should catch on fire," Nagy explained.

The Halone is a chemical fire suppressant which stops the fire's chemical reaction without removing oxygen from the area.

"We also have a super ventilating system in case of a spill, which can be accelerated if fumes have to be disposed of quickly," he said.

"There are 67 roof-mounted explosion relief vents. In the event of an explosion, the building is designed that the force of the explosion will go through the vents of the roof to lessen the pressure and the environmental impact of the explosion," he said.
OSU to build waste incinerator

By Tom Sheehan
Dispatch OSU Reporter

Ohio State University hopes to save thousands of dollars by burning most of the low-level radioactive waste and some chemical and biological waste now being shipped to dumps.

Plans approved by the OSU Board of Trustees on Friday call for the construction of a $300,000 incinerator on the east side of Kenny Rd., about a quarter mile north of Lane Ave.

The incinerator will be in a small, one-story, concrete-block building and probably begin operating by late 1985 or early 1986, university officials said.

The incinerator first must be approved by the federal Nuclear Regulatory Commission and the Ohio Environmental Protection Agency.

OSU SPENDS about $100,000 a year for shipping and storage of low-level radioactive waste. About 300 55-gallon drums of contaminated waste are sent yearly to a federally licensed disposal site in Richland, Wash.

About 20,000 gallons of chemical and biological wastes are shipped from OSU each year at a cost of around $25,000.

Using the incinerator will reduce the shipments of radioactive waste to fewer than 30 drums annually. Those drums will contain the most hazardous waste, officials said.

About 8,000 gallons of chemical wastes, such as paint thinner, will be incinerated each year.

THE OTHER 12,000 gallons, made up of more-hazardous substances such as iodine and chlorine, will be shipped to dumps.

"We think it is time to get this done, because it is getting tougher and tougher and more expensive to dispose of these materials under present conditions," Richard Jackson, OSU vice president for business and finance, told the board.

He said the incinerator, which will burn at temperatures up to 2,000 degrees Fahrenheit, will not harm the surrounding area.

Walter Carey, director of OSU's Office of Radioactive Safety, said at least 20 such incinerators are in the Midwest.

IN OTHER ACTION, the board:

- Established the Woody Hayes and Archie Griffin Scholarship Fund with a $5,000 initial gift from the OSU Alumni Club of Oklahoma.
- Named Hugh Hindman athletic director emeritus. Hindman stepped down as athletic director in June.
- Changed the name of the College of Medicine Administrative Center to Richard Lewis Meiling Hall. Meiling, a vice president emeritus and former medical school dean, worked at OSU from 1953 to 1974.
- Approved the awarding of $31.5 million in contracts for construction of OSU's Cancer Research Institute, which is to be completed in early 1987.
- Approved revision of the university's competitive bidding and purchasing policy. Competitive bids now must be sought for purchases of equipment costing $5,000 or more.
OSU applauded for plan; incinerator will rid waste

We commend OSU for having the foresight to realize that waste piles up and that by dealing with it now, we can alleviate future problems.

OSU has approved plans for a radioactive waste incinerator to be built on Kenney Road. The incinerator will burn waste and reduce its volume before shipping it in canisters to a licensed burial dump site.

Since 51 departments in seven colleges at OSU use radioactive material in their research, quite a bit of chemical, flammable and radioactive waste is generated. The new incinerator will only burn waste from OSU.

We commend the university for taking action to lower the quantity of its own dangerous waste instead of continuing to ship the full amount to Richland, Wash. A burden is being placed on the land to receive this waste and room may soon run out.

The university will also save shipping cost money in the long run by sending less waste to Richland. Any avenue OSU explores to cut spending while still maintaining high quality education should be applauded.

OSU is a leader in taking responsibility for its own waste, by planning to cut its amount to one tenth of previous amounts. We hope other universities and businesses will follow OSU’s lead and do the same.
New county landfill helps campus clean up its act

By Gary George
Lantern staff writer

A new Franklin County sanitary landfill is the final resting place of the university's refuse, and faculty, staff and students must act responsibly in their disposal of trash, said Richard D. Jackson, Vice President for Business and Administration.

The facility opened Aug. 19 and is located 3851 London-Groveport Rd., in the southern part of Franklin County.

The university must make sure no potentially hazardous waste material is sent there. "We hope to raise the public's sensitivity about the situation so we can continue to use the facility," Jackson said.

The Environmental Protection Agency has very strict policies concerning the disposal of hazardous wastes, said Ohio EPA District Engineer Steve Rath. "We are allowed to levy fines and penalties as well as restrict the university from using the landfill in the event of a problem," Rath said.

In order for a waste to be determined hazardous, it must meet several standards established by the national EPA's code of federal regulations. The classification of these wastes can be very complicated, he said, but most of them are classified as either liquid or solid. Tests can then be performed on the substances to determine their ignitability, corrosivity, reactivity (explosive properties) and toxicity. The results are compared to EPA standards, and the wastes are then classified as safe or hazardous, Rath said.

Because of Ohio State's size and research functions, hazardous waste disposal cannot be ignored, he said.

Edward J. Lazear, acting chief for Environmental and Occupational Health and Safety, said that Ohio State generates all the different types of hazardous wastes. "Since we generate so much, we really need to be careful," he said.

Lazear said his department consolidates all of the hazardous waste on campus and then has a commercial waste company dispose of it.

Most of the solid waste is incinerated by Ross Incineration of Cleveland, and most of the liquid waste is taken to a secured hazardous waste landfill, Lazear said.

While all university colleges and departments must be careful with their waste disposal, some are more likely to deal with hazardous substances than others, Jackson said. "I don't think the English and Romance Language Departments are very likely to dispose of hazardous waste," he said.

Gary Means, acting chairman of the Department of Biological Sciences, said his department deals with radio-isotopes that are classified as hazardous. "We store the waste in yellow trash cans that indicate the material is radioactive," he said.

Dean A. Ramsey, director of Grounds and Maintenance, said any university department might be guilty of disposing of hazardous wastes. "Even the solvents and cleaners used by the janitors can be hazardous if they get into a water supply somewhere," he said.

Lazear agreed that many janitorial products are potentially hazardous because of their strong acid or base properties. Lead batteries and compressed gas cylinders are other forms of hazardous waste, he added.

Even though the university has not had any problems with the disposal of hazardous waste in the past, everyone should still be very careful, Jackson said. "We have to let people realize that this is illegal, and everyone must make efforts to prevent any problems from occurring," he said.