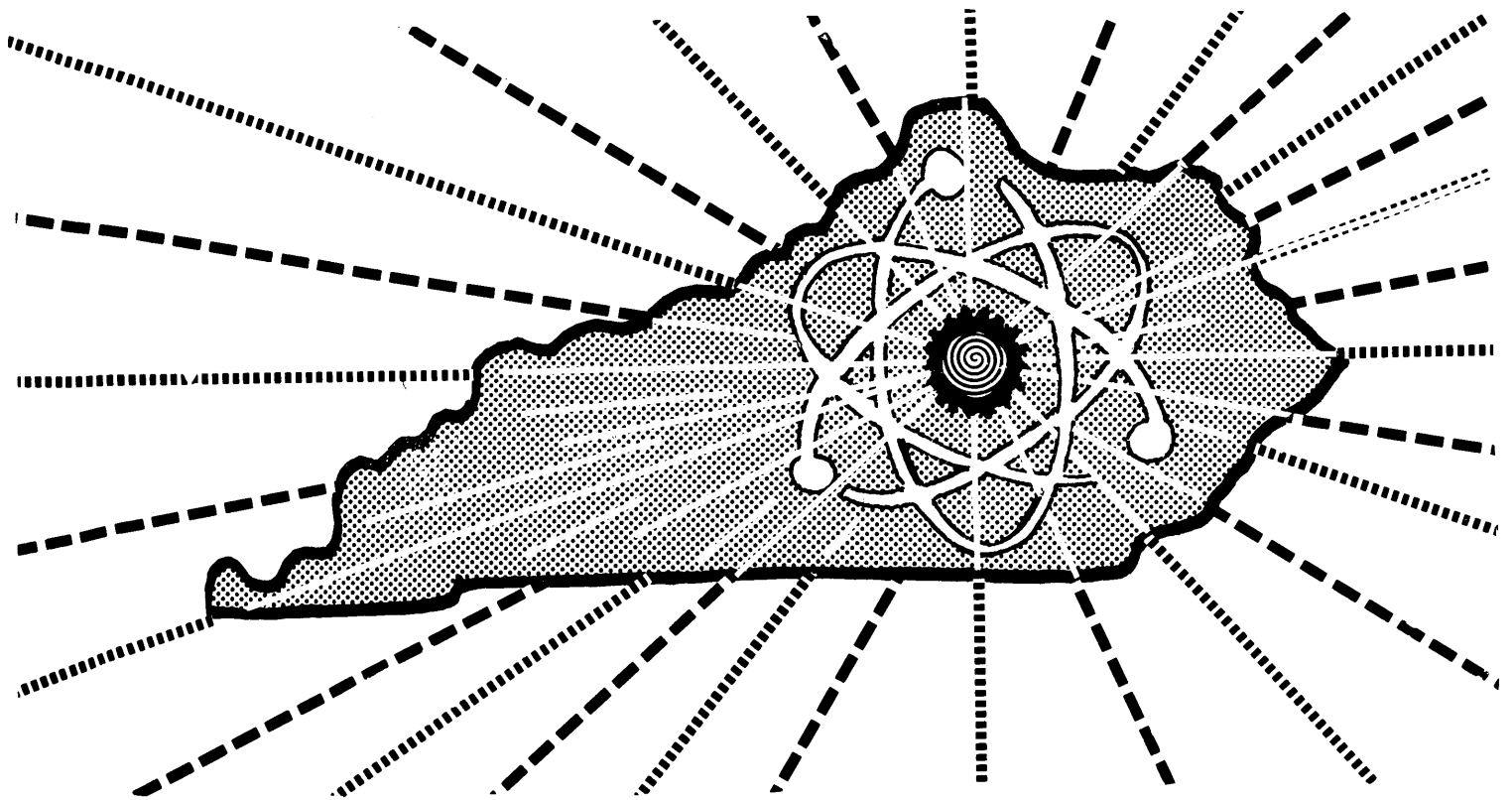


REPORT OF THE SPECIAL
ADVISORY COMMITTEE ON
NUCLEAR WASTE DISPOSAL
(1979 Supplement)



RESEARCH REPORT NO. 167

LEGISLATIVE RESEARCH COMMISSION
Frankfort, Kentucky

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REPORT OF THE 1978-79 INTERIM SPECIAL ADVISORY COMMITTEE ON NUCLEAR WASTE DISPOSAL

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Research Report No. 167

*Legislative Research Commission
Frankfort, Kentucky
January, 1980*

FOREWORD

Recognizing the seriousness and complexity of the problems associated with the Maxey Flats nuclear waste disposal site in Kentucky, the 1978 General Assembly directed that a special advisory committee composed of legislators, university experts, citizens, and state agency personnel be created to have oversight of all matters related to nuclear waste in the Commonwealth. Because of time constraints, this special committee directed its attention primarily to the Maxey Flats site and not other issues. It continued the work of the 1976-77 special committee whose findings and recommendations can be found in Legislative Research Report No. 142.

This report contains an update on the sequences of events concerning Maxey Flats that have transpired since September, 1977. It summarizes the findings and recommendations of the 1978-79 special advisory committee in the areas of public health and safety, state agency roles and responsibilities, state-federal relationships and the financing of needed site repairs and eventually perpetual care and maintenance.

This committee has taken strides to set a direction and plan for the Commonwealth in regard to the long term management of the Maxey Flats site and has recommended further oversight regarding this and other nuclear issues. The members of the committee have worked diligently in fulfilling their charge. This report, prepared by Peggy Hyland and reviewed by the committee members, serves as a continuing record of the efforts of the Commonwealth to deal with one aspect of the legacy of a nuclear age. Hopefully, it will prove useful to others.

VIC HELLARD, JR.
DIRECTOR

THE CAPITOL
FRANKFORT, KENTUCKY
DECEMBER, 1979

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SUMMARY AND LEGISLATIVE RECOMMENDATIONS

In 1962 a low-level nuclear waste disposal operation was licensed at Maxey Flats, near Morehead, Kentucky. Very little public attention was focused on Maxey Flats between 1963 and 1972. In 1972, however, monitoring by the state Radiation Control Branch, Department for Human Resources detected measured increases in off-site radioactivity. Further studies indicated unsatisfactory disposal practices at the site and major management changes were initiated.

With the problems at the site, public interest was aroused. By 1976, it had increased to the extent that the General Assembly took action to impose an excise tax on nuclear waste buried in the Commonwealth, to reorganize agency responsibilities, and to establish a special legislative oversight committee for the 1976-77 interim. The activities, findings and recommendations of that committee have been set forth in Legislative Research Report No. 142. This report presents the activities relating to the Maxey Flats site of the 1978-79 special advisory committee and as such represents an update of the previous report.

Major events which have occurred during this time include the closing of the site and the purchasing of the rights to operate the site by the state in May of 1978. The 1978 General Assembly enacted legislation which would require that the General Assembly give its approval prior to the locating of any other nuclear waste disposal facility in the Commonwealth. The legislature also directed that a Special Advisory Committee on Nuclear Waste Disposal be created to have oversight on all matters relating to nuclear waste disposal in the Commonwealth during the 1978-79 interim. A reorganization of state agency responsibilities occurred in February of 1979, resulting in the Department for Natural Resources and Environmental Protection becoming the custodian

and manager of the site; the Department for Human Resources remained the regulator of the site. A new site management agency was hired in June, 1979 and a new management contract was negotiated to include corrective action at the site, to solve the water management problems as well as to provide for routine site maintenance.

The Special Advisory Committee on Nuclear Waste Disposal met and considered issues relating to state roles and responsibilities, public safety and health, state-federal relationships, and financing of perpetual care and maintenance.

Generally, in the area of public health and safety, reports to the committee indicated that the site poses no significant public health hazard to the people in the area; radioactive releases from the site are within current permissible federal standards. However, there is still insufficient data to predict the long-term integrity of the site. Likewise, there is no consensus among the scientific community as to the effects of long-term low-level radiation exposure. Studies relating to the site by the U. S. Environmental Protection Agency, U.S. Geological Survey, U.S. Nuclear Regulatory Commission, and the Kentucky Department for Human Resources are continuing.

The committee took action to comment formally on federal proposals relating to nuclear waste and to begin to formalize a position on the best posture for the Commonwealth to assume in relationship to federal involvement at Maxey Flats. Generally, the committee took the position that it is at this time in the best interest of the citizens of the Commonwealth to retain ownership of the site and thus maximize state control over the site. The committee further endorsed the policy that under any federal-state agreement the state retain final authority for approving or disapproving the locating, opening, closing, or reopening of a site or facility within its borders.

The committee discussed various options relating to financing of perpetual

care and maintenance, including federal funding, biennial appropriations, and special trust funds. Because of the inability to determine the cost of corrective activities onsite and other budgetary considerations, the establishment of a trust fund was considered inappropriate at this time. Federal funding will continue to be sought; since more than 99% of the waste buried at the site came from outside Kentucky, the committee believes the federal government should share the financial burden. The committee decided to recommend that expenses associated with daily monitoring and maintenance of the site and with handling any emergencies at the site be declared "necessary governmental expenses," thus assuring adequate funds for such purposes. In addition, the committee proposed that appropriations associated with Maxey Flats be set out as major program costs and thus be line items in the executive budget document. The committee went on record as endorsing the \$885,000 supplemental budget request of the Department for Natural Resources and Environmental Protection for FY 1980, on the basis that delays in needed site repairs will only result in the accumulation of greater volumes of contaminated water and that making site improvements should result in lower maintenance costs. The committee also directed that the Appropriations and Revenue Committee be requested to hold a public hearing in late January of 1980 on the supplemental and biennial appropriations for the Maxey Flats site.

The committee voted to prefile 80 BR 271 and 80 BR 273 (80 BR 491, companion bill), which would have the following effects on the Maxey Flats site and on the policy of the Commonwealth towards nuclear waste disposal:

1. Require legislative approval for any changes in state ownership of a low-level nuclear waste site.
2. Indicate the policy of the Commonwealth to retain final authority for approving or disapproving the locating, opening, closing or

- reopening of such a site.
3. Set forth committee findings as to the major problems at the Maxey Flats site and prohibit reopening until there is a finding of fact from the secretaries of Human Resources and Natural Resources and Environmental Protection that all problems are resolved, a public hearing held in the county in which the site is located, and approval by a majority of each house of the legislature and approval of the Governor.
 4. Declare maintenance and surveillance of the Maxey Flats site and handling any emergencies at the site so declared by the Governor to be a necessary governmental expense and require that appropriations to the Departments for Human Resources and Natural Resources and Environmental Protection for Maxey Flats be set forth as a major program cost in the executive budget document.
 5. Direct the Department for Natural Resources and Environmental Protection to proceed expeditiously toward the stabilization and decommissioning of the site.
 6. Establish a special advisory committee on nuclear issues for the 1980-81 Interim, consisting of legislators, nuclear experts, environmental groups, and citizens, and require the Department for Natural Resources and Environmental Protection to report to this committee on the implementation of a long-term plan for the Maxey Flats site.

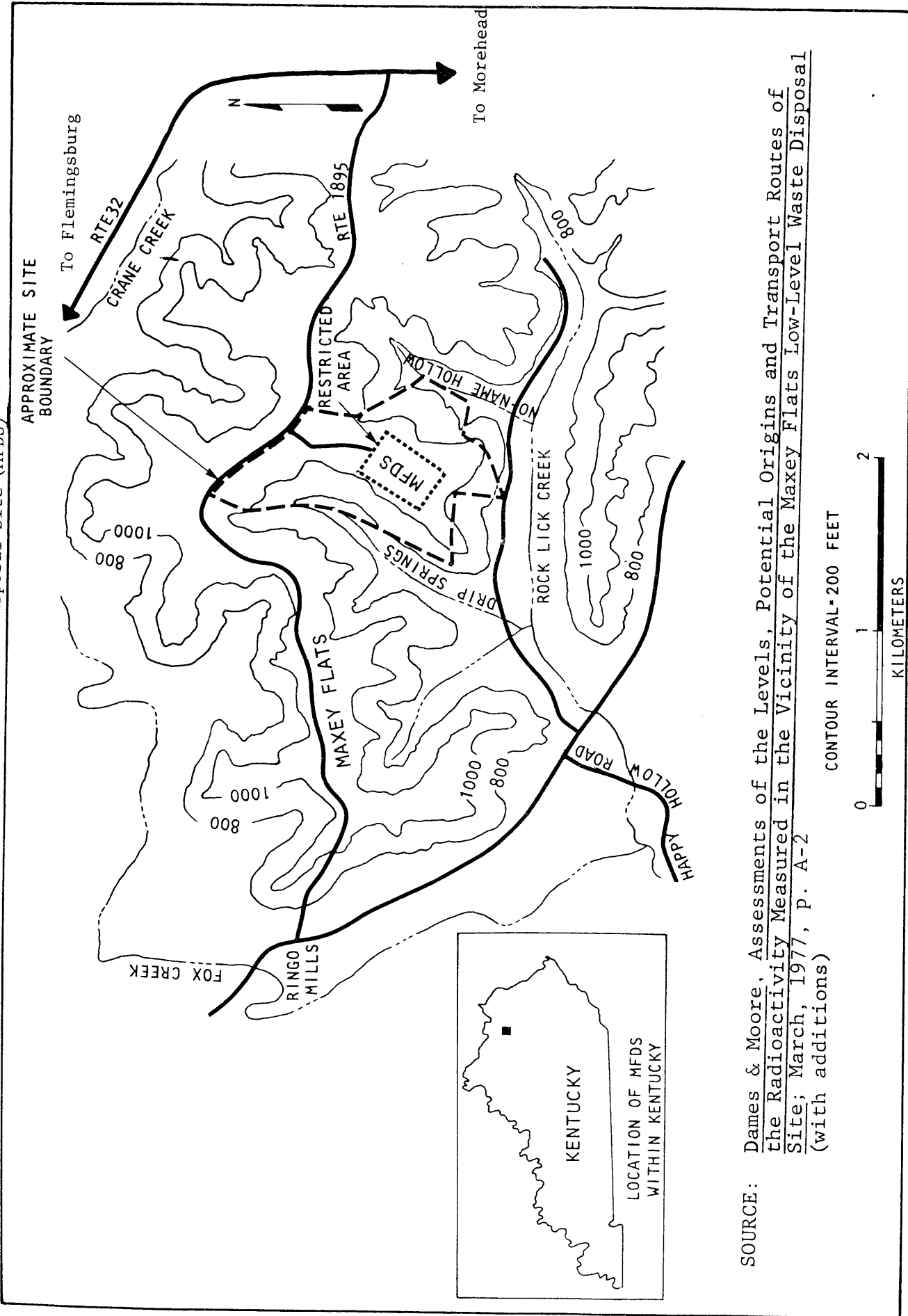
CHAPTER I
BACKGROUND

In 1962, against a background of promotion of the nuclear industry, the General Assembly enacted legislation enabling a nuclear burial site to be located in Kentucky. In 1962 a low-level nuclear waste disposal facility was licensed at Maxey Flats, near Morehead, Kentucky, and in 1963 it was opened for business (See Figure 1). It should be noted that, historically "low-level" is a misnomer, since it applies not to the degree of radioactivity of a material but rather to how the substance was generated. "High-level waste" applied only to those wastes resulting from the reprocessing of irradiated reactor fuels. All other wastes were termed "low-level" wastes. Consequently, there are some very highly radioactive low-level wastes buried at Maxey Flats, including plutonium (buried up to 1974), strontium 90, cesium 137, and cobalt 60.

Very little public attention was focused on Maxey Flats between 1962 and 1972. In 1972, however, monitoring by the state Radiation Control Branch, Department for Human Resources detected measured increases in off-site radioactivity. Further studies indicated unsatisfactory disposal practices at the site and major management changes were initiated.

With the problems at the site, public interest was aroused. By 1976, it had increased to the extent that the General Assembly took action to impose an excise tax on nuclear waste buried in the Commonwealth, to reorganize agency responsibilities, and to establish a special legislative oversight committee for the 1976-77 interim. The activities, findings and recommendations of that committee have been set forth in Legislative Research Report No. 142. The purpose of the present report is to present the activities relating to the Maxey Flats site of the 1978-79 special advisory committee and, as such, represents an update of the previous report.

FIGURE 1 Location of the Maxey Flats Nuclear Waste Disposal Site (MFDS)



SOURCE: Dames & Moore, Assessments of the Levels, Potential Origins and Transport Routes of the Radioactivity Measured in the Vicinity of the Maxey Flats Low-Level Waste Disposal Site; March, 1977, p. A-2 (with additions)

CHAPTER II

AN UPDATE

Site Closure

In August 1977, just as the 1976-77 Special Advisory Committee on Nuclear Waste Disposal was completing its final report, seepage into a newly constructed trench, Trench 46, proved to be radioactive (See Figure 2). The significance of this event was that it confirmed unequivocally that there is subsurface migration of radioactive liquids at the site. Seepage had traveled from an old waste-filled and closed trench along a sandstone layer a distance of at least fifty feet at a depth of approximately fifteen feet. This radioactive seepage can be explained by the fact that there are trenches on the site located above or on the sandstone layer and that liquid (from infiltrating rainfall) may have built up to a point above the sandstone layer in other deeper trenches.

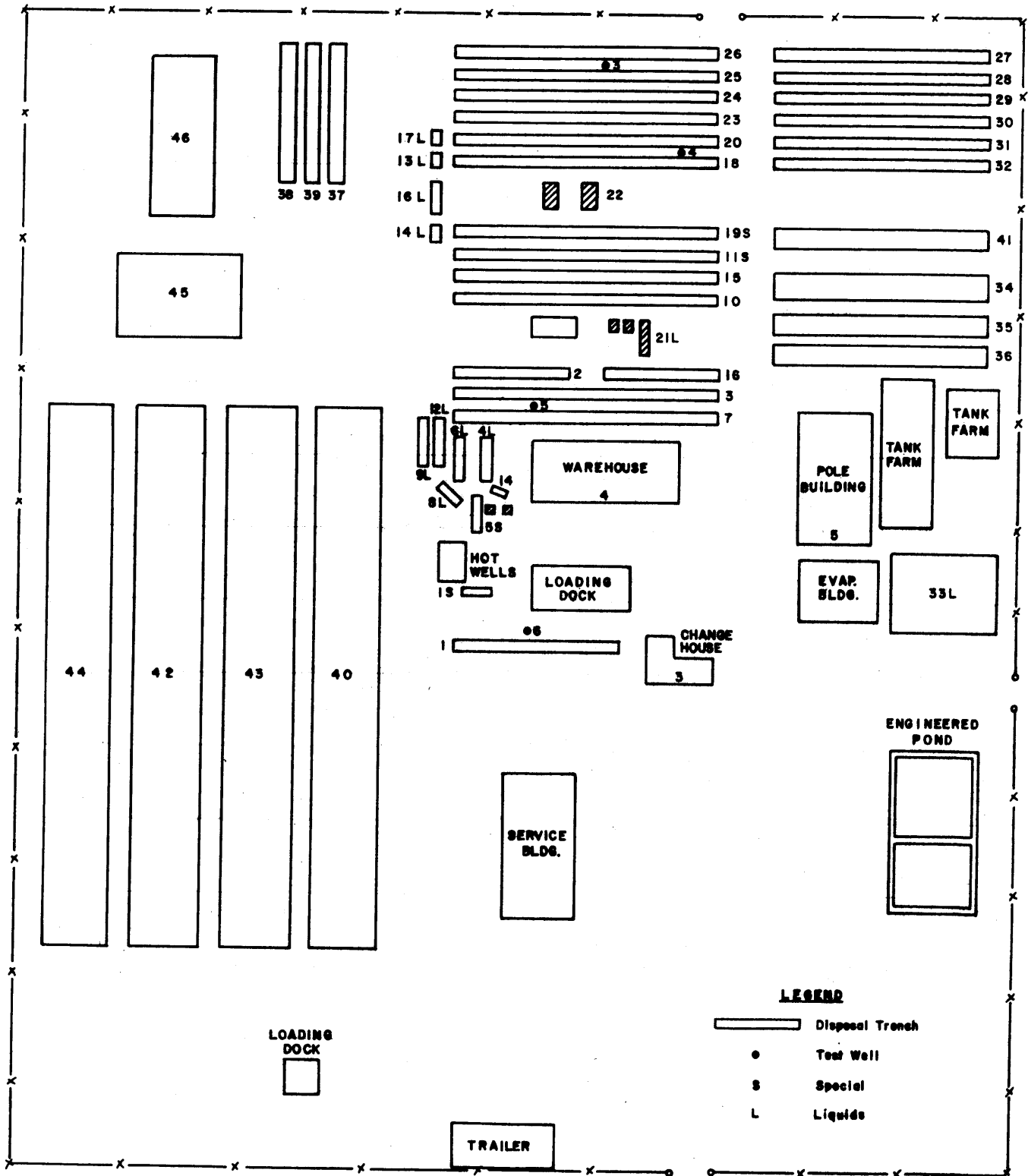
At this time, the Department for Human Resources, regulator of the site, placed a moratorium on the digging of any other new trenches until the full significance of the findings in Trench 46 could be determined. As it turns out no further trenches were dug at all, due to closure of the site.

On September 15, the Governor announced, through the Secretary of the Department of Finance, that the Nuclear Engineering Company (NECO) would cooperate in an attempt to negotiate an agreement to close the site for two years. The Governor established an ad hoc committee, consisting of the secretary of the Department of Finance; the secretary of the Department for Human Resources; the president of NECO; a representative of Dames and Moore, a consulting firm performing studies at the site; and a member of the Special Advisory Committee on Nuclear Waste Disposal. On September 23, it was reported that NECO had agreed to a two-year closure of the site.

A tentative contract agreement was presented to the ad hoc committee on

FIGURE 2

GENERAL LAYOUT OF THE
MAXEY FLATS SITE & TRENCH 46



LEGEND

- ▬ Disposal Trench
- Test Well
- S Special
- L Liquids

December 15, 1977 for review. Several provisions of the contract were contested. The contract was signed by the Secretary of Finance and the President of NECO. The Secretary of Human Resources declined to sign the contract and on December 27, 1977 ordered the site closed to the burial of any further commercial radioactive waste, pending improvements in the onsite water management program. The Secretary further held that NECO should pay for the cleanup of the site and would not be eligible for release of its \$430,000 cash reserve and performance bond.

This order was not appealed by NECO and remained in effect while negotiation of a new closure agreement was initiated within the Executive branch; the ad hoc committee had been disbanded. In April, 1978, the Environmental Quality Commission, a citizens' advisory board established by statute, passed a resolution expressing concern over the lack of public knowledge of contract negotiations and other events at the site since both the interim special committee and the ad hoc committee were no longer functioning. Finally, on May 22, 1978, an agreement was signed by the Department of Finance, the Department for Human Resources, and the Nuclear Engineering Company. This agreement:

1. Terminated NECO's lease to operate the site, which extended to 1988, thus closing the site to any further commercial burial;
2. Required the state to pay NECO \$1.27 million, based on an appraisal conducted by Marshall and Stevens, Inc. of St. Louis, which included:
 - \$978,000 for the value of the lease rights to 1988
 - \$706,000 for equipment at the site and for 27.5 acres of land initially purchased by NECO but not deeded to the state under the original transaction in 1962
 - \$16,000 for the cost of removing a large crane used in the burial operations

A forfeiture of \$430,000 in bond and reserve that NECO had posted relating to the water management onsite was deducted from this \$1.7 million to arrive at the \$1.27 million figure.

3. Included additional considerations which released NECO from any and all obligations and liabilities relating to the Maxey Flats site "now and henceforth," such liability to be assumed by the state; gave NECO right of first refusal should the site reopen for whatever reason within a ten-year period from the date of the closure agreement; employed NECO under a "cost plus" contract with the Department of Finance for monitoring, surveillance and operation of the water management program at the site until June 30, 1979, with an automatic twelve-month renewal, unless notified otherwise by the state as of March 31, 1979.

Legislative Action

The 1978 General Assembly enacted two pieces of legislation relating to nuclear waste disposal.

Senate Bill 94 (now KRS 211.852) provided that approval of the General Assembly and the Governor would be required prior to the locating of a nuclear waste disposal facility in the Commonwealth. An environmental impact statement is now required. Approval of the secretaries of the Department for Human Resources and the Department for Natural Resources and Environmental Protection is required and public hearings must be held in the county in which the proposed facility is to be located. This section does not apply to the Maxey Flats site, since it is already located in the Commonwealth.

House Resolution 70 was passed, creating a Special Advisory Committee on Nuclear Waste Disposal to function during the 1978-79 interim, with oversight of all matters relating to nuclear waste disposal in the Commonwealth (See Appendix 1). The Legislative Research Commission appointed the members of the committee. Although Mr. Ahern Jacobsen was reappointed to the committee, he resigned in September of 1978 and was replaced by Dr. Hugh Spencer.

State Roles and Responsibilities

The new Special Advisory Committee on Nuclear Waste Disposal began holding

oversight hearings on the status of the Maxey Flats site in September of 1978.

The committee spent several meetings discussing the roles and responsibilities of the various agencies at Maxey Flats. The Department of Finance was landlord and custodian. The Department for Human Resources was the regulator. The Nuclear Engineering Company (NECO) was the licensee, with onsite maintenance responsibilities. There was no progress in eliminating the onsite water problems; it was in general a process of maintaining the status quo. As a result of the inquiries made by the committee, executive agencies proposed a reorganization, transferring custody of the Maxey Flats site from the Department of Finance to the Department for Natural Resources and Environmental Protection. The committee endorsed this reorganization. On February 16, 1979, the Governor issued Executive Order 79-170, which executed this reorganization (See Appendix 2). Under this arrangement, on February 23, 1979, the Department for Natural Resources and Environmental Protection became the custodian for the Maxey Flats site, succeeding the Department of Finance. The Department for Human Resources retained its regulatory role. The rationale for such reorganization lay in the fact that the Department of Finance had no technical expertise to direct improvements at the site. As regulator, the Department for Human Resources did not feel comfortable with also being custodian or "regulatee." Thus, the responsibility fell to the Department for Natural Resources and Environmental Protection. Effective July 1, 1979, the Department for Natural Resources and Environmental Protection was also made the site licensee, in lieu of the site contractor, which prior to that time was the Nuclear Engineering Company.

A New Contract

The Special Advisory Committee on Nuclear Waste Disposal requested the

new landlord, the Department for Natural Resources and Environmental Protection, to develop a short-term and long-term plan for the Maxey Flats site. The existing contract with NECO did not provide for site improvements but only for site maintenance. Consequently, in accordance with the contract agreement, the Department for Natural Resources and Environmental Protection notified NECO in March, 1979, that their contract would not be renewed as of July 1, 1979, but that proposals for a new management contract would be solicited to include maintenance and corrective activities at the site. Maintenance of the site by state personnel was explored but, was not considered feasible given the short period of time before NECO's contract expired. However, it was considered to be a possibility, once the state has developed the needed expertise and trained personnel.

The department met with six potential contractors on April 11, 1979, to provide them with background on what was to be considered under the new contract. By May 10, the Department for Natural Resources and Environmental Protection had received preliminary proposals from Allied Nuclear, Inc., Chem-Nuclear Systems, Inc., Dames & Moore, NECO, NUS Corporation, and Proctor-Davis-Ray (Lexington).

Based on the information in these proposals the department selected Dames and Moore as the new site contractors. The operational contract with Dames and Moore sets a fixed fee of \$380,000 for manpower services to manage the Maxey Flats site (Task 1). An additional contract, setting forth specific task and reimbursement rates expected to amount to an additional \$287,000 for the fiscal year (including cost plus 10% fixed fee), was also signed for the following four tasks:

Task 2 -- Development and implementation of a Short-Term Water and Sludge Management Plan (\$232,000).

Task 3 -- Assistance to the Department for Natural Resources and

Environmental Protection in obtaining permits and license (\$29,000).

Task 4 -- Assistance to the Department for Natural Resources and Environmental Protection in obtaining federal funding (\$21,000).

Task 5 -- Development of a long-term plan to minimize water infiltration and correct site deficiencies. (\$165,000. Funded to a level of \$5,000, consistent with total project funding -- remainder will be sought when appropriate).

The contracts may be renewed for two additional years.

The contract also set forth a preliminary timetable for development of the short and long-term plans called for under task 2 and task 5. That timetable is as follows:

Milestone

Task 2.0

- 2.1 Submission of recommended short-term site programAug. 15, 1979
- Initiation of on-site workSept. 15, 1979
- Completion of on-site work on short-term basis . .Nov. 30, 1979
- 2.2 Submittal of recommended alternative water management programAug. 15, 1979
- Initiation of installation of selected system. . .Oct. 1, 1979
- Completion of installation of selected system. . .Nov. 30, 1979
- Completion of debugging of system and start of operationDec. 31, 1979
- 2.3 Submittal of recommended sludge management approach.July 31, 1979
- Initiation of sludge processing, packaging and disposal operationSept. 30, 1979

Task 5.0

- Initiation of studies associated with long-term remedial programJan. 1, 1980
- Submittal of recommended long-term remedial program for entire site.(No date included)

Status of Water Management

As of April, 1979, there were approximately 1.5 million gallons of contaminated water onsite at Maxey Flats and an unknown amount of water in the trenches. The 1.5 million gallons of water included 200,000 gallons pumped from the trenches and stored in holding tanks, 150,000 gallons of sludge from the evaporator awaiting solidification and reburial, water from rainfall which accumulated in a contaminated sump area around the sludge holding tanks, and 1,000,000 gallons of contaminated water from this sump area, stored in two rubberlined ponds (See Figure 2). The ponds were close to being filled to capacity. Any rainfall, of course, further increased the volume of water in the area around the sump and in the ponds. How greatly it increased the amount of water in the trenches is unknown. The greatest problem with evaporating the accumulated trench water is controlling the release of the radioisotope tritium in the evaporator plume. Originally, 650,000 curies of tritium had been disposed of at Maxey Flats. In October, 1979, the Department for Natural Resources and Environmental Protection reported that Dames and Moore had begun to address the water problem by improving drainage at the site, raising the sides of the storage ponds to prevent overflow, and covering the ponds with heavy plastic to prevent a further increase in the volume of water in the ponds from rainfall. The evaporator was being run 5 days a week, 24 hours a day; it is capable of handling 5000 gallons of water a day (24 hours). Additional plans for short and long-term remedial programs were awaiting supplemental funding.

CHAPTER III

COMMITTEE ACTIVITY

The Special Advisory Committee on Nuclear Waste Disposal met seven times during the 1978-79 Interim and had two subcommittees meet one time each. The Subcommittee on Site Status and Improvement and the Subcommittee on Financing each met and outlined information needs. The subcommittees agreed to meet as a committee of the whole thereafter to receive the information and reports requested. Two of the full committee meetings were held outside of Frankfort, in Flemingsburg and Morehead, in order to increase the accessibility of the committee to persons living in the vicinity of the Maxey Flats site. The meeting in Morehead was broadcast live by WMKY radio, Morehead (See Minutes in Appendix 3).

In addition to pursuing a delineation of state agency responsibilities for long-range planning, maintenance and care of the Maxey Flats site, the committee followed up on the activities of the 1976-77 committee relating to studies at the site, issues of public health and safety, state-federal roles, and financing of perpetual care and maintenance.

Site Studies

Basically, reports to the committee indicated that the site does not pose a significant public health hazard to the people in the area; radioactive releases from the site are within current permissible federal standards. However, there is still insufficient data to predict the long-term integrity of the site. Likewise, there is no consensus among the scientific community as to the health effects of long-term low-level radiation exposure. Studies relating to the site by the U.S. Environmental Protection Agency (EPA), the U.S. Geological Survey (U.S.G.S.), the U.S. Nuclear Regulatory Commission (NRC), and the Kentucky Department for Human Resources, are continuing.

Kentucky Department for Human Resources

The committee received reports and updates from the Kentucky Department for Human Resources on ongoing monitoring and research activities at the site. These reports indicated the following:

1. It appears that the problem with radioactive seepage into Trench 46 has been remedied; none of the seepage was ever detected offsite; however, it demonstrated definite contact between trenches via the sandstone layer. It did not indicate subsurface migration in the deep geology. To remedy the problem, interceptor trenches were dug around Trench 46 and closed trenches in the vicinity were pumped and checked routinely, since they may have been the source of the seepage.
2. Water samples collected by the department at the request of the Maxey Flats Radiation Protection Association were analyzed for plutonium by the Idaho Falls Health Services laboratory. Although plutonium was found, it was in amounts comparable to those in drinking water supplies throughout the U.S. and was attributed to contamination from nuclear testing fallout and satellite burnup.
3. The Department for Human Resources is continuing its routine monitoring program, which consists of collecting and analyzing offsite water samples every two weeks. The department acquired an automatic sequential sampler, to be located on Rock Lick Creek, which will be used to collect surface water samples every six hours. A new environmental monitoring van for field analysis has also been acquired by the department.
4. The Department for Human Resources is working with the Brookhaven National Laboratory in the analysis of water samples from the site,

including samples from closed trenches. Brookhaven issues reports quarterly on its findings.

U.S. Nuclear Regulatory Commission (NRC)

The Commonwealth continues to negotiate with the NRC for federal assistance in site studies at Maxey Flats. The NRC provided over \$200,000 in September, 1978, to initiate some studies at the site. The Department for Human Resources was the recipient of the funds and subcontracted with Dames & Moore to develop a topographic contour map of the burial site; to study water mass balance at the site, in order to try to determine water movement in the air (evaporation), ground surface, and subsurface; to study emissions from the evaporator stack; and to study gas generation in the trenches and the chemistry of trench water. That contract runs through November, 1979, with a potential for renewal for further studies.

The Department for Human Resources is also under contract with the Nuclear Regulatory Commission to study the transportation of radioactive materials in the Commonwealth for the collection of data on the modes and routes of transportation of radioactive materials in Kentucky and consistency of compliance with U.S. Department of Transportation requirements.

U.S. Environmental Protection Agency

The U.S. EPA has been studying the Maxey Flats site since problems were found in the early 1970's. In 1977, EPA issued a report on their radiological measurements and findings from 1974-1975. A draft update on this report, entitled "Supplementary Radiological Measurements at the Maxey Flats Radioactive Waste Burial Site 1975-76," was outlined to the committee by the Kentucky Department for Human Resources. Basically, the department indicated that the study showed the following:

1. Analysis of vegetables and milk confirmed the earlier observations that tritium is the only measurable radionuclide. Radiation dose resulting from consuming these foods is very low.

2. Low-level contamination of land surfaces with tritium will continue as long as the evaporator is operated.
3. Core samples drilled to depths of 3 to 3.5 meters in the vicinity of several trenches contained only small quantities of radioactivity, which decreased sharply with depth. The report stated that "the observed radioactivity was probably due to surface contamination."
4. A test for plutonium in water from a test well indicated that essentially all of the radioactivity (>99.8%) was associated with particulate matter. This would indicate that the plutonium is not in a soluble form.
5. The radiation dose resulting from atmospheric discharges of carbon-14 was insignificant. It is apparent that tritium is the critical radionuclide in evaporator effluent, delivering an estimated dose of 0.8 mRem/yr. (total body) to the limiting receptor (nearest resident). All other radionuclides discharged, including plutonium, contribute less than 0.1 mREM/yr. Probably the most significant statement in the report is that "The results of four years of study, although limited in scope, described in this and the previous report, verify with little question that individuals in the vicinity of the Maxey Flats burial site are not exposed significantly to radiation from the burial site."

U.S. Geological Survey (U.S.G.S.)

The U.S. Geological Survey has also been involved in numerous onsite studies related to movement of water through the various geological rock layers and is attempting to develop a model outlining the relative water-transmitting properties of the rock units and the location of zones which are saturated with water. In unsaturated zones, water movement is primarily vertical; in saturated zones lateral movement of water to the side of the hill occurs. The magnitude of lateral movement depends on the relative permeability of the rock layers. All of the rock layers at Maxey Flats have a low permeability, but permeability is greater in some layers than in others. More lateral movement will occur in the more permeable layers.

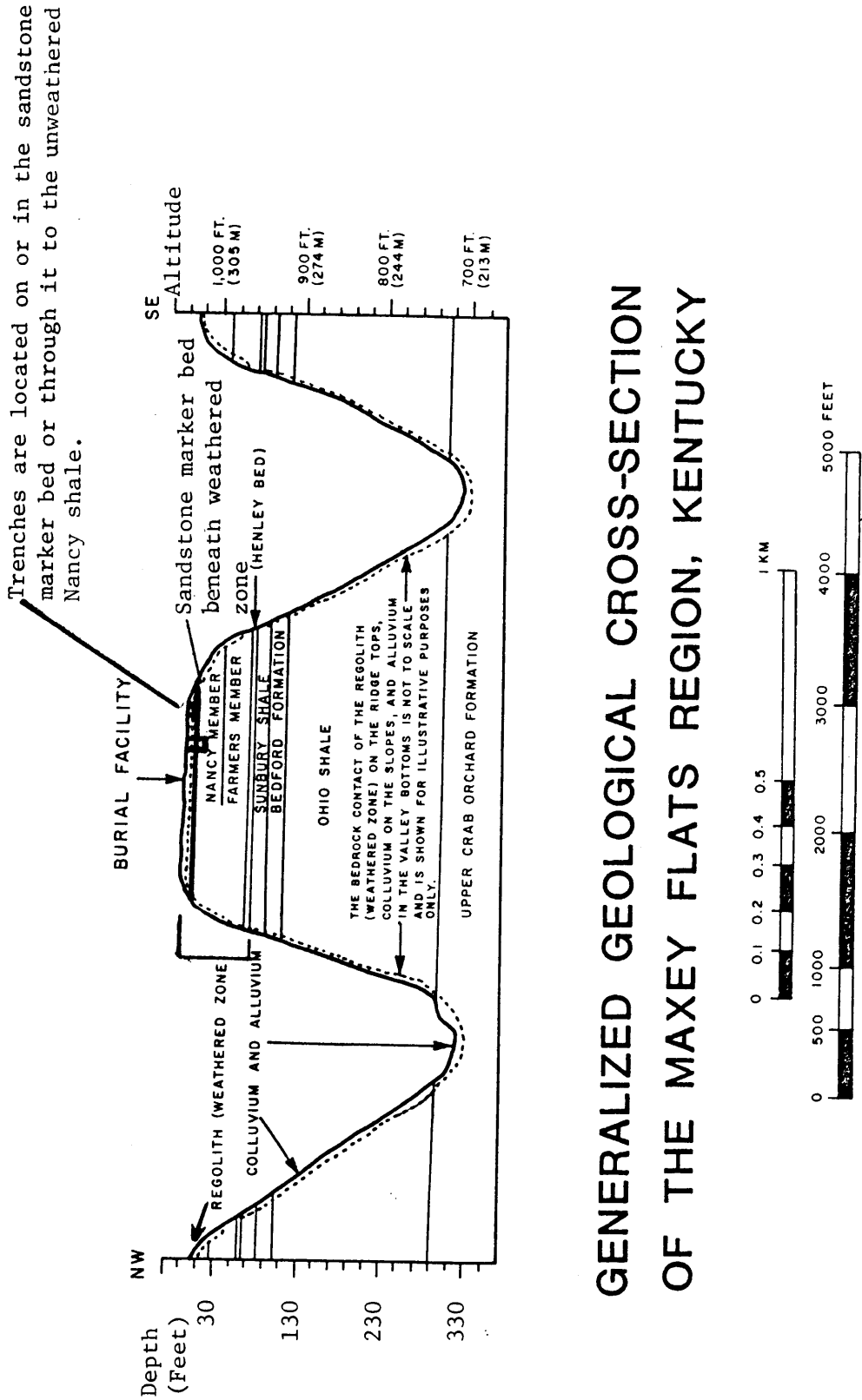
The studies indicate that there is subsurface migration of water at Maxey Flats from the trenches into the rock, as shown by the seepage of con-

taminated water into the newly dug Trench 46 (the nearest closed trench is about 50 feet away), and by the accumulation of contaminated water in wells drilled by U.S.G.S. about 30 feet from Trench 15. Although there is subsurface migration of water, the actual amount or velocity of waterflow is not known. A crude estimate of velocity can be made, however, from measurements of radionuclide concentrations made by NECO in excavations around Trench 46. Assuming the nearest waste-filled trench (number 38--closed in 1972) is the source of the contamination, the radionuclides have moved 300 feet in five years. It has not been determined how far the radioisotopes may eventually be carried. The actual path of water movement is dependent on fractures in the rock. Directions of fractures change from place to place so that water movement occurs along an irregular pathway, rather than a straight line. Also, contaminants found at a given point may originate from trenches other than the nearest trench. Because most, if not all, of the waterflow occurs in fractures, rather than through uniformly permeable rocks, determining the volume and velocity of waterflow in the subsurface is extremely difficult.

Maxey Flats is a topographically isolated hill. All of the water moving through the rocks in the hill comes from vertical infiltration from rainfall. The water infiltrating the site eventually exits to the side of the hill. Rocks are saturated at depths below ground level of 40 to 70 feet (Farmers sandstone) and 250 to 320 feet (lower part of the Ohio shale) (See Figure 3). Studies are not yet conclusive but, it may be that all rocks are saturated from depths of 25 feet (sandstone marker bed) to 185 feet (top of Ohio Shale), in addition to the saturated rocks in the lower part of the Ohio shale.

Trenches, generally, are dug to the sandstone marker bed or through it into the Nancy shale (See figure 3). Water from the site enters the streams below the knob as surface runoff, or as runoff through the near surface, which is

FIGURE 3 GEOLOGICAL CROSS-SECTION OF THE MAXEY FLATS SITE



GENERALIZED GEOLOGICAL CROSS-SECTION OF THE MAXEY FLATS REGION, KENTUCKY

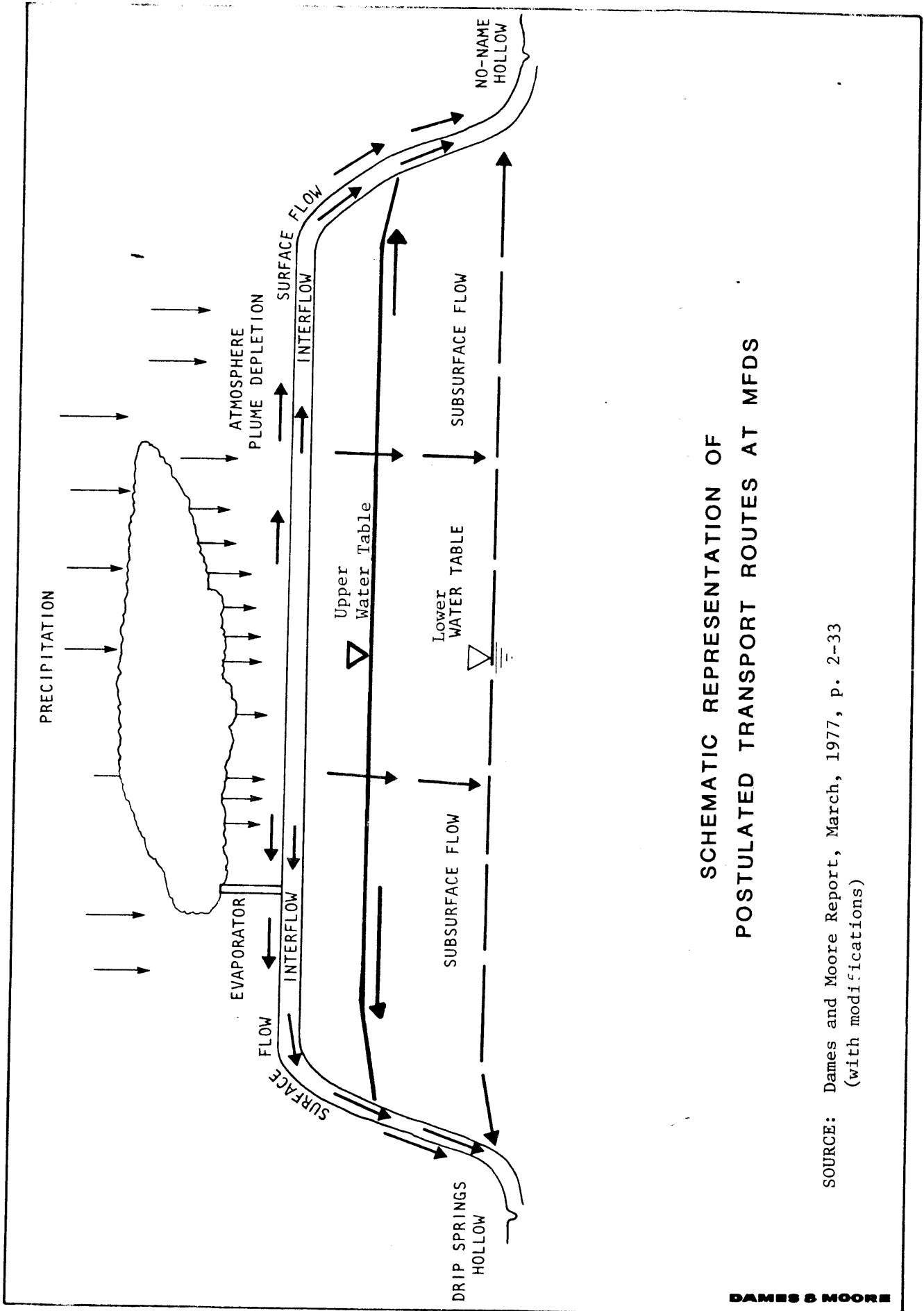
SOURCE: Meyer, G.L. and Berger, P.S., 1976, Preliminary Data on the Occurrence of Transuranium Nuclides in the Environment at the Radioactive Waste Burial Site, U.S. EPA 520/3-75-021, February 1976, as shown in the Dames & Moore Report of March, 1977, p.2-6 (with modifications).

characterized by a 6-8 foot deep weathered-rock and rock-debris layer on the hillside (interflow), or through the bedrock (See figure 4). Of this water which does infiltrate the rock layers, approximately 80% exits to the side of the hill before it reaches the lower Farmers sandstone; another 15% exits before reaching the Ohio shale; the remaining 5% enters the Ohio shale but exits before reaching the upper Crab Orchard formation (See figure 5). Conductivity tests indicate that most of the water probably comes through the rock debris and not through the bedrock. Rain runoff dilutes the exiting ground water tremendously. The sandstone marker bed appears to be the most permeable rock layer. The next most permeable rocks are the Upper Farmers sandstone, Sunbury shale, and Ohio shale. All rock layers are flat-lying and run to the edge of the hill.

If all of Maxey Flats were capped, it would eventually dry out. If only the trench area is capped, water in the saturated zones away from the trench area would tend to move back toward the void created by the "drying out." Ground waterflow at the Maxey Flats site should not increase unless water builds up in the trenches.

According to the Kentucky Department for Human Resources which monitors the radioactive releases from the site, these releases are within the current permissible limits set by the federal government. Likewise, as indicated in the previous section, studies by the U.S. Environmental Protection Agency have concluded that individuals in the vicinity of the site are not exposed significantly to radiation from the site. However, the scientific community continues to study the effects of long-term exposure to low levels of radiation, in order to assure that standards of exposure provide an acceptable degree of safety to the public.

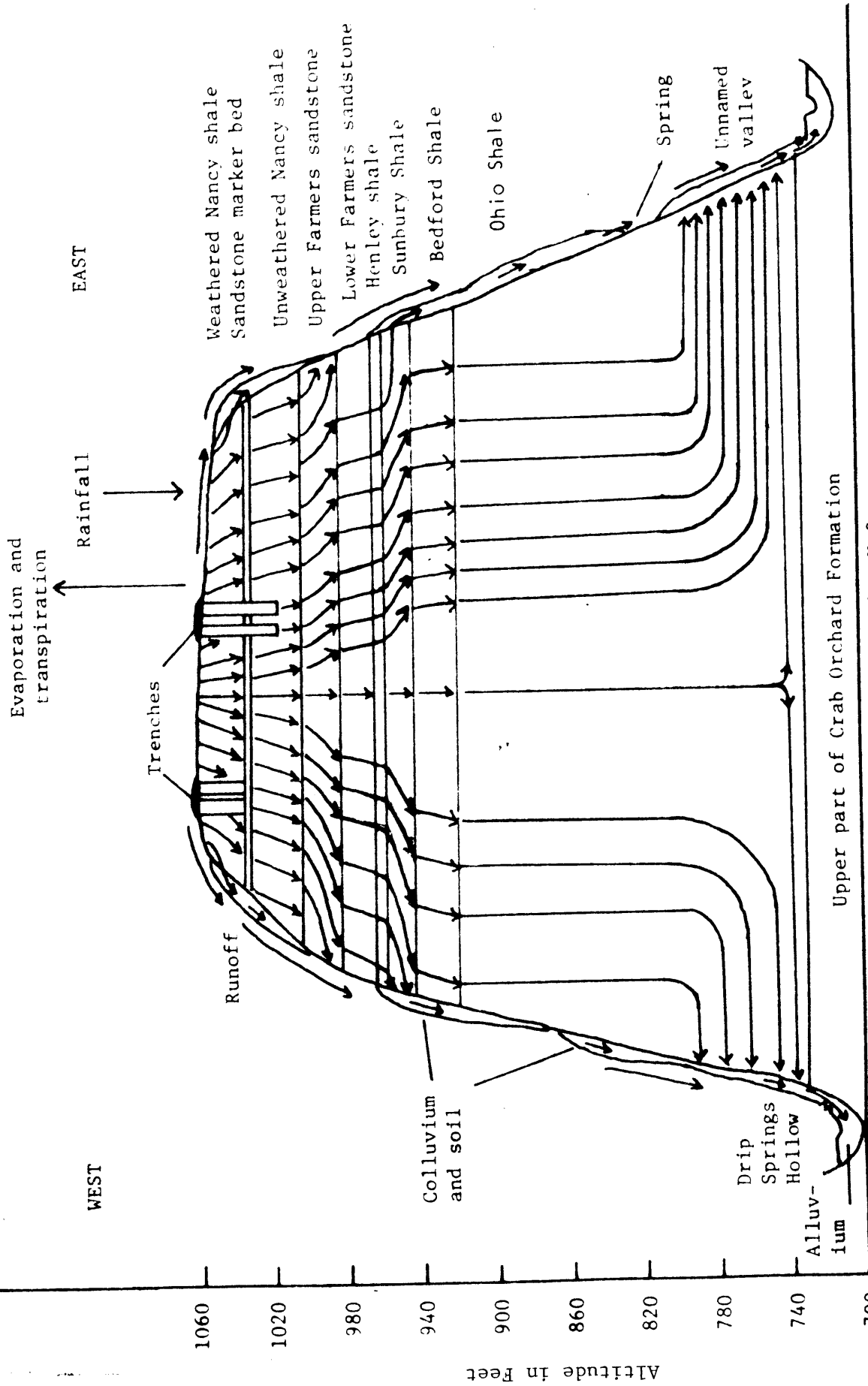
FIGURE 4: Mechanisms for Release of Radioactivity from the Maxey Flats Site



**SCHEMATIC REPRESENTATION OF
POSTULATED TRANSPORT ROUTES AT MFDS**

SOURCE: Dames and Moore Report, March, 1977, p. 2-33
(with modifications)

FIGURE 5: Path of Water Release from the Maxey Flats Site



Arrows below ground level represent flowlines. Length and density of flowlines do not indicate velocity or volume of flow.

SOURCE: U.S. Geological Survey, written communication, November 27, 1979, with modifications.

Public Health and Safety Issues

Because of new reports of deformed cattle at a farm in the vicinity of Maxey Flats a study was conducted. The veterinarian who conducted a study of the same herd in 1977 performed the follow-up study and indicated that the owner of the herd had discontinued using recommended procedures for his cattle prescribed in the earlier investigation. Signs of phosphorous and copper deficiency were apparent but the cattle were much better than two years ago. Three calves were in fact born with a malformation of their limbs caused by a phosphorous-deficient diet. Reports that several of the cattle had cataracts were found to be the result of untreated cases of pinkeye. Several of the cattle did indeed have skin sores, which are commonly diagnosed as mange mite and ringworm. No evidence of any condition that could be connected to cancer or radiation exposure in the herd was found. Further, the herd could possibly be suffering from a zinc deficiency.

Although the committee received third-party reports of people residing in the vicinity of Maxey Flats diagnosed to have cancer, no such individuals appeared before the committee to request an investigation.

The committee questioned the Kentucky Department for Human Resources concerning the accidental death of a worker at the Maxey Flats site on June 15, 1979, and was informed that death was due to suffocation and not to radiation exposure. The worker had been lowered into a well onsite to retrieve a tool that had been dropped. A coroner's inquest had been requested.

State-Federal Relationships

The committee took action to formally comment on federal proposals relating to nuclear waste and to begin to formalize a position on the best posture for the Commonwealth to assume in relationship to federal involvement at Maxey Flats.

Generally, the committee took the position that it is, at this time, in the best interest of the citizens of the Commonwealth to retain ownership of the site and thus maximize state control over the site. The committee further endorsed the policy that under any federal-state agreement the state retain final authority for approving or disapproving the locating, opening, closing, or reopening of a site or facility within its borders.

The committee reviewed and made formal comments on two major federal draft reports. The Interagency Review Group on Nuclear Waste Disposal was a federal study task force established by the President to study policies relating to nuclear waste management. The committee endorsed that group's concept that cost of storage and disposal of nuclear waste be paid by the generator and borne by the beneficiary; supported efforts related to education of the public and suggested including site-specific information to localities near nuclear waste sites; and requested clarification of the options involved in federal takeover (See Appendix 4). The committee endorsed comments made by the Kentucky Department for Human Resources on this same report, with some modifications.

It also submitted formal comments to the Nuclear Regulatory Commission on its report (NUREG/CR 0570) on decommissioning of low-level nuclear waste burial grounds. Generally, the comments revolve around the manner in which the study fails to address or inadequately addresses situations such as Maxey Flats, in regards to financing and application of technological solutions to provide for decommissioning. Decommissioning refers to "the preparation of nuclear facilities for retirement from active service accompanied by a program to reduce or stabilize radioactive contamination to reduce potential health and safety impacts on the public" (NRC publication NUREG/CR 0130. See Appendix 5). The committee indicated in light of the events at Maxey Flats, that generally the draft NRC study underestimates the difficulty and costs associated with

finding the technology appropriate for stabilizing and decommissioning a specific site and, if accepted as is, would result in a program inadequate to serve even already existing needs. The committee commented that cost projections outlined in the draft report were inadequate for several reasons, one being that no provision is made for facilities which currently are closed and have no means of financing decommissioning, except through state general funds. The committee pointed out that such facilities serve a national purpose, and to ignore their needs is not an acceptable or desirable approach, nor is it in the best public interest.

In its accompanying remarks to the NRC, the committee also suggested that the Maxey Flats site could provide a timely opportunity for the federal government to demonstrate how a low-level site in unsatisfactory condition can be stabilized and decommissioned for long-term care. The committee believes the Maxey Flats site could serve as an "outdoor laboratory" to test theories about low-level site decommissioning and serve as a prime demonstration project for state-federal partnership in solving nuclear waste disposal problems.

In other areas, the committee received a report from the Kentucky Department for Human Resources on an NRC workshop for state personnel, relating to improving state participation in the federal waste management program. The Co-Chairperson of the Committee testified before the Subcommittee on Energy and Environment of the U.S. House Committee on Interior and Insular Affairs, supporting the agreement-state process. Kentucky is an "agreement" state, under the federal Atomic Energy Act, which means that the state is given the authority to regulate certain classes of radioactive materials (source material, special nuclear material, and by-product material). Committee members and staff were represented at an NRC workshop for the states on decommissioning of nuclear facilities. The committee requested the Governor to respond to an

inquiry from the Office of the Attorney General in Illinois concerning the acceptability of an NRC publication (NUREG 0539) interpreting the position of the states and state roles in nuclear areas.

Financing of Perpetual Care and Maintenance

The committee received an update on the Triangle Research Institute economic study produced during the 1976-77 interim. Basically, it was concluded that the mechanisms proposed in the study for funding perpetual care and maintenance are no longer applicable, since the site is closed. Also the funds were based on the assumption that the site would be in compliance with conditions required for perpetual care and maintenance; i.e., all accumulated water would have been properly disposed of and the water management problem solved. However, if the site is brought into condition to comply with assumptions in the study, annual perpetual care and maintenance could fall in the range of \$58,000 - \$81,000.

The following amounts were appropriated to the Department of Finance for maintenance of Maxey Flats:

FY 78	\$350,000
FY 79	\$700,000
FY 80	\$700,000

This covered daily maintenance but not corrective activities onsite. In 1978, the \$1.27 million paid to NECO came from the capital construction contingency fund. A cost overrun of \$50,000 to 65,000 was expected for FY 1979, and actually budgeted out as \$48,627.61.

In addition, the secretary of the Department for Natural Resources and Environmental Protection indicated that a supplemental appropriation in the range of \$450,000 to \$885,000 for fiscal year 1980 would be requested to cover operational expenses, laboratory work, design work, buildings and equipment improvements, trench recapping, and sludge disposal. This would bring the FY

1980 budget for Maxey Flats to \$1,585,000 (\$700,000 appropriated; \$885,000 supplemental requested). Expenses break down as:

- \$380,000 -- Site Operation (Contract Task 1)
- \$287,000 -- Design Work (Tasks 2,3,4,5)
- \$250,000 -- Trench Cap Repair & Renovation
- \$250,000 -- Sludge solidification & disposal
- \$175,000 -- Building & Equipment Improvements
- \$ 63,000 -- Laboratory Work
- \$180,000 -- Operational expenses

The department anticipated that it would need appropriations of \$1,736,000 in FY 81 and \$1,379,500 in FY 82.

The committee went on record as endorsing the \$885,000 supplemental appropriation for FY 1980. Although the secretary of the Department for Natural Resources and Environmental Protection indicated that some of the work could be deferred, it was generally felt that delay would in the long run lead to even greater costs. Delaying needed remedial projects would increase the onsite water problems by allowing more water to accumulate in the trenches and in contaminated surface areas. This water will eventually have to be treated and disposed of in some manner. Inflation would also have an impact on costs if the needed site repairs were delayed. Investment in remedial action as soon as possible appeared to be the best "buy," if the Commonwealth is to control the onsite water problem and reduce ongoing maintenance costs.

In addition, the committee directed that the Appropriations and Revenue Committee be requested to hold a public hearing in late January on this supplemental budget ; at this time the Department for Natural Resources and Environmental Protection would be in a position to discuss the needs, costs and the benefits associated with the appropriation request. The committee also requested that the hearing include the proposed biennial budget for Maxey Flats. The committee indicated its desire that the site be put in a stable condition as expeditiously as possible, in order to help ensure the

safety of the site and the health and welfare of the citizens of the area. At the same time, the committee considered that the public should be informed on how much money is being spent on Maxey Flats and for what purposes.

The committee discussed various options relating to financing of perpetual care and maintenance, including federal funding, biennial appropriations, and special trust funds. The committee considered recommending that the 1980 General Assembly make a one-time major appropriation to a "Maxey Flats Perpetual Fund." This appropriation would have to be sufficiently large to enable it to generate from the difference in current interest rates and current inflation an annual amount to provide for perpetual care and maintenance of the site. Because of the inability to determine cost of corrective activities onsite and other budgetary considerations, the establishment of a trust fund was considered inappropriate at this time.

Federal funding would continue to be sought; since more than 99% of the waste buried at Maxey Flats came from outside of Kentucky, the committee believes the federal government should share the financial burden. Obtaining federal monies would not guarantee continued funding of the site unless some additional federal legislation is enacted to cover perpetual care of existing low-level disposal sites.

The committee decided to prefile legislation declaring expenses associated with monitoring and maintaining site safety and integrity and with handling any emergencies at the site to be "necessary governmental expenses," thus assuring adequate funds for such purposes. The main advantage of this language is that if state revenues fail to match state expenditures and the administration would necessarily have to cut back on programs, such a cutback would not apply to routine maintenance and surveillance of Maxey Flats, or to emergency conditions at the site so declared by the Governor, until all other non-necessary

governmental expenses had been cut. In addition, the committee proposed that appropriations associated with Maxey Flats be set out as major program costs in the executive budget document. This would enable the Commonwealth and the public to keep a handle on the costs actually associated with the Maxey Flats site.

CHAPTER IV

FINDINGS AND LEGISLATIVE RECOMMENDATIONS

The Special Advisory Committee on Nuclear Waste Disposal considered issues relating to four major areas: state agency roles and responsibilities, public health and safety, state-federal relationships, and financing of site improvements and perpetual care and maintenance.

In the area of state agency roles and responsibilities, the committee endorsed the reorganization which removed custodial powers from the Department of Finance and transferred them to the Department for Natural Resources and Environmental Protection. The committee was well pleased with the aggressive approach taken by the Department for Natural Resources and Environmental Protection to address problems at the site during the brief period from February to September, 1979.

Generally, in the area of public health and safety, reports to the committee indicated that the site poses no significant public health hazard to the people in the area at this time; radioactive releases from the site are within current permissible federal standards. However, the committee found there is still insufficient data to predict the long-term integrity of the site. Likewise, there is no consensus among the scientific community as to the health effects of long-term low-level radiation exposure. Studies relating to the site by the U.S. Environmental Protection Agency, U.S. Geological Survey, U.S. Nuclear Regulatory Commission, and the Kentucky Department for Human Resources, are continuing.

The committee took action to comment formally on federal proposals relating to nuclear waste and to begin to formalize a position on the best posture for the Commonwealth to assume in relationship to federal involvement at Maxey Flats. Generally, the committee found that it is at this time in the best interest of the citizens of the Commonwealth to retain ownership

of the site and thus maximize state control over the site. The committee further endorsed the policy that under any federal/state agreement the state retain final authority for approving or disapproving the locating, opening, closing, or reopening of a site or facility within its borders.

The committee discussed various options relating to financing of perpetual care and maintenance, including federal funding, biennial appropriations, and special trust funds. Because of the inability to determine the cost of corrective activities onsite and other budgetary considerations, the establishment of a trust fund was considered inappropriate at this time. Federal funding should continue to be sought; since more than 99% of the waste buried at Maxey Flats came from outside of Kentucky, the committee believes the federal government should share the financial burden. The committee decided that at this time declaring expenses associated with routine surveillance and daily maintenance of the site and with emergencies at the site to be "necessary governmental expenses" would assure adequate funds for such activities essential to monitoring site safety and integrity. In addition, the committee proposed that appropriations associated with Maxey Flats be set out as major program costs in the executive budget document in order that monies associated with the site be set forth as line items. The committee endorsed major supplemental budget requests made by the Department for Natural Resources and Environmental Protection for the 1980 fiscal year, based on the general belief that delaying necessary site repairs would in the long run lead to even greater costs, due to increased accumulation of water onsite and inflation. In addition, site repairs should result in a decrease in annual maintenance costs.

The committee found a need to have a plan for stabilization and decommissioning of the site developed and implemented as expeditiously as possible.

The committee found a need for continued oversight of Maxey Flats and endorsed the creation of a special advisory committee for the 1980-81 Interim, to be charged with this responsibility and with oversight of nuclear issues in general which confront the Commonwealth.

To address its findings, the committee voted to prefile 80 BR 271 and 80 BR 273 (80 BR 491, companion bill. See Appendix 6), which would have the following effects on the Maxey Flats site and on the policy of the Commonwealth toward nuclear waste disposal:

1. Require legislative approval for any changes in state ownership of a low-level nuclear waste site.
2. Indicate the policy of the Commonwealth to retain final authority for approving or disapproving the locating, opening, closing or reopening of such a site.
3. Set forth committee findings as to the major problems at the Maxey Flats site and prohibit reopening until there is a finding of fact from the secretaries of Human Resources and Natural Resources and Environmental Protection that all problems are resolved, a public hearing held in the county in which the site is located, and approval by a majority of each house of the legislature and approval of the Governor.
4. Declare daily maintenance and routine surveillance of the Maxey Flats site and handling any emergencies at the site so declared by the Governor to be necessary governmental expenses and require that appropriations to the Departments for Human Resources and Natural Resources and Environmental Protection for Maxey Flats be set forth as major program costs in the executive budget document.

5. Direct the Department for Natural Resources and Environmental Protection to proceed expeditiously toward the stabilization and decommissioning of the site.
6. Establish a special advisory committee on nuclear issues for the 1980-81 Interim, consisting of legislators, nuclear experts, environmental groups, and citizens, and require the Department for Natural Resources and Environmental Protection to report to this committee on the implementation of a long-term plan for the Maxey Flats site.

APPENDICES

1. House Resolution 70
2. Executive Order 79-170
3. Minutes of the Meetings of the 1978-79 Special Advisory Committee on Nuclear Waste Disposal
4. Committee Comments on the Interagency Review Group Report on Nuclear Waste Management
5. Committee Comments on Nuclear Regulatory Commission Report NUREG/CR-0570 relating to Decommissioning of Nuclear Facilities
6. Prefiled Bills



**GENERAL ASSEMBLY
COMMONWEALTH OF KENTUCKY**

REGULAR SESSION 1978

HOUSE RESOLUTION NO. 70

WEDNESDAY, MARCH 8, 1978

The following bill was reported to the Senate from the House and ordered to be printed.

A CONCURRENT RESOLUTION directing the formation of a Special Advisory Committee on Nuclear Waste Disposal.

WHEREAS, the 1976 Kentucky General Assembly directed a study of the effects of nuclear waste disposal in the Commonwealth; and

WHEREAS, the Special Advisory Committee created to conduct the Nuclear Waste Study has made numerous findings and recommendations, many of which will require several years for implementation; and

WHEREAS, the 1976 Special Advisory Committee has completed its term of office and has ceased to exist; and

WHEREAS, the 1978 Kentucky General Assembly is most desirous of continuing to ensure that the problems of nuclear waste disposal are solved in a manner which protects the health and safety of the citizens of the Commonwealth;

NOW, THEREFORE,

Be it resolved by the House of Representatives of the General Assembly of the Commonwealth of Kentucky, the Senate concurring therein:

1 Section 1. That the Legislative Research Commission
2 be directed to appoint a Special Advisory Committee on
3 Nuclear Waste Disposal to be composed of no less than ten
4 (10) members. The committee shall include the Repre-

1 representative from the 70th Legislative district and the
2 Senator from the 28th Senatorial district who shall act
3 as chairman and vice-chairman by mutual agreement. In
4 addition, the committee shall include one Representative
5 each from the Departments of Human Resources, Natural
6 Resources and Environmental Protection and Finance and
7 Administration, two (2) members of the University faculty
8 recognized as experts in nuclear science, a Representa-
9 tive of the Kentucky Environmental Quality Commission and
10 two (2) lay members representing the general public.

11 Section 2. That the Special Advisory Committee
12 shall assume an oversight role on behalf of the Kentucky
13 General Assembly on all matters pertaining to nuclear
14 waste disposal during the 1978-80 Interim. The Committee
15 shall meet no less than three (3) times a year and shall
16 report its findings and recommendations to the Legis-
17 lative Research Commission and the 1980 General Assembly
18 no later than January 1, 1980.

19 Section 3. It is estimated that the operation of
20 the committee and the provision of staff services will
21 cost approximately \$20,000, such monies to be provided
22 from the regular budget of the Legislative Research Com-
23 mission.



JULIAN M. CARROLL
GOVERNOR

EXECUTIVE ORDER

79-170

February 16, 1979

Secretary of State

Frankfort
Kentucky

RELATING TO REORGANIZATION

Department of Finance
Department for Natural Resources and Environmental Protection

Maxey Flats Radioactive Waste Disposal Site

WHEREAS, the abolition of the Kentucky Science and Technology Commission was confirmed by HB 499 of the 1978 General Assembly and the powers and functions of said Commission, as enumerated in KRS 152.590, were transferred to the Department of Finance; and

WHEREAS, such transfer included custody of the Maxey Flats Radioactive Waste Disposal Site in Fleming County, Kentucky; and

WHEREAS, said Maxey Flats Radioactive Waste Disposal Site had been operated since 1963 by the Nuclear Engineering Company, Inc., pursuant to a lease with the Commonwealth of Kentucky, acting by and through the Kentucky Atomic Energy Commission, and its organizational successor, the Kentucky Science and Technology Commission, and a license issued by the Kentucky Department of Health, now the Bureau for Health Services in the Department for Human Resources; and

WHEREAS, the Department of Finance, acting pursuant to the authority of KRS 152.590, undertook negotiations for the closure of the Maxey Flats Radioactive Waste Disposal Site, and jointly with the Department for Human Resources entered into an Agreement dated as of May 22, 1978, with the Nuclear Engineering Company, Inc., for the termination of said Company's leasehold estate and rights in said Radioactive Waste Disposal Site; and



JULIAN M. CARROLL
GOVERNOR

EXECUTIVE ORDER

79-170

February 16, 1979

Secretary of State
Frankfort
Kentucky

Page Two

WHEREAS, by 1962 Acts, Chapter 100, the General Assembly recognized that any site used as a radioactive waste material site will represent a continuing and perpetual responsibility in the interests of the public health, safety, and general welfare; and

WHEREAS, the Department of Finance is a financial management, budgetary control, and procurement services agency and is without personnel possessing expertise to properly oversee or perform programs necessary to the conduct of the care and custody of the Maxey Flats Radioactive Waste Disposal Site, and the employment of staff by the Department of Finance for such purpose would be duplicative, uneconomic, inefficient, and contrary to the public interest; and

WHEREAS, the Governor is authorized to establish, abolish, or alter the organization of any agency or statutory administrative department and to transfer functions, equipment, funds, facilities, and records from one department to another in order to establish more effective organizational patterns to promote greater economy, efficiency, and improved administration in the government; and

WHEREAS, it appears that the functions and powers enumerated in KRS 152.590 and vested in the Department of Finance should, in the public interest and to promote greater economy and efficiency in administration of the Maxey Flats Radioactive Waste Disposal Site, be transferred to the Department for Natural Resources and Environmental Protection:



JULIAN M. CARROLL
GOVERNOR

EXECUTIVE ORDER

79-170

February 16, 1979

Secretary of State
Frankfort
Kentucky

Page Three

NOW, THEREFORE, I, JULIAN M. CARROLL, Governor of the Commonwealth of Kentucky, pursuant to the power vested in me by KRS 12.025 (1), do hereby order that:

(1) All authority and functions assigned to the Department of Finance by KRS 152.590, including the custody of the Maxey Flats Radioactive Waste Disposal Site in Fleming County, Kentucky, are hereby transferred to the Department for Natural Resources and Environmental Protection, together with all unexpended funds appropriated to or held by the Department of Finance for the operation of Maxey Flats Radioactive Waste Disposal Site, and all books, records, contracts, choses in action and choses in possession, and all other rights, corporeal and incorporeal, privileges, obligations, and liabilities of every kind or description appertaining to the said Maxey Flats Radioactive Waste Disposal Site.

(2) The Secretary of the Department of Finance and the Commissioner of the Department of Personnel are hereby authorized and directed to take all action necessary and proper to carry out the terms of this order, including the establishment of the personnel positions and the transfer of funds, personnel, and equipment from the Department of Finance to the Department for Natural Resources and Environmental Protection as may be required.

(3) All reports, documents, services, books, records, files, or other writings now in the possession of the Department of Finance



JULIAN M. CARROLL
GOVERNOR

EXECUTIVE ORDER
79-170

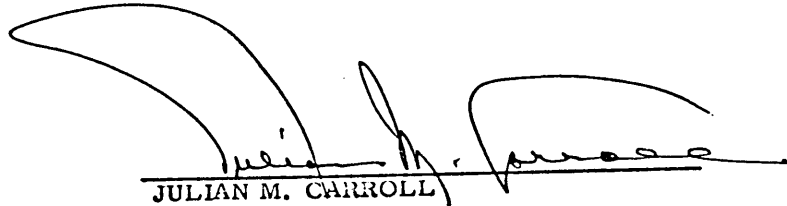
February 16, 1979

Secretary of State
Frankfort
Kentucky

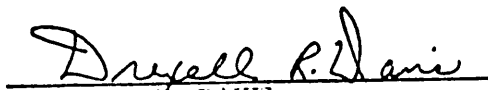
Page Four

which relate to the functions transferred herein shall be delivered to
the custody of the Department for Natural Resources and Environ-
mental Protection.

This order shall become effective February 23, 1979.



JULIAN M. CARROLL
Governor



DREXELL H. DAVIS
Secretary of State

SPECIAL ADVISORY COMMITTEE
ON NUCLEAR WASTE DISPOSALMinutes of the First Meeting
of the 1978-80 Biennium

September 13, 1978

The first meeting of the Interim Special Advisory Committee on Nuclear Waste Disposal was held on September 13, 1978 at 2 p.m. at the Fleming County High School, Flemingsburg, Kentucky.

Present were:

Members: Representative Pete Worthington, Senator John "Eck" Rose, Co-Chairmen; Irving Bell, Charles Wickliffe, Jack Wilson, Margaret Heaslip, Douglas Humphrey, Ahren Jacobsen, Charles Brown, Marjorie Denton and Russell McClure.

Guests: Andrew Cammack, Environmental Quality Commission; Richard Stidom, Fleming County citizen; Glen R. Womack, M.D., Fleming County Board of Health; Donald L. Colyan, Fleming County Health Department; James A. Jarvis, Indiana University; Doyle Mills and Richard Fry, Department for Human Resources; David K. Martin, Dale D. Brodkey, Attorney General's Office; Gene Samsel, Dames & Moore; James N. Neel, Cleo Simburth, Sid Wright, T. S. Baer, J. L. Grant, Bruce T. Reich David R. Hagendoyen and Suzanne Hammond, Nuclear Engineering Company (NECO); John Hay, Oscar Hurst, Richard Klee, Joni Lowe, Rhonda K. Caudill, Mrs. Ed J. Kelly, Fleming County citizens.

LRC Staff: Peggy Hyland, Brian Kiernan, Barbara Rhoads, and Regina Caton.

Press: David S. Rickes, WMKY-TV, Morehead; Mike Lynch, WKYT-TV, Lexington; T. G. Moore, Associated Press; Alice Akin, Morehead News; and Ferrell Wellman, WAVE-TV.

Chairman Pete Worthington called the meeting to order and the secretary called the roll. A quorum being present, the chairman asked the members of the committee and staff to introduce themselves.

Chairman Worthington made the following observations on issues he felt this committee should be dealing with. These issues were: (1) oversight of monitoring and testing at the site insuring that the people in the area are in no danger; (2) alternatives for and financing of perpetual care and maintenance; and (3) proposed legislation for the 1980 General Assembly that would deal with nuclear waste.

Charles Wickliffe, Executive Department for Finance and Administration, discussed the contract between the Commonwealth of Kentucky and the Nuclear Engineering Company, giving a brief background of the events leading up to the signing of the contract on May 22, 1978. He explained that prior to the signing of the contract the Executive Department for Finance and Administration reached the following conclusions, which it believes to be accurate:

(1) No evidence of existing public health hazards were found;

(2) NECO was operating within the scope of its license;

(3) NECO was in compliance with the terms of its lease;

(4) NECO was operating a lawful business in accordance with its contract with the state.

Mr. Wickliffe further explained that extensive negotiations took place between NECO and the Commonwealth over a period of several months and culminated in three documents: (1) an agreement; (2) a cost reimbursement contract; and (3) an operations maintenance plan.

Douglas Humphrey asked Mr. Wickliffe what this agreement was going to cost the state. The cost reimbursement contract is based on cost per man-hour. Mr. Wickliffe replied that it depends on the scope of the program -- how much is required to be done. It could run \$500,000 annually if three shifts are required.

Mr. Humphrey then asked Mr. Wickliffe to comment on the section of the contract that relieves NECO of any future liability. Mr. Wickliffe replied that the site has been under rather continuous surveillance since it was opened and it seems unlikely there will be any problems with liability. Mr. Wickliffe further stated that he believed the waiver would not apply if violation of a statute had occurred.

Charles Brown asked Mr. Wickliffe if the original contract provided that NECO could pull out at any time and not provide perpetual care. Mr. Wickliffe replied that the contract provided for NECO to pay a burial fee which went into the perpetual care and maintenance fund.

Mr. Brown asked for an explanation as to why the tax assessors' office shows NECO having taxable property of less than \$300,000; the contract assessment was \$5 million and the state paid \$1 1/4 million. Mr. Wickliffe explained that the assessment and the money paid by the state was the value of the lease from 1978-90 to compensate for NECO's loss of property rights. Further discussion by Committee members

ensued.

Mr. Charles Hardin, Department for Human Resources, spoke to the committee on activities at Maxey Flats that are presently taking place and are going to take place in the future. He indicated that the problems associated with trench 46 had been remedied. Water samples collected by the Maxey Flats Radiation Production Society were analyzed at the Idaho Falls laboratories for plutonium and found to be comparable to drinking water supplies throughout the U.S. The plutonium present is assumed to be from nuclear fallout. Mr. Hardin updated the committee on research studies and activities done on Maxey Flats by the EPA. He then outlined ongoing and proposed studies on site by U.S.G.S., NRC, and the state Department for Human Resources. Mr. Hardin then summarized activities at the federal level related to nuclear waste disposal including a draft report from the U.S. Department of Energy calling for federal control of commercial low level waste sites. A policy report is due October 1, 1978. A federal takeover would relieve the state of perpetual care and maintenance costs but not monitoring responsibilities. Such a takeover would require federal legislation.

Representative Worthington asked Mr. Hardin if the state has arrived at the point of no health hazard. Mr. Hardin replied that all studies reflect no present health hazard. He stated, however, that this did not preclude health hazards in the future and this is the reason constant research at the facility is needed.

Douglas Humphrey asked Mr. Hardin if any proposals with the federal government in any way implied that the state was obligated to reopen if the site is found suitable for burying waste. Mr. Hardin replied there was no clause like that in the contract.

Senator Rose asked Mr. Hardin if the Department for Human Resources has any definite plans to let the people of Fleming County know of test results. He stated that public education was of great assistance in alleviating fears. Mr. Hardin replied that as far as a formal plan there is not one. He stated the Department makes an effort to have all field personnel provide and discuss findings. The Department provides data to the county attorney's office monthly.

Ahren Jacobsen asked Mr. Hardin if the evaporation of tritium was a very real problem in this area and what was being done about it. Mr. Hardin replied that one of the things needed to help solve this problem was keeping water out of the trenches but that the doses which are evaporating at the present time are very small.

Mr. Wilson asked for the time frame for the studies outlined and Mr. Hardin responded.

Representative Worthington asked Mr. Hardin to keep the Committee informed of on-going results that take place at the site.

Mr. Oscar Hurst, a Fleming County farmer who lives near the site, asked the Committee to describe the symptoms of an affected cow. He explained that his herd had been diagnosed earlier as having a copper deficiency but after adding copper to his feed there were no apparent results.

Representative Worthington opened the floor to suggestions by Committee members as to what activities the committee should undertake in dealing with Maxey Flats. Russell McClure suggested that the Committee should, with the expertise it has, put together immediately with NECO some remedial care definition projects and proposals that could be submitted to the Department of Energy. He suggested dividing into subcommittees for this purpose. He then moved that the chairmen, together with the staff of LRC, propose a subcommittee to work with the executive branch to get a definition of remedial care projects to be submitted to the federal government and to monitor ongoing studies. Mr. Jacobsen seconded the motion. There being no objections, the motion carried.

Charles Brown stated that there needs to be better public relations between this Committee, NECO and the public. He explained that the people of Fleming County never really knew what was going on and that reports on the site need to be put in lay terms.

Jack Wilson made the motion to set up subcommittees on the technical status of the site and necessary studies for financing the cost of perpetual maintenance. Charles Brown seconded this motion. There being no objections the motion carried.

Douglas Humphrey said he would like to see the Committee get involved with the negotiations of future contracts, since the present contract expires in 1980. Mr. Wickliffe replied that this is something the General Assembly might want to address in 1980.

Representative Worthington explained to the Committee that both he and Senator Rose would get with the staff and divide the committee into subcommittees in the next couple of weeks. He further explained these subcommittees would hold meetings whenever they desired and that the full Committee would meet near the end of the year. He asked the members to let the staff know the subcommittee on which they wished to serve.

There being no further business, the meeting was adjourned at 4:45 p.m.

SPECIAL ADVISORY COMMITTEE ON
NUCLEAR WASTE DISPOSAL

Subcommittee on Costs and Financing

Minutes of the First Meeting
of the 1978-80 Biennium

October 24, 1978

The first meeting of the Subcommittee on Costs and Financing of the Special Advisory Committee on Nuclear Waste Disposal was held on October 24, 1978 at 1:30 p.m. in Room B of the Capitol Annex.

Present were:

Members: Charles Brown, Chairperson; Jack Wilson, Oscar Geraldts, Senator John "Eck" Rose, and Representative Pete Worthington.

Guests: R. Lee Armbruster and Thomas S. Baer, Nuclear Engineering Company, Inc. (NECo); Richard M. Fry, Department for Human Resources; Arthur M. Watson, Circuit Court Clerk, Clark County; Etta Ruth Kepp, Environmental Quality Commission; Lawrence K. Lynch, University of Kentucky; and Jay Douds, Department of Finance.

LRC Staff: Peggy Hyland, Brian Kiernan, Steve Armbrust, Glenn Minch, and Regina Caton.

Press: Monte Lorell, UPI; William Weathen, Department of Public Information; and Herb Sparrow, AP.

Chairperson Charles Brown called the meeting to order and this secretary called the roll. Mr. Brown welcomed all visitors and asked Peggy Hyland of the LRC staff to give a brief description of the events which have taken place at Maxey Flats since it was licensed in 1962.

Larry Lynch, with the Council of Economic Advisors, spoke to the Subcommittee on projected costs for perpetual care and maintenance of the Maxey Flats site, according to research done by Triangle Research Institute, dated September, 1977. Mr. Lynch stated that the research figures for the costs of perpetual care and maintenance were not applicable at this time as the site has not been brought into compliance with the conditions needed for perpetual care and maintenance as stated in the research study, one of the problems being water management. Mr. Lynch referred to the scenarios described in the research report and stated that two of these would be the most likely: (1) the requirement of extensive reworking of trench covers from time to time

and basic monitoring, and grounds keeping including personnel and equipment would run about \$81,000 per year; (2) the requirement of pumping the trenches, evaporation of the waste water and solidification of the residue in addition to basic monitoring and grounds keeping would run \$57,593 per year. He further stated it might be reasonable that the cost for perpetual care and maintenance annually at the site would fall in the range of \$58,000 - \$81,000 if the site were brought into condition where it would be suitable for perpetual care and maintenance and all historical water is treated.

Representative Worthington asked Mr. Fry if the Department for Human Resources knows what the costs are going to be for perpetual care and maintenance of the site. Mr. Fry replied that those figures should come from the Department of Finance.

Chairperson Brown asked what is presently being spent to maintain the facility since its closure. Lee Armbruster, Neco, replied that the costs are directly related to the programs which the state wants conducted on the site.

Chairperson Brown asked what type of program is presently being carried on at the site. Mr. Fry replied that the basic program under way now is a maintenance program. There is no burial going on; there is ground maintenance, and on-going water and air monitoring.

Mr. Lynch stated that if the site was brought into compliance a fund of around \$3.2 - \$4.2 million should be sufficient for the necessary interest to provide perpetual care and maintenance of the site forever.

Representative Worthington made a motion to ask the Department for Human Resources and the Department of Finance to report back to this Subcommittee at the next meeting, on what the costs are for the site at the present time and under the present conditions, what the costs are going to be in the future, and how these costs are to be financed. The motion was seconded by Jack Wilson. The motion carried. Mr. Brown requested that the information be sent to the Subcommittee at least one week prior to the meeting.

Mr. Fry spoke to the Subcommittee about current responsibilities and future plans for the Maxey Flats site. He said that Finance is the landlord and Human Resources is the regulator for health and safety. Neco is the license holder. Examples of similar departmental relationships in state government would be Human Resources and the Department of Parks, or Finance and state universities. Mr. Fry said that if Neco should ever decide to pull out of the site, the Department of Finance and the Department for Human Resources would be responsible for the management of the site. There

was some discussion on overall direction and state plans for Maxey Flats. Mr. Fry mentioned the possibility of the federal government taking over nuclear waste burial sites. Peggy Hyland told the Subcommittee of a draft federal report on nuclear waste management suggesting federal takeover of low-level sites on request of a state.

Representative Worthington made a motion to have the Department for Human Resources and the Department of Finance report to the full Committee on any comments these departments may make concerning this draft report, relating to low-level nuclear waste sites, at the next meeting of the Committee to be held during the week ending November 18. Jack Wilson seconded the motion. There being no objections, the motion carried.

There being further business to come before the Subcommittee, the meeting was adjourned at 3:35 p.m.

SPECIAL ADVISORY COMMITTEE
ON NUCLEAR WASTE DISPOSAL

Subcommittee on Site Status
and Improvement

Minutes of the First Meeting
of the 1978-80 Biennium

October 25, 1978

The first meeting of the Subcommittee on Site Status and Improvement of the Special Advisory Committee on Nuclear Waste Disposal was held Wednesday, October 25, 1978 at 1:30 p.m. in Room B of the Capitol Annex.

Present were:

Members: Douglas Humphrey, Chairperson; Margaret Heaslip, Irving Bell, Marjorie Denton, Hugh Spencer, Senator John "Eck" Rose and Representative Pete Worthington.

Guests: Gerry Munley, Appalachia-Science in the Public Interest, Corbin, Ky.; Andrew Cammack, Environmental Quality Commission; Thomas S. Baer and R. Lee Armbruster, Nuclear Engineering Company, Inc., (NECo); Richard M. Fry, Department for Human Resources.

LRC Staff: Peggy Hyland, Brian Kiernan, Barbara Rhoads, Glenn Minch, Regina Caton.

Press: Maria Braden, AP; Monte Lorell, UPI; William Weathen, Department of Public Information.

Chairperson Humphrey called the meeting to order and the secretary called the roll. Peggy Hyland of the LRC staff then gave a brief summary of the events which have taken place concerning Maxey Flats since it was licensed in 1962.

Dr. Humphrey asked the members to report on any issues they felt the Subcommittee should address. Marjorie Denton said that she talked with Mr. John P. Hay of the Maxey Flats Radiation Protection Association who had expressed several concerns to her concerning the site. They were: (1) Mr. Oscar Hurst, who told the Committee at an earlier date his cattle had been diagnosed as having a copper and phosphate deficiency, told Mr. Hay his herd has now developed skin sores which he feels may be skin cancer; (2) Mr. Hay told Ms. Denton that he believed the fish and wildlife in the Maxey Flats area should be monitored monthly and the reports made available to the public; and (3) In the past two years

several people around the site have developed cancer. One woman, Mrs. Helen McRoberts, has been diagnosed to have inoperable cancer, and Mr. Hay would like for her to receive a test to see if she has had any plutonium exposure due to the Maxey Flats site.

Richard Fry of the Department for Human Resources responded to the question of fish and wildlife monitoring saying to his knowledge the Department for Fish and Wildlife Resources has conducted no studies in the site area. Mr. Fry did say that there have been samples made of the food products in the area and these tests have shown no significant radioactive residues. He further stated that water samples taken in the area have not warranted the testing of wildlife and that water samples are taken twice monthly.

Representative Worthington stated that he felt Mr. Hurst's herd should be tested again if there seems to be a problem with the cattle. Senator Rose volunteered to have Dr. Singer, the veterinarian who checked Mr. Hurst's herd originally, contact Mr. Hurst about retesting the herd. Marjorie Denton then made a motion to have Senator Rose contact Dr. Singer about getting in touch with Mr. Hurst and making a site visit, contacting the county agent in that area for assistance, and reporting back to this Subcommittee with the results. Representative Worthington seconded the motion. There being no objections, the motion carried. It was later agreed that the Department for Human Resources should work with Dr. Singer and Mr. Hurst on testing the herd.

Representative Worthington stated that he felt the Subcommittee could take no action concerning the plutonium testing of Mrs. McRoberts if she did not come before the Subcommittee personally and make a request.

Margaret Heaslip expressed the concern that the citizens in the Maxey Flats area feel they are not being kept informed of the happenings at the site. Irving Bell stated that Human Resources was working on providing news articles to papers, in the vicinity of Maxey Flats. Hugh Spencer recommended the use of Kentucky Education Television (KET) as a means of informing these citizens and said that he would look into some special programs for use on KET concerning Maxey Flats.

Chairperson Humphrey told the Subcommittee that he felt they should look into the division of responsibilities at the site and should investigate options for operating the site in one or two years when NECo's contract expires. Irving Bell responded that he felt the Subcommittee should ask the Department for Human Resources and Department of Finance to bring suggestions concerning these responsibilities back to the full Committee at its next meeting. Dr. Humphrey also suggested that there is a need for more

information on monitoring programs both onsite and offsite. He requested that USGS be contacted to update the Committee on their findings and that the Department for Human Resources report regularly to the Committee on all research and monitoring activities at Maxey Flats. Dr. Humphrey expressed the need for looking into proposals for maintenance/management changes and for a long-range water management program.

Lee Armbruster told the Subcommittee that NECo has various proposals concerning water management at Maxey Flats and that the company would like to present these proposals to the Committee at a convenient time.

The need to look into relationships with the federal government was also expressed. A draft federal report on nuclear waste management was distributed. The report suggests federal takeover of low-level nuclear waste sites upon request of a state. Comments on the report will be presented by the Department of Finance and the Department for Human Resources at the next meeting.

Dr. Spencer asked what the states objective was now at Maxey Flats. What is being done there and why? Are we trying to just meet federal or state regulations? Are we trying to satisfy local requests? The departments will be asked to respond to these questions at the next meeting.

The next meeting of the full Committee was set for November 16, 1978 at 1 p.m. There being no further business to come before this Subcommittee, the meeting was adjourned at 3:10 p.m.

SPECIAL ADVISORY COMMITTEE
ON NUCLEAR WASTE DISPOSAL

Minutes of the Second Meeting
of the 1978-80 Biennium

November 16, 1978

The second meeting of the Interim Special Advisory Committee on Nuclear Waste Disposal was held on November 16, 1978 at 1 p.m. in Room A of the Capitol Annex. Co-Chairman John "Eck" Rose called the meeting to order.

Present were:

Members: Senator John "Eck" Rose, and Representative Pete Worthington, Co-Chairmen; Irving Bell, Charles Wickliffe, Jack Wilson, Margaret Heaslip, Douglas Humphrey, Hugh Spencer, and Marjorie Denton.

Guests: Hugh Archer, Department for Natural Resources and Environmental Protection; T. S. Baer and R. L. Armbruster, Nuclear Engineering Company (NECO); Richard Fry, Department for Human Resources; Robert H. Singer, Lexington Diagnostic Laboratory; and Dale Brodkey, Attorney General's Office.

LRC Staff: Peggy Hyland, Brian Kiernan, John Schaaf, Linda Kubala, Don Judy, Vinson Straub, Glen Minch and Regina Caton.

Press: Gary White and Gary Grider, Department of Public Information; T. G. Moore, AP; and Monte Lorell, UPI.

The minutes of the September 13, 1978 meeting were read and approved as written.

Charles Wickliffe, Department of Finance, commented on the Interagency Review Group on Nuclear Waste Management Report. Mr. Wickliffe stated that his department would endorse the concept of federal responsibility for nuclear waste disposal sites.

Irving Bell, Department for Human Resources, stated that the report made to this Committee by Richard Fry contained staff comments. Mr. Fry made the following points:

(1) The proposed nuclear waste management objective of isolating nuclear waste from the biosphere so as to pose no significant threat to the public health and safety is strongly supported.

(2) It would appear appropriate to extend the NRC licensing authority to cover the Department of Energy (DOE)

operations.

(3) It would appear quite appropriate to use intermediate scale facilities between the R & D type facility and a fully operational disposal facility.

(4) In the balancing of trade-offs, it would appear that siting and construction of a high-level waste repository should be done at an early date.

(5) The department supports the concept of cooperative federalism contained in the report.

(6) Of particular concern to the State of Kentucky is the option of a state to retain or transfer to the federal government management control over existing commercial low-level waste sites.

(7) The involvement of state personnel would enhance the enforcement effort for an improved program for the transportation of radioactive materials.

(8) DHR is supportive of assigning the primary responsibility to DOE for the planning and management of the non-regulatory programs and for interfacing such programs with regulatory programs of the NRC and EPA.

(9) The proposal to accelerate the EPA schedule for standards-setting activities would appear to need further acceleration.

(10) The establishment of a fully funded trust fund to cover the cost of the waste management program is wise.

(11) It is the experience of the department that the classification of an intermediate type waste and an intermediate type facility is needed in the overall management of radioactive waste.

Irving Bell stated that his department would welcome the support of the Committee on their comments concerning the Interagency Report. Mr. Wickliffe made a motion to endorse the Department for Human Resources staff comments as written. Mr. Wilson seconded the motion. There were no objections and the motion carried.

Doug Humphrey made a motion to send the Legislative Research Commission staff comments to the Interagency Review group and Jack Wilson seconded the motion. There being no objections, the motion carried.

Doug Humphrey stated that he wanted the Committee to go on record emphasizing the objective which indicates that the cost of storage and disposal should be borne by the generator and the beneficiary. In Kentucky the cost of Maxey

Flats will be borne by those who did not directly benefit. Jack Wilson made a motion that such a comment be drafted and added to those already approved. Hugh Spencer seconded this motion. There being no objections, the motion carried.

The Committee received an updated report on the cattle of Oscar Hurst. Dr. Robert Singer, a veterinarian with the Lexington Animal Disease Diagnostic Laboratory, who had inspected Mr. Hurst's cattle in 1976, gave the following report to the Committee. Dr. Singer stated that he and David Clark of the Department for Human Resources inspected Mr. Hurst's cattle and found that Mr. Hurst had discontinued using the recommended procedures for his cattle that Dr. Singer had prescribed two years ago.

Dr. Singer stated that he again found signs of phosphorous and copper deficiency, but that the cattle were much better now than two years ago. He stated that three of the calves Mr. Hurst had reported as being deformed were in fact born with a malformation of their limbs, which is caused by a phosphorous-deficient diet. Mr. Hurst had reported that several of his cattle had cataracts, but Dr. Singer found this condition to be the result of untreated cases of pink-eye.

Dr. Singer stated that several of the cattle did indeed have skin sores which are commonly diagnosed as mange mite and ringworm. Dr. Singer stated that he definitely saw no evidence of anything that could be connected to cancer or radiation exposure in the herd. He also stated that the herd could possibly be suffering from a zinc deficiency.

Marjorie Denton stated she would report back to citizens in the Maxey Flats area on the latest inspection of the cattle.

Charles Wickliffe then reported to the Committee on current and projected maintenance costs at Maxey Flats which had been requested by the Subcommittee on Cost and Financing. A discussion of the advantages and disadvantages of federal funding, biennial appropriations, and special trust funds followed. Mr. Wickliffe stated that the General Assembly's appropriation for the department for Maxey Flats was \$350,000 for 1977-78, and \$700,000 for each year of the biennium beginning July 1, 1978.

Dr. Spencer stated that he would like to see the funding alternatives and the day by day operational costs studied very carefully. He pointed out that biennial appropriations result in astronomical costs over a 50-year period.

Irving Bell presented information to the Committee concerning objectives and responsibilities of the Department for Human Resources at Maxey Flats. In regard to NECO's role and responsibility at the present time, Mr. Bell indi-

cated that NECO is responsible for the operation and maintenance of the disposal site as prescribed in the contract. Their future role and responsibilities will depend on future decisions made by the Commonwealth. Mr. Wickliffe commented that the Department of Finance is the landowner or landlord of the facility. Finance has an objective to provide perpetual care and relies upon recommendations of the Department for Human Resources.

Representative Worthington stated that he feels the Department for Human Resources sees itself as a regulator and the Department of Finance sees itself as the agency that pays the bills. This leaves a gap as regards long term planning for the site. Representative Worthington passed out a resolution to the members which requests the Governor to issue as soon as possible an executive order assigning to the appropriate agency the responsibility to develop and implement a long range plan for the Maxey Flats nuclear waste disposal site; that such a plan incorporate a clear statement of the Commonwealth's objective at Maxey Flats and assign specific implementation responsibilities to the appropriate government agencies; and that a basic plan be available by March 1979. Members of the Committee discussed this resolution.

Representative Worthington asked both Mr. Wickliffe and Mr. Bell if the two departments could work together and report back to the Committee at its next meeting with recommendations on what should take place prior to March, 1979. He also asked Mr. Wickliffe and Mr. Bell to draw up a list of responsibilities for each department including a plan for short term remedial care and long term care plan responsibilities for the site. Both Mr. Wickliffe and Mr. Bell agreed to this suggestion.

Representative Worthington agreed to lay the resolution on the table and give the two departments time to work out a plan and report back to the Committee at its next meeting.

The meeting was adjourned at 4:50 p.m.

SPECIAL ADVISORY COMMITTEE
ON NUCLEAR WASTE DISPOSAL

Minutes of the Third Meeting
of the 1978-80 Biennium

January 26, 1979

The third meeting of the Interim Special Advisory Committee on Nuclear Waste Disposal was held on January 26, 1979 at 2 p.m. in Room 327 of the Capitol. Co-Chairman Representative Pete Worthington called the meeting to order.

Present were:

Members: Representative Pete Worthington and Senator John "Eck" Rose, Co-Chairmen; Irving Bell, Margaret Heaslip, Douglas Humphrey, Hugh T. Spencer, Charles Wickliffe and Jack Wilson.

Guests: Ralph Madison, Kentucky Audubon Council; Leona Madison, Jefferson County Garden Club; Mary Belle Fisher, Department for Natural Resources and Environmental Protection, Doyle Mills and Charles Hardin, Department for Human Resources; Roy Stevens, Department of Finance; Dale Brodkey, Attorney General's Office; Bert Roark, Frank Harscher, and Frank Wirmaling, Department for Natural Resources and Environmental Protection; Tom Jacobs, Assistant Attorney General; Bill Danner and Tom Baer, Nuclear Engineering Company; W. Waddell, and Barb Finelli.

LRC Staff: Peggy Hyland, Brian Kiernan, Barbara Rhoads, Jean Keene, Glenn Minch and Regina Caton.

Press: Michael Lynch, WKYT TV; Mike Edgerly, WHAS Radio; and Herb Sparrow, AP.

The minutes of the November 16, 1978 meeting were read and approved as written.

The Committee then heard testimony on the proposal to transfer the responsibility for Maxey Flats, which now rests with the Department of Finance, to the Department for Natural Resources and Environmental Protection. Roy Stevens, Secretary, Department of Finance, stated that his department has agreed that it is not the best organization to handle the maintenance and care of the Maxey Flats site in terms of what best serves the public interest.

Frank Harscher, Deputy Secretary, Department for Natural Resources and Environmental Protection (DNREP), stated that his department had had several discussions with the Department of Finance and had agreed in principle to accept the transfer of responsibility. He stated this would have to be done by Executive Order of the Governor. Mr. Harscher indicated that the department does not have the individuals

required, but does have the organizational structure to accommodate such a transfer. He stated that the department is by no means in a position to make final recommendations to the committee at this time. He stated the department would need financial assistance.

Mr. Humphrey asked Mr. Harscher if the DNREP has any thoughts about converting Maxey Flats to a site for hazardous waste as opposed to just nuclear waste. Mr. Harscher replied that there are many problems at Maxey Flats now and conversion of the site would further complicate matters at this time.

Representative Worthington asked that the responsible agency report to the Committee in March concerning its plans for dealing with the contract with NECo and for long term care of the Maxey Flats site. Mr. Harscher replied that if the transfer does take effect, the department would be glad to report back to the Committee at their March meeting. Secretary Stevens also agreed.

Senator Rose made a motion for the Committee to go on record as favoring the transfer of responsibility from the Department of Finance to the Department for Natural Resources and Environmental Protection. Mr. Wickliffe seconded the motion. There being no objections, the motion carried unanimously.

Charles Hardin, Manager, Radiation Control Branch, Department for Human Resources, reported to the Committee on a workshop he attended sponsored by the U.S. Nuclear Regulatory Commission. The purpose of the workshop was to report on means for improving state participation in the federal waste management programs. Mr. Hardin stated that the meeting focused primarily on high level waste, although low level waste was within the purview of the meeting. There were no formal recommendations or resolutions made, but a summarization was made of the various ideas addressed. Mr. Hardin listed the major points in the summary and responded to questions.

Representative Worthington commented to the Committee on his concern as to who does have veto power on nuclear waste sites under a federal/state arrangement. The Committee then discussed the comments it forwarded to John Deutch of the Interagency Review Group on Nuclear Waste Disposal. Representative Worthington proposed that the following language be added to the Committee's Comment #3: "It should be understood that the Committee endorses this recommendation at this time only if under federal ownership or any federal/state arrangement the state retains the final authority for approving or disapproving the locating, opening, closing, or reopening of a site or facility within its borders."

Dr. Spencer made a motion to adopt this language and Dr. Humphrey seconded the motion. A lengthy discussion followed. Representative Worthington clarified his proposal by indicating that such a policy would mean that the Commonwealth should not enter into any agreement with the federal government for ownership or funding that would require the

state to give up the final decision-making authority for the site. Grants for studies and use of Maxey Flats as a laboratory to advance nuclear waste technology would not be affected unless they carried such a stipulation; no ongoing studies have such requirements. Representative Worthington further stated that it was his belief that any arrangement giving the federal government predominant power should require the concurrence of the Governor and the General Assembly. On a roll call vote, the motion carried unanimously.

The Committee then decided to adopt corresponding language to bring the Department for Human Resources' comments, which they had endorsed, into conformity with the comments of the committee. Dr. Spencer made a motion to adopt the language into the comments of the Department for Human Resources and Mr. Wilson seconded the motion. On a roll call vote, the motion carried unanimously.

Dr. Humphrey made a motion to add language to clarify that Comment #3 of the Department for Human Resources applied to disposal sites for high level waste. Dr. Spencer seconded the motion. The motion carried unanimously.

The Committee decided to add new language to Comment #1 of the Department for Human Resources to further clarify it. Mr. Bell made a motion to adopt this language and Dr. Humphrey seconded the motion. The motion carried unanimously.

The Committee then discussed whether it should continue to meet as a whole or as two subcommittees. The members decided to meet as a full committee on Friday, March 9, 1979 at 1 p.m.

There being no further business to come before the Committee, the meeting adjourned at 4:45 p.m.

SPECIAL ADVISORY COMMITTEE ON
NUCLEAR WASTE DISPOSAL

Minutes of the Fourth Meeting
of the 1978-80 Biennium

March 9, 1979

The Special Advisory Committee on Nuclear Waste Disposal held its fourth meeting of the 1978-80 biennium March 9, 1979 at 1 p.m. in Room 327 of the Capitol. Chairman Pete Worthington called the meeting to order.

Present were:

Members: Representative Pete Worthington and Senator John "Eck" Rose; Irving Bell, Jack Wilson, Oscar Gerald, Margaret Heaslip, Douglas Humphrey, Hugh T. Spencer, Charles Brown and Russell McClure.

Guests: Ralph Madison, Audubon Society; Eugene Mooney, Frank Harscher, Bert Roark, and Robert Freeman, Department for Natural Resources and Environmental Protection (DNREP); Richard M. Fry, Doyle Mills, Charles M. Hardin, Department for Human Resources; Harold H. Zehner, U. S. Geological Survey; Oktay I. Oztunali, Dames & Moore; Lee Armbruster, Nuclear Engineering Company; Andrew Cammack, Environmental Quality Commission; and Dale Brodkey, Attorney General's Office.

LRC Staff: Peggy Hyland, Brian Kiernan, Barbara Rhoads, Don Stosberg and Regina Caton.

Press: Dave Siler, WHAS Radio; Mike Lynch, WKYT-TV; and Tony Hyatt, Maribeth Schmitt and Verona Cumberhedge, Department of Public Information.

The minutes of the last meeting were read and approved as written.

Secretary Mooney spoke to the Committee on plans for the management of Maxey Flats. He explained that Executive Order 79-170 had been signed by Governor Carroll directing transfer of the management of Maxey Flats from the Department of Finance to the Department for Natural Resources and Environmental Protection. Secretary Mooney said that his department is still in the process of receiving information from the Department of Finance and studying recommendations for the site. He explained that the Department for Human Resources will continue its role as the permitting and licensing agency; the Department for Natural Resources and Environmental Protection (DNREP) will have custody of the site and responsibility for the safety of the site and continued maintenance; Nuclear Engineering Company (NECo) is

still the agent for the DNREP under a preexisting contract.

Secretary Mooney then reviewed the provisions of the contract. He stated that if the Commonwealth did not renew the contract with NECo the state would have to provide for management of the site. If the department does not give notice on March 31, 1979 the contract is automatically renewed through June 30, 1980. Secretary Mooney stated as an alternative that the parties involved explore contract renegotiation. The department has not yet decided on any of the options.

Secretary Mooney stated that future short term policy options are to:

(a) Continue the present maintenance operation and to study the matter for 1-2 years. Current operating costs are approximately \$483,692 annually. If the state were to assume direct maintenance of the site the estimated annual operating costs would be \$458,160;

(b) Attempt to reduce operating cost by capital improvements relating to water management at the site. Under this option state maintenance or contract renegotiation would be desirable;

(c) Reopen the site as a commercial low level waste disposal site.

Secretary Mooney indicated that any of these options could be combined with the use of federal money for site studies. Long term management strategies include final technical closure of the site, federal takeover, or reopening and reoperation of the site. Secretary Mooney asked for input on the wisdom of dividing responsibilities at Maxey Flats among several state agencies rather than concentrating all responsibilities in one agency. The secretary also indicated that once a long term management policy decision has been made, the other decisions will fall into place. There needs to be some determination of acceptable risk for the Maxey Flats site; there is no such thing as zero risk.

Harold Zehner, U. S. Geological Survey, updated the Committee members on U.S.G.S. site studies at Maxey Flats. There is subsurface migration of water at Maxey Flats from the trenches into the rock as witnessed by the seepage into the newly dug Trench 46 (the nearest trench is 50-100 feet away) and by the wells drilled by U.S.G.S. about 30 feet from the nearest trench. All of the wells drilled in the area of the trenches accumulated contaminated water. Although it is known that there is subsurface migration of water, the actual amount of velocity of water flow is not known. It has not been determined how far the radioisotopes may be carried. One cannot be sure the contaminated water is from the nearest trench, since the actual path of water

movement is dependent on fractures in the rock. Maxey Flats is an isolated knob; all of the water moving through the rocks comes from vertical infiltration. The subsurface is saturated with water from the sandstone marker bed to the Ohio shale. Water in streams below the knob comes from surface runoff, movement through the 6-8 foot deep rock debris on the hillside, or through the bedrock. Conductivity tests indicate that most of the water probably comes through the rock debris and not from bedrock. All of the water which infiltrates exits eventually to the side of the hill. Rain runoff dilutes the exiting ground water tremendously. If all of Maxey Flats were capped it would eventually dry out. If only the trench area is capped, ground water away from the trench area would tend to move back toward the void created by the "drying out." Flow at the Maxey Flats site should not increase unless water builds up in the trenches or until erosion processes begin to take a toll.

Oktay Oztunali updated the Committee on studies at the Maxey Flats site being conducted by Dames & Moore. Mr. Oztunali stated Dames & Moore is currently under contract with the Department for Human Resources to perform investigations at the Maxey Flats site under a grant from the federal Nuclear Regulatory Commission. The four items funded by DHR, which are related to the surface investigations are: (1) surface water and mass balance study; (2) site geometry (surface soil sampling); (3) trench studies; Mr. Oztunali stated that trench gas is not a problem; and (4) atmospheric studies. Mr. Oztunali said Dames & Moore will collect data through June 30, 1979 under present arrangements and will probably continue until November, 1979.

Representative Worthington informed the Committee that he had received a letter from the Department of Energy indicating that the Committee's revised comments to the Inter-agency Review Group were made part of the permanent record. The final federal report should be out in early March.

Representative Worthington stated that Secretary Mooney would be invited to speak at the next Committee meeting to give an updated report on the DNREP's maintenance plans for Maxey Flats. The Committee members decided to hold this meeting sometime during the month of May.

There being no further business to come before this Committee, the meeting was adjourned at 5 p.m.

SPECIAL ADVISORY COMMITTEE ON
NUCLEAR WASTE DISPOSAL

Minutes of the Fifth Meeting
of the 1978-80 Biennium

April 30, 1979

The Special Advisory Committee on Nuclear Waste Disposal held its fifth meeting of the 1978-80 biennium April 30, 1979 at 1:30 p.m. at Morehead State University. Chairman Pete Worthington called the meeting to order.

Present were:

Members: Representative Pete Worthington and Senator John "Eck" Rose, Co-Chairmen; Irving Bell, Jack Wilson, Oscar Gerald, Margaret Heaslip, Douglas Humphrey, Hugh T. Spencer, Charles Brown, Marjorie Denton and Russell McClure.

Guests: Secretary Eugene Mooney, J. E. McClure, Jr., Department for Natural Resources and Environmental Protection; H. Doyle Mills, Richard M. Fry, Department for Human Resources; John P. Hay, Nilva L. Hay, Maxey Flats Radiation Protective Association; Paula Moore-Carson, Office for Policy and Management, Department of Finance; David L. Austin, Division of Air Transportation; Patrick K. Davis, Morehead State University, Environmental Studies; John E. Razor, Nuclear Engineering Company (NECo); and Elizabeth B. Paxson, homeowner, Fleming County.

LRC Staff: Peggy Hyland, Brian Kiernan, Barbara Rhoads, and Regina Caton.

Press: Roger Weaver, Keith Yacker, Myron Doan, Dave Ricker, Will Murphy, WMKY-Radio, Morehead; Connie Parrish, Department of Public Information.

Secretary Eugene Mooney, Department for Natural Resources and Environmental Protection (DNREP), spoke to the Committee about recent events concerning Maxey Flats. Secretary Mooney told Committee members that the major action taken since the last Committee meeting had been the Department's decision to terminate Nuclear Engineering Company's (NECo) contract for maintenance of the Maxey Flats site. Secretary Mooney stated that several problems with the site contributed to the decision.

The central problem relates to the management of water at the site. There are 200,000 gallons of contaminated water from the trenches in holding tanks. About 150,000 gallons of sludge from the evaporator is awaiting solidification and reburial. There is a contaminated sump

area around the sludge holding tanks that accumulates water when it rains. Another million gallons of water originating from the sump area are stored in two uncovered rubber lined ponds.

Secretary Mooney stated that there is a total of about 1.5 million gallons of contaminated water on site as well as an unknown amount in the trenches.

The present system for pumping, etc. is not adequate to deal with the water problem. Secretary Mooney stated that the decision of the Department to terminate the contract with NECo would give the Department a chance to receive proposals that would begin to address the water problem and to negotiate a contract that would give DNREP greater operational control. Under a new arrangement DNREP will be issued the license for the site. Currently the license is issued to NECo.

On April 11, 1979 DNREP met and briefed six potential site contractors including NECo. The initial proposals were required to be submitted by April 25, 1979 and four proposals were received. The Department is contemplating extending the deadline. The four proposals were received from: Dames & Moore, NUS Corporation, Proctor-Davis-Ray (Lexington), and NECo. He explained that each proposal was to meet the following conditions:

(1) The site would continue to be regulated by the Department for Human Resources with the license issued to DNREP;

(2) The site would be maintained at least in its current condition; and

(3) The proposal would address the hydrology problem and give an indication of what approaches could be implemented.

Secretary Mooney stated that the Department expects to receive at least one more proposal from Mason Hanger (Lexington), and perhaps one from CHEM Nuclear Company. He said the Department expects to enter into a new control and management system contract before July 1, 1979.

In response to questions, Secretary Mooney replied that the two storage ponds are substantially full. The Department has to decide soon whether to build additional storage even though this would be a self-defeating solution. Currently, the major problem is with the radioisotope tritium. Originally about 650,000 curies of tritium were disposed of onsite. Dr. Spencer indicated that given the known half life of tritium (11.9 years) and data on the amount that is onsite some calculations could be made on how long tritium will remain a major problem. Dr. Spencer also indicated

that a pending report contracted out by the federal government on long term effects of low level radiation will indicate that the dangers may be greater than previously anticipated. This may lead to a lowering of permissible exposure levels by a factor of 10.

Secretary Mooney indicated that solutions to the water problem at this point will be primarily concrete, short term solutions to the separate problems of sludge disposal, trench water accumulation, surface ponds, and the contaminated sump area. Secretary Mooney expects that a 3-5 year contract would be most likely to allow for the development and implementation of water management technologies.

DNREP eventually hopes to train its own staff over the contract period so that the state can maintain the site itself if that is considered desirable at some future time.

Representative Worthington asked if DNREP had thought about reopening the site and Secretary Mooney replied there had been no thought given to that.

Representative Worthington asked what this Committee could do to help Secretary Mooney and his Department. Secretary Mooney replied that giving DNREP the chance to report to this Committee periodically was a tremendous help because it made them accountable publicly for their activities in this area.

Richard Fry, Radiation Control Branch, Department for Human Resources, updated the Committee on current site studies at Maxey Falts. Mr. Fry told the Committee that DHR is working with the Kentucky Department of Transportation (DOT) in installing an automatic water sampler where U.S. 158 crosses Rock Lick Creek. A contract has just been let by NRC with Geo Centers, Inc. to use subsurface radar to map Maxey Flats. Probably this will be done in late summer and again in winter. DHR is also examining possibilities for near surface research. The Nuclear Regulatory Commission is funding the University of Arizona to study engineering practices for nuclear waste sites and the University of California (Los Angeles) to study the transport of radionuclides by soil and plants. Mr. Fry said the Interagency Review Group report to which this Committee sent comments, has been redrafted and is to be submitted to the President. He explained that DHR continues its routine monitoring around the site taking water samples every two weeks. DHR continues to assure there is no health hazard at the site.

Mr. Fry then reported to the Committee on transportation of radioactive waste in Kentucky. DHR has a contract with the U.S. Nuclear Regulatory Commission (NRC), to provide for the surveillance of radioactive materials associated with transportation. This contract is strictly for

data gathering with emphasis on surveying compliance with DOT requirements. It is hoped that this contract will be extended for at least one year, preferably two years.

Under other business the Committee discussed plans for preparing legislative proposals for the 1980 session. Representative Worthington stated that the Committee should allow the staff a couple of months to gather information on the areas selected. The Committee agreed on these areas for discussion at the next meeting:

- (1) Insuring state control over the site;
- (2) Developing policies on permanent closure and decision-making responsibilities relative to the site;
- (3) Funding vehicles to make sure on-going maintenance is continued; and
- (4) Insuring continued monitoring and testing.

The next meeting will be in late June or early July.

Peggy Hyland reported to the Committee that Mr. Zehner had seen that copies of the Brookhaven reports were forwarded to the Committee and that future reports will also be sent. Summaries of the reports will be sent to each Committee member.

Representative Worthington thanked Morehead State University for use of its facilities for the meeting and WMKY Radio, Morehead, for its cooperation in broadcasting the meeting.

There being no further business, the meeting was adjourned at 3:50 p.m.

SPECIAL ADVISORY COMMITTEE ON
NUCLEAR WASTE DISPOSAL

Minutes of the Sixth Meeting
of the 1978-80 Biennium

July 24, 1979

The Special Advisory Committee on Nuclear Waste Disposal held its sixth meeting of the 1978-80 biennium July 24, 1979 at 1:30 p.m. in Room 327 of the Capitol. Chairman Senator John "Eck" Rose called the meeting to order.

Present were:

Members: Senator John "Eck" Rose and Representative Pete Worthington, Co-Chairmen; Irving Bell, Charles Wickliffe, Jack Wilson, Margaret Heaslip, Douglas Humphrey, Hugh Spencer, Russell McClure, and Jackie Swigart representing Oscar Gerald's.

Guests: Doyle Mills and Richard Fry, Department for Human Resources; Clara Levthart, Louisville, Kentucky; Secretary Eugene Mooney, Deputy Secretary Frank Harscher, J. E. McClure, Department for Natural Resources and Environmental Protection; Gene Samsel, Dames & Moore; and John Hay, Maxey Flats Radiation Protection Association.

LRC Staff: Peggy Hyland, Brian Kiernan, Bill VanArsdall, Barbara Rhoads, Don Stosberg and Susan Martin.

Press: David Ricker, WMKY, Morehead; Frank Goad, WKLE, Lexington; Clyde Combs, WKMA, Lexington/Madisonville; John Duncan Hart, WKMS, Murray; Luralyn Lahr, KET, Lexington; Milli Fazey, KET, Lexington; Dennis Budice, KET, Lexington; Tony Hyatt, Department of Public Information; Jodi Berry, KET, Lexington; Myra Converse, Department of Public Information; Eva Smith, Department of Public Information; Jerry DeLollin, WLEX, Lexington; Melissa Swan, WLEX, Lexington; Michael Lynch, WKYT, Lexington; Herb Sparrow, AP; and Monte Lorell, UPI.

Dr. Humphrey moved that the minutes of the April 30, 1979 meeting be approved as submitted. The motion was seconded and passed unanimously.

The committee then took up the topic of the new contract with Dames and Moore. Secretary Mooney indicated that the new contract attempts to address near terms solutions to existing water problems at the site and lays a foundation for long term solutions. Deputy Secretary Frank Harscher outlined the details of the new contract. The arrangement with Dames and Moore consists of two documents: (1) A management contract with a fixed fee of \$380,000 for the first

fiscal year; and (2) An operational contract setting tasks and reimbursement rates expected to amount to about \$300,000 for the fiscal year. The four tasks included in this document are:

(a) Development and implementation of a Short-Term Water and Sludge Management Plan;

(b) Assistance to DNREP in obtaining permits and license;

(c) Assistance to DNREP in obtaining federal funding;

(d) Development of a long term plan to minimize water infiltration and correct site deficiencies.

Mr. Harscher indicated that hundreds of thousands of dollars more may be needed in fiscal year 1980 to complete the measures necessary to deal with water management at the site. There will be a cost overrun of \$50,000 - 65,000 this fiscal year 1979. Currently, plans are to eliminate the need for the evaporator within one year.

Mr. Harscher indicated that attempts to get federal money from the United States Department of Energy is a problem because the state must be able to show how the information obtained from such studies could have application elsewhere in the nation. He said that state ownership of the site was currently desirable and not a problem to obtaining federal monies.

Representative Worthington asked for a report on the death of the worker at Maxey Flats in June. It was explained that the death was by suffocation and not due to any radiation related causes. However, a coroner's inquest has been requested in the county.

Mr. Harscher agreed to return in late September to review the results of the short term activities on site.

In response to the LRC resolution passed on June 29, the committee agreed to report its action on recommendations to the 1980 legislature to the LRC by letter. The committee also agreed to advise the Interim Joint Committee on Highways and Traffic Safety of the transportation of nuclear materials study currently underway in the Department for Human Resources, Radiation Control Branch.

The committee then took up a discussion of recommendations to the 1980 legislature. After discussion, the committee agreed on the following:

The members instructed the staff to draft legislation requiring legislative approval for the reopening of the site and for any change in state control or ownership of the site

from the state level to the federal level.

In the area of long range policy the committee requested that legislation be drafted which sets forth the committee findings as to the major problems with the Maxey Flats site and which prohibits reopening of the site for any purpose unless and until these problems are solved. The legislation will further require public review of the problems and solutions and legislative approval before the site can be reopened.

The committee will request that expenditures for the care, maintenance, and monitoring of the Maxey Flats site be made "necessary government expenses" to insure sufficient funds for the site. The committee also requested that a line item amount for the site be included in the budget. Staff was asked to find out if both can be done.

The committee also recommended legislation to establish specific oversight responsibility by a standing committee for the 1980-82 interim or to establish another special advisory committee composed of university experts, agencies, and citizens as well as legislators. The members discussed whether it would be best for a standing committee to have this responsibility. One advantage of a special committee is that a provision can be made for the general public to be represented on such a committee whereas the standing interim committee would have no such representation.

Under new business the committee agreed to forward a request for input on an NRC publication from the Attorney General in Illinois to the Executive Branch since these agencies participated in meetings related to this publication.

Representative Worthington summarized the testimony he gave at a congressional hearing in Washington, D. C. on July 19 relating to the agreement state process under the 1954 Atomic Energy Act.

The meeting was adjourned at 4:30 p.m.

SPECIAL ADVISORY COMMITTEE ON
NUCLEAR WASTE DISPOSAL

**Minutes of the Seventh Meeting
of the 1978-80 Biennium

October 15, 1979

The Special Advisory Committee on Nuclear Waste Disposal held its seventh and final meeting of the 1978-79 interim on October 15, 1979, at 1:30 p.m. in Room 327 of the Capitol. Chairman Pete Worthington called the meeting to order, and the secretary called the roll.

Present were:

Members: Representative Pete Worthington and Senator John Rose, Co-Chairmen; Irving Bell, Charles Wickliffe, Jack Wilson, Oscar Gerald, Margaret Heaslip, Douglas Humphrey, Hugh Spencer, and Russell McClure.

Guests: Frank Harscher, Ken Hoskins, and Frank Wermeling, Department for Natural Resources and Environmental Protection; Bob Berlin and Gene Samsel, Dames and Moore Waste Management Services, Inc.; Dale Brodkey, Attorney General's Office; Jackie Swigart, Andrew Cammack, Environmental Quality Commission; Richard M. Fry, Department for Human Resources; Guy Mendes, Gregory Doyle and Chuck Duncan, Safe Alternatives for Energy; Paula Moore-Carson, Office of Policy and Management.

LRC Staff: Peggy Hyland, Barbara Rhoads, Bill VanArsdall, and Brenda Stivers.

Press: KET Staff and Dave Ricker, WMKY, Morehead.

The minutes of the sixth meeting were approved as printed.

The first item on the agenda was the discussion of the Nuclear Regulatory Commission Decommissioning Workshop and the proposed comments. Representative Worthington stated that he would like the committee to endorse the comments to be sent back to the NRC addressing the possible deficiencies in their report.

Irving Bell questioned the use of the words "worst case situation" in paragraph 3 of the transmittal letter. He stated that based on available information, Maxey Flats is not the worst case situation in comparison to other low-level sites. Mr. Bell, therefore, moved that the wording be changed to an "unsatisfactory" situation. Mr. Wilson seconded, and the motion carried.

** These minutes were not approved by the committee since they were drafted after the final meeting.

In the 4th paragraph of the letter, Mr. Bell moved that to be correct the word "any" be changed to "this" in line 3 and the word "fully" be inserted before decommissioned also on line 3; and on line 7, insert the word "commercial" before sites. The motion was seconded and adopted by voice vote.

After a brief discussion on the Additional Comments, Mr. Bell moved that the word "care" be inserted between "perpetual" and "and" on the second line of the comment #10; and to change the word "inherit" to "accept" on line 1 of the comment for #12. Mr. Wilson seconded; the motion was adopted.

Mr. Bell then raised a question as to whether mention of closed sites should be made in the comments for #12. Representative Worthington stated that closed sites were covered in Section 4 of the Comments on Draft NUREG/CR-0570.

Mr. Wilson moved that another comment be added to #12 stating that there's also a problem with the financing and decommissioning of closed sites as we indicated in our comments in Section 4.0 of the attached document and to also incorporate some of the language in Section 4.0 into #12 of the Additional Comments. The motion was duly seconded and adopted.

Dr. Spencer moved that the comments to the Nuclear Regulatory Commission be endorsed by the committee. The motion was seconded by Jack Wilson. Upon roll call vote, the motion was adopted unanimously.

Mr. Frank Harscher, Secretary of the Department for Natural Resources and Environmental Protection, appeared before the committee to give an update on the activities at Maxey Flats. He expressed the Department's overall satisfaction with the progress and improvements being made under the new contractual arrangement with Dames and Moore.

Secretary Harscher stated that plans were underway for the development and implementation of a short term water and sludge management program. The first step is an improved drainage system to enhance the handling of run-off of surface water from the burial area. This improved drainage reduces the degree of infiltration of rain water into the trenches. To prevent the release of radioactivity and provide storage capacity for the water that has collected in the tank farm-berm area, the side of the two storage ponds were raised and protected with a plastic cover to prevent any further rain from accumulating in these storage ponds. Secretary Harscher said that plans have been submitted to make additional improvements in the permeability of certain highly suspect trench caps by increasing the mounding and use of temporary, plastic covers. A review of alternatives in water processing is also underway.

Secretary Harscher also reported that Dames and Moore would be assisting the Department in amending the license and in obtaining federal funding. Under budget implications, Secretary Harscher stated that a supplemental appropriation of \$885,000 is needed for this fiscal year to meet the current needs relating to operational expenses, laboratory work, design work, buildings and equipment improvements, trench recapping, and sludge disposal. He stated that some of the work could be deferred, but he generally felt that any delay would, in the long run, lead to even greater costs. He predicted budget requests for Maxey Flats for the next biennium to be for FY 81 - \$1,736,000 and for FY 82 - \$1,379,500. For administrative purposes under a proposed reorganization, Maxey Flats will be located as a program in the Division of Hazardous Materials and Waste Management.

Secretary Harscher then introduced Mr. Bob Berlin of Dames and Moore who presented a slide presentation of the improvements made at the Maxey Flats site.

After a brief discussion by the committee on Secretary Harscher's report, Mr. McClure moved that the committee go on record as supporting the \$885,000 supplemental appropriation request for the current fiscal year; and that the committee's chairman draft appropriate communications to the Executive Branch of government to assure that this total amount is in the Supplemental Budget for FY 1980. The motion was seconded by Dr. Spencer and unanimously adopted by roll call vote.

The committee also discussed the desirability of the Appropriations and Revenue Committee holding a public hearing on Maxey Flats so that A&R members, as well as citizens of the Commonwealth, could familiarize themselves with the problems and intricacies in dealing with Maxey Flats.

Senator Rose moved that the committee request that the A&R Committee hold a public hearing in late January to review the requested appropriations for the coming biennium and the supplemental budget request. The motion was seconded by Mr. McClure and adopted unanimously by roll call vote.

The next item on the agenda was a discussion of the bill drafts and recommendations to the 1980 General Assembly. The first bill draft to be discussed was BR 273, relating to shallow-land nuclear burial sites.

Mr. McClure raised a question about page 4, Section 4(1) requiring that appropriations for a nuclear waste disposal site to be set forth as a line item in the budget of the Department for Natural Resources and Environmental Protection. Mr. McClure stated that this was contrary to budget policy in Kentucky and that the same thing could be accomplished by asking that the Maxey Flats budget be given

the attention of a major program expenditure in the executive budget document.

Mr. McClure moved that on page 4, Section 4(1) be amended to read: "Appropriations for the capital construction and for the operating budget of a nuclear waste disposal site owned by the Commonwealth shall be set forth as a major program cost in the executive budget document for the department for natural resources and environmental protection"; and that page 5, Section 4(2) be amended to read: "Appropriations for the regulating and monitoring of a nuclear waste disposal site owned by the Commonwealth shall be set forth as a major program cost in the executive budget document for the department for human resources"; and that Sections 3 and 4, on page 4, be changed to Sections 4 and 5. Dr. Humphrey seconded the motion. Upon roll call vote of 6 yeas and 4 nos, the motion passed.

Dr. Humphrey moved that on page 4, line 19, the word "passive" be deleted. The motion was seconded by Jack Wilson and adopted by voice vote.

Mr. Bell moved that the words "been released" be substituted for "escaped" on page 1, line 7. The motion was seconded by Dr. Humphrey and adopted by voice vote.

Mr. Bell then moved that on page 2, line 4, to delete the words "and, thus," and insert the words "until it can be shown that the"; and on line 5, after the word "borders", add "remains with the state." The motion was seconded by Dr. Humphrey. Upon roll call vote of 3 yeas and 7 nos, the motion failed.

Mr. Bell then moved that on page 5, line 9, the word "continuous" be changed to "continuing" and on line 14, to delete the words "daily maintenance" and insert the words "normal surveillance". The motion was seconded by Jack Wilson and adopted by voice vote.

Mr. Wickliffe moved that on page 1, line 11, the word "premature" be deleted and the word "early" inserted therefor. The motion was seconded by Dr. Humphrey and adopted by voice vote.

Dr. Humphrey moved that BR 273 be prefiled with a companion bill with sponsorship by Representative Worthington in the House and Senator Rose in the Senate as amended: The motion was seconded by Dr. Spencer. Upon roll call vote, the motion was adopted unanimously.

The committee then took up two resolutions. The only difference in the resolutions was that 80 BR 271 mandates that a Special Advisory Committee on Nuclear Issues be appointed and 80 BR 422 mandates that an interim joint committee be assigned the specific task of oversight on all

matters pertaining to the nuclear industry and nuclear waste disposal during the 80-82 interim.

Mr. Bell expressed his concern that the committee should only deal with nuclear waste disposal, rather than all aspects of the nuclear issue, because of the many departments and responsibilities involved. He also stated that he felt the oversight of Maxey Flats could be addressed by an interim committee.

Representative Worthington stated that this committee could have broadened its scope into these areas, but didn't. He also said that several interim committees were passing resolutions to address different aspects, such as transportation and nuclear power plant sitings; and what could happen is that several small committees would be addressing these aspects individually, or a larger committee could be assigned to address all the nuclear issues and to report to the 1982 legislature.

Dr. Spencer also spoke in favor of having one committee deal with all the aspects of nuclear issues. He said it was time that we addressed all the aspects and began dealing with them.

Mr. Bell moved that on page 1, 2nd paragraph, line 4, of BR 271, insert the words "long term" between the words "its" and "safety", and that the words "in the long term" be deleted after the word "integrity". The motion was seconded by Dr. Spencer and adopted by voice vote.

Dr. Humphrey moved that on page 2, lines 7 and 8, to delete the words "from university faculties." The motion was seconded by Jack Wilson and adopted by voice vote.

Dr. Humphrey then moved that on page 3, line 8, the word "passive" be deleted. The motion was seconded by Dr. Spencer and adopted by voice vote.

Mr. Gerald moved that the committee prefile BR 271 as amended with Representative Worthington as sponsor. The motion was seconded by Dr. Spencer and adopted by voice vote.

Mr. Chuck Duncan, representing Safe Alternatives for Energy, then appeared before the committee to express the group's concerns regarding the problems at Maxey Flats. Mr. Duncan stated that the committee assumes that the problems are being solved at Maxey Flats, but, in fact, there are no solutions, and the best we can do is delay the seepage. He said that the citizens of the Commonwealth should be made aware that this is part of our environment and we have to deal with the consequences and that "low level" is a misnomer. He urged that measures be taken to assure that the situation at Maxey Flats does not occur again in the future.

Representative Worthington stated that copies of the draft committee report were in the folders and asked the members to review it and make any comments to the LRC staff.

Ms. Hyland stated that there would be a research memorandum published updating the Maxey Flats report from the last interim and that each member would receive a copy.

The last item of business was consideration of a resolution honoring Brian Kiernan for his work with the committee during his tenure at LRC. Mr. Wickliffe moved that the resolution be adopted; it was seconded by Dr. Spencer and unanimously adopted.

There being no further business, the meeting was adjourned at 5:40 p.m.

SENATE MEMBERS

Pat M. McCuiston
Assistant President Pro Tem

Tom Garrett
Majority Floor Leader

Eugene P. Stuart
Minority Floor Leader

A. D. "Danny" Yocom
Majority Caucus Chairman

Walter A. Baker
Minority Caucus Chairman

Kelsey E. Friend
Majority Whip

Clyde Middleton
Minority Whip

**LEGISLATIVE RESEARCH COMMISSION**

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Frankfort, Kentucky 40601

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Herman W. Rattliff
Minority Caucus Chairman

Dwight Wells
Majority Whip

Arthur L. Schmidt
Minority Whip

January 29, 1979

Mr. John Deutch
Interagency Review Group on
Nuclear Waste Management
Room 8137
20 Massachusetts Avenue, NW
Washington, DC 20545

Dear Mr. Deutch:

In a letter dated November 17, 1978, the Special Advisory Committee on Nuclear Waste Disposal of the Kentucky General Assembly forwarded to you a copy of their comments and endorsements on the October 1978 Draft Report of the Interagency Review Group on Nuclear Waste Management.

At a meeting on January 26, 1978 the Special Advisory Committee on Nuclear Waste Disposal reconsidered these comments and are now submitting to you a revision of these comments with additions that the committee believes helps to clarify their position. In these amended comments, new language is indicated by underlining.

Although the committee is aware that the official comment period is closed, these revisions are submitted as a clarification for the permanent record.

Sincerely,

Representative Pete Worthington
Co-Chairman

Senator John "Eck" Rose
Co-Chairman

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Enclosures

COMMENTS OF THE
SPECIAL ADVISORY COMMITTEE ON NUCLEAR WASTE DISPOSAL
OF THE KENTUCKY LEGISLATIVE RESEARCH COMMISSION
ON THE INTERAGENCY REVIEW GROUP REPORT ON NUCLEAR WASTE MANAGEMENT
(Draft - October, 1978)

1. Summary, p. vi Proposed Objectives

Excerpt from report:

Appropriate cost of storage and disposal of any waste generated in the private sector should be paid for by the generator and borne by the beneficiary; budgetary and cost considerations, while important, should not dominate the design of the program or system.

Comment:

The committee endorses the concept wholeheartedly that the cost of storage and disposal of waste should be paid by the generator and borne by the beneficiary. The exact opposite situation has occurred with the Maxey Flats Nuclear Waste Disposal Site. The site was closed prematurely because of ongoing water problems and the questions concerning the integrity of the site in the short and the long run. Approximately 99% of the waste disposed of at Maxey Flats was generated outside the Commonwealth and provided no benefit to the citizens of the Commonwealth. Now Kentuckians are facing the problems of financing remedial activities and perpetual care and maintenance of the Maxey Flats site. Provisions should be made to avoid such a situation in the future. Likewise, some provision should be made to assist states like Kentucky with existing sites (See Comment #4.)

2. Summary, p. xvii Public Participation

Excerpt from report:

Routinely update the status of scientific and technical knowledge on nuclear waste management and provide this information to the public at large in understandable terms.

Support private sector efforts to generate a greater degree of social and technical understanding and agreement on nuclear waste management issues.

Comment:

There is a need to provide information not only to the public at large but also to residents near existing sites as evidenced by the Maxey Flats Nuclear Waste Disposal Site in Fleming County, Kentucky. The provision to support private sector efforts to generate a greater degree of social and technical understanding might include financial assistance to states or educational television for targeting programs for localized application at existing sites such as Maxey Flats.

3. Summary, p. xviii Issues Specific to Waste Types:
Low Level Wastes

Excerpt from report:

The IRG further recommends that States be provided the option to retain management control of existing commercial LLW sites or to transfer such control to the Federal government.

Comment:

The committee wishes to go on record requesting further clarification of the options involved in federal takeover and endorsing the recommendation of the 1976 Special Advisory Committee on Nuclear Waste Disposal of the Kentucky General Assembly which states:

The committee considered four policy options ranging from total federal control to a continuation of the existing arrangement whereby the state regulates the site under an agreement with the Nuclear Regulatory Commission. Give the constraints and advantages of the options, the committee finds that "federal control over the disposal of low-level waste should be increased by requiring joint federal/state site approval, NRC licensing, federal ownership of the land and a federally-administered perpetual care program," in principle, provides the best alternative for the Commonwealth.

Increased federal involvement is desirable in order to share the financial burdens of monitoring costs, perpetual care and maintenance and overall protection of the health of the citizens of the Commonwealth. This option is recommended with the understanding that there would be federal ownership of the site, therefore federal perpetual care responsibility, but equally shared, joint federal/state regulation of the site. State monitoring and surveillance of the site will insure maintenance of radiation expertise in Kentucky's Department for Human Resources. This option offers the best arrangement to meet the needs of the Commonwealth and at the same time offers the highest degree of protection for the health and safety of its citizens.

It should be understood that the committee endorses this recommendation at this time only if under federal ownership or any federal/state arrangement the state retains the final authority for approving or disapproving the locating, opening, closing or reopening of a site or facility within its borders.

4. Summary, p. xxi, Legislative Requirements

Comment:

This committee sees a need for federal legislation to address some of the unique problems of existing low level sites which are in need of remedial care and long term financing assistance. Such legislation would appear to be consistent with the basic philosophy of the report as contained in these statements:

"The substantial existing inventory of civilian and military nuclear wastes must be managed in the safest possible way and must be subject to the same strict safety criteria applicable to newly generated wastes, despite pressures to be more lenient towards existing wastes." (Summary, p. iv)

"The problems associated with the disposal of wastes generated in the process must therefore be addressed by society as a whole." (Summary, p. xv)

"States should receive the technical and financial help from the Federal Government to help ensure the regulatory process is carried out fully when State licensing is involved." (Summary, p. xvii)

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**LEGISLATIVE RESEARCH COMMISSION**

State Capitol

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October 16, 1979

Mr. G. D. Calkins
Decommissioning Program Manager
Office of Standards Development
U. S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Calkins:

At the State Workshop on Decommissioning held in Columbia, South Carolina on September 11-14, you agreed to hold the record open to receive formal comments from the Special Advisory Committee on Nuclear Waste Disposal of the Kentucky General Assembly. The Committee is composed of legislators, state agency personnel, university experts and citizens. A list of committee members is enclosed.

The committee met on October 15, 1979 and approved the enclosed comments and directed that they be forwarded to you.

The committee is also of the mind that the Maxey Flats Nuclear Waste Disposal Site could provide a timely opportunity to demonstrate how an unsatisfactory situation for a low level site can be stabilized and decommissioned for long term care. A successful decommissioning of the Maxey Flats site would help restore some public credibility in nuclear technology and could also provide some realistic data to the Nuclear Regulatory Commission related to decommissioning.

The direction taken by the Commonwealth has been toward decommissioning of the Maxey Flats site; it very well may be the first nuclear facility of this type to be fully decommissioned. These sites serve a national need, 99.9% of the wastes at Maxey Flats came from outside the state. Unforeseen problems and mistakes were made at Maxey Flats because it was one of the first such commercial sites to be opened. It would seem to provide a prime opportunity for use as an

Mr. G. D. Calkins
Page Two
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"outdoor laboratory" to "test" theories about low level site decommissioning. It would be a prime demonstration project of federal-state partnership in solving nuclear waste disposal problems. ..

We would be very interested in hearing from you on the possibility of NRC financial assistance toward this end.

We appreciate the consideration you have given our committee and your willingness to accept our comments in the formal record.

Sincerely,

Representative Pete Worthington
Co-Chairman, Special Advisory
Committee on Nuclear Waste Disposal

cc: Sheldon A. Schwartz
Office of State Programs
Nuclear Regulatory Commission

Enclosures

PW:PH/bks

Comments by the Special Advisory Committee on
Nuclear Waste Disposal of the Kentucky General Assembly
on Draft NUREG/CR-0570
Summary of Technology, Safety and Costs of
Decommissioning a Reference Low Level Waste Burial Ground

Section 1.0 Decommissioning Alternatives

In light of events at the Maxey Flats low-level nuclear waste disposal site, we would have to question the extent to which this document reflects the cost and the complexity of stabilization and decommissioning of "real and contemporary facilities" (p.2). It is our belief that generally the study underestimates the difficulty and costs associated with finding the technology appropriate for stabilizing a specific site.

Section 3.0 Status of Regulatory Guidance for Decommissioning

This section refers to the fact that "When burial operations at a commercial site are completed and the license is terminated, the state government assumes responsibility for long-term care of the site" (p.4). We believe it should be pointed out that the responsibility for long-term care is still an open issue and there is room for further discussion as to state and federal responsibilities in this area given the fact that these sites provide a national service and not a primarily local or state one. It might also be pointed out that "responsibility" functions include many facets such as monitoring of a site and financing of a site should the perpetual care and maintenance fund prove inadequate, and can be approached with a variety of state-federal relationships.

Section. 4.0 Approaches to Financing Decommissioning

It should be pointed out that none of these alternatives provide for major unforeseen corrective actions which may have to be taken to put the site in a stable condition. Nor do they address the question of who pays for costs which might not be covered if the fund/bond, etc. turns out to be inadequate. There is also the need to include an inflation factor in determining the size of bonds, funds, etc. described in this section. In addition, no provision is made for facilities which currently are closed and have no means of financing decommissioning except through state general funds. To ignore such facilities does not leave the states with a feeling of being "partners" with the federal government in working to solve the dilemma of nuclear facility siting. States are given the impression that they may be left "holding the bag". We do not believe, since such facilities serve a national purpose,

that this is an acceptable or desirable arrangement or in the best public interest.

Section 6.0 Determination of Disposition Criteria for Public Use of a Decommissioned Burial Ground

Limiting the long-term care and maintenance fund to covering only 200 years after post closure, appears to be in conflict with the statement on p. 14 that "radionuclides that contribute to a dose in excess of 50 mrem have long radioactive half-lives" causing the potential maximum annual dose to remain above 50 mrem "for thousands of years". It is unreasonable to assume that monitoring to provide assurance of site stability should not continue while these long-lived radioisotopes are still plentiful. This "assumption" needs to be reconsidered and the economic impact revised accordingly.

Section 7.0 Environmental Surveillance and Records Maintenance

The frequency of sampling suggested in Table 7-1 may not be adequate. Water sampling at the Maxey Flats site are collected and analyzed every two weeks even though the site is in a "closed" mode.

Section 8.1 Site/Waste Stabilization

There is some doubt that the complex plan for the humid eastern site set forth in Table 8-1 will put a site in the condition such that "the need for active ongoing maintenance is eliminated and only passive surveillance and monitoring are required..." (p.5). We would consider sump pumps and treatment to be "active" maintenance, even though required only periodically.

Section 9.0 Decommissioning Costs

It is our experience that these cost projections are not adequate because of the following:

- a) they do not include the costs involved in determining what technology is suitable and necessary for a specific site;
- b) they deal only with a long term care period of 200 years;
- c) they do not consider costs associated with extensive corrective action that might be required; and
- d) they do not seem to provide a factor for inflation in the funding mechanisms.

Section 10.0 Occupational and Public Safety

The assumption made on p. 34 that "no airborne releases result from routine site/waste stabilization operations" would very likely not apply to the complex plan for the Eastern site should contaminated water from the sump pumps be disposed of by evaporation. Currently both Sheffield and the Maxey Flats nuclear waste disposal sites use evaporation as a disposal means for contaminated water.

Additional Comments on
"Questions for 1979 State Workshop Participants"

Although we will not respond to each question since several are addressed in our previous comments, we would like to make several additional statements.

2. Is the major goal of early rulemaking viable?

We question whether this is "early" rulemaking. The operating nuclear facilities online at the present time have no provisions for decommissioning, but will have to be decommissioned. Such provisions should be part of the application process. Rulemaking related to decommissioning is already long overdue.

7. Are the suggested financial assurance approaches satisfactory? How would you modify? Please explain fully.

The financial assurance approaches are not satisfactory because all of the costs have not been considered. Please refer to the committee comments in Section 9.0 "Decommissioning Costs".

10. Are the regulatory changes suggested adequate to assure safe decommissioning of nuclear facilities? Are there areas that would not be covered? Explain fully.

Safe decommissioning of closed facilities in need of extensive corrective action or with inadequate perpetual care and maintenance funds are not covered.

12. Should States provide certification of an applicant's financial plan as part of the NRC licensing process? Should the revised regulations for decommissioning apply to all operating facilities after a time certain? Please explain fully.

As long as states accept the responsibility for decommissioned sites, they should be involved in approving the acceptability of the operator's financial plan. Decommissioning regulations should definitely apply to all facilities as soon as possible or how else will their decommissioning be financed?

Additional Comments (Continued)

12. (Continued)

There is also a problem with the financing of decommissioning for closed facilities as we indicated in our comments on Section 4.0 of draft NUREG/CR-0570. It should be pointed out that none of the alternatives in the draft provide for major unforeseen corrective actions which may have to be taken to put the site in a stable condition. Nor do they address the question of who pays for costs which might not be covered if the fund/bond, etc. turns out to be inadequate. There is also the need to include an inflation factor in determining the size of bonds, funds, etc. described in this section. In addition, no provision is made for facilities which currently are closed and have no means of financing decommissioning except through state general funds. To ignore such facilities does not leave the states with a feeling of being "partners" with the federal government in working to solve the dilemma of nuclear facility siting. States are given the impression that they may be left "holding the bag". We do not believe, since such facilities serve a national purpose, that this is an acceptable or desirable arrangement or in the best public interest.

KENTUCKY LEGISLATIVE RESEARCH COMMISSION

1978-79 Interim

LRC Bill No. 164

October 17, 1979

The following bill was prefiled for the Special Advisory Committee on Nuclear Waste Disposal with a recommendation for passage by Representative Pete Worthington.

A CONCURRENT RESOLUTION directing the formation of a long term plan for stabilization and decommissioning of a nuclear waste disposal site and providing for legislative oversight.

WHEREAS, a nuclear waste disposal facility in Kentucky has shown evidence of subsurface migration of radioisotopes and serious hydrological problems creating doubts as to its long term safety and integrity; and

WHEREAS, some progress has been made in attempting to address the immediate water management problems on-site; and

WHEREAS, there is now a need to develop and implement a long range plan to permit the stabilization and to move toward permanent decommissioning of the site; and

WHEREAS, the Kentucky General Assembly commends the actions of the executive agencies to protect public health and is desirous of joining forces to involve the people of Kentucky in decisions concerning nuclear issues; and

WHEREAS, it is the belief of the General Assembly that nuclear issues are of such a serious, technical, and long term nature that the expertise available in the Commonwealth should be tapped and brought to bear on this topic;

NOW, THEREFORE,

Be it resolved by the House of Representatives of the
General Assembly of the Commonwealth of Kentucky, the
Senate concurring therein:

1 Section 1. That the Legislative Research Commission
2 be directed to appoint a Special Advisory Committee on
3 Nuclear Issues consisting of membership from both houses
4 of the legislature, which shall choose from among its
5 members a chairperson and vice-chairperson, by mutual
6 agreement. In addition, the Legislative Research Commis-
7 sion shall appoint to the committee members recognized as
8 experts in areas related to nuclear issues, representa-
9 tives from environmental groups, and lay members repre-
10 senting the general public, but in no case shall total
11 membership exceed fifteen (15) members.

12 Section 2. That the Special Advisory Committee
13 shall assume an oversight role on behalf of the Kentucky
14 General Assembly on all matters pertaining to the nuclear
15 industry and nuclear waste disposal during the 1980-82
16 interim. The Committee shall meet at least quarterly and
17 shall report its findings and recommendations to the
18 Legislative Research Commission and the 1982 General
19 Assembly no later than January 1, 1982.

20 Section 3. That the Department for Natural
21 Resources and Environmental Protection in consultation
22 with the Department for Human Resources move expedi-

1 tiously to develop and implement a long term plan for the
2 stabilization and eventual decommissioning of any nuclear
3 waste disposal site owned by the Commonwealth on the
4 effective date of this Act with the objective of leaving
5 the site in a condition such that the need for active
6 ongoing maintenance is eliminated and only surveillance
7 and monitoring are required.

8 Section 4. That the Department for Natural
9 Resources and Environmental Protection report to the Spe-
10 cial Advisory Committee on Nuclear Issues on the progress
11 of such long term plan and implementation of such plan no
12 less than two (2) times a year.

13 Section 5. It is estimated that the operation of
14 the Committee and the provision of staff services will
15 cost approximately \$20,000, such monies to be provided
16 from the regular budget of the Legislative Research Com-
17 mission.

KENTUCKY LEGISLATIVE RESEARCH COMMISSION

1978-79 Interim

LRC Bill No. 165

October 17, 1979

The following bill was prefiled for the Special Advisory Committee on Nuclear Waste Disposal with a recommendation for passage by Representative Pete Worthington.

1978-79 Interim

LRC Bill No. 178

October 25, 1979

The following bill was prefiled for the Special Advisory Committee on Nuclear Waste Disposal with a recommendation for passage by Senator John A. Rose.

AN ACT relating to radioactive waste.

Be it enacted by the General Assembly of the Commonwealth
of Kentucky:

1 SECTION 1. A NEW SECTION OF KRS CHAPTER 211 IS
2 CREATED TO READ AS FOLLOWS:

3 It is the finding of the General Assembly of the
4 Commonwealth of Kentucky that the original concept of
5 shallow-land nuclear burial sites has not been met in
6 Kentucky in that measurable amounts of radioactivity have
7 been released to the surrounding environment from an
8 existing nuclear waste facility. The mechanism for pro-
9 viding for the financing of perpetual care and mainte-
10 nance of such a site has proven to be inadequate and also
11 did not take into consideration early closing of the
12 site. The detection of radioactivity in a new unused
13 trench on such site provided unequivocal evidence that
14 migration of radioactive liquids can and did occur in a
15 subsurface manner. Current knowledge of the complex
16 geologic and hydrologic features of such site is insuffi-
17 cient to develop a model capable of predicting future
18 behavior of the site. It is the intent of the General
19 Assembly that because of these problems, the existing
20 site should remain closed unless solutions are found
21 which will assure site safety and integrity and remedy

1 all of the aforesaid problems. It is at this time in the
2 best interest of the public health and safety of the
3 citizens of the Commonwealth that the state maintain
4 ownership and, thus, ultimate decision-making authority
5 over nuclear waste sites located within its borders.

6 SECTION 2. A NEW SECTION OF KRS CHAPTER 211 IS
7 CREATED TO READ AS FOLLOWS:

8 (1) The governor, the secretary of the department
9 for human resources, the secretary of the department for
10 natural resources and environmental protection or any
11 other state agency shall not enter into a contract or an
12 agreement of any kind with the federal government relin-
13 quishing ownership of a low level nuclear waste disposal
14 site located in the Commonwealth without prior approval
15 of a majority of the members of the Kentucky house of
16 representatives and a majority of the members of the Ken-
17 tucky senate.

18 (2) It shall be the policy of the Commonwealth to
19 retain final authority for approving or disapproving the
20 locating, opening, closing, or reopening of a nuclear
21 waste disposal site or facility within its borders.

22 (3) The governor or appropriate state agencies may
23 enter into contracts and agreements with the federal
24 government relating to nuclear waste disposal sites
25 located in the Commonwealth on the effective date of this
26 Act that do not violate the provisions of subsections (1)

1 and (2) of this section.

2 SECTION 3. A NEW SECTION OF KRS CHAPTER 211 IS
3 CREATED TO READ AS FOLLOWS:

4 (1) Any nuclear waste disposal facility, licensed
5 and regulated by the Kentucky department for human
6 resources, which is closed either because there is doubt
7 as to the public safety of the site, the integrity of the
8 site, the economic feasibility of financing perpetual
9 care and maintenance and decommissioning of the site, or
10 compliance with departmental regulations, shall not
11 re-open without:

12 (a) A finding of fact by the secretary of the
13 department for human resources and the secretary of the
14 department for natural resources and environmental pro-
15 tection that all reasons for site closure have been
16 addressed and resolved such that there is no longer any
17 doubt as to the public safety or integrity of the site or
18 the ability to adequately finance the perpetual care and
19 maintenance and decommissioning of the site or the
20 compliance of the site with departmental regulations; and

21 (b) A public hearing and the taking of public
22 comment on such findings of fact; and

23 (c) Approval of a majority of the members of the
24 house of representatives and a majority of the members of
25 the senate; and

26 (d) Approval of the governor.

1 (2) The department for human resources shall be
2 responsible for organizing the public hearings, which
3 shall be held in the county in which the nuclear waste
4 disposal facility is located and shall be at a time and
5 place convenient for public participation. Adequate
6 notification shall be given to the public of the inten-
7 tion to re-open a nuclear waste disposal site and the
8 department shall make available to the public the data
9 and information upon which its decision to recommend
10 approval of re-opening of the site is based.

11 SECTION 4. A NEW SECTION OF KRS CHAPTER 211 IS
12 CREATED TO READ AS FOLLOWS:

13 The department for natural resources and environ-
14 mental protection shall proceed toward the stabilization
15 and decommissioning of any nuclear waste facility owned
16 by the Commonwealth on the effective date of this Act as
17 expeditiously as is reasonably possible in order to place
18 the facility in such a condition that active ongoing
19 maintenance is eliminated and only surveillance and moni-
20 toring are required.

21 SECTION 5. A NEW SECTION OF KRS CHAPTER 45 IS
22 CREATED TO READ AS FOLLOWS:

23 (1) Appropriations for the capital construction and
24 for the operating budget of a nuclear waste disposal site
25 owned by the Commonwealth shall be set forth as a major
26 program cost in the executive budget document for the

1 department for natural resources and environmental pro-
2 tection.

3 (2) Appropriations for the regulating and monitor-
4 ing of a nuclear waste disposal site owned by the Common-
5 wealth shall be set forth as a major program cost in the
6 executive budget document for the department for human
7 resources. Monitoring and water sampling and analyses
8 shall be maintained and budgeted for at a level to pro-
9 vide frequent and continuing evidence of the safety of
10 the site.

11 (3) Operating costs associated with the daily
12 maintenance of the site in excess of allocations budgeted
13 to the department for natural resources and environmental
14 protection, regulating and monitoring costs associated
15 with normal surveillance of the site in excess of alloca-
16 tions budgeted to the department for human resources and
17 costs associated with an emergency at the site so
18 declared by the governor shall be deemed necessary
19 governmental expenses.

20 (4) In the event a request for funds is made pur-
21 suant to subsection (3) of this section, a copy of such
22 request and the justification for additional funds shall
23 be forwarded to the office of the legislative research
24 commission at the time the request is made. The legis-
25 lative research commission or its designated subcommittee
26 may request further explanation of the need for addi-

1 tional funds.

2 (5) Subsections (3) and (4) of this section shall
3 apply only to sites located in the Commonwealth prior to
4 the effective date of this Act.

