

M I N U T E S

SPECIAL COMMITTEE ON ENERGY AND NATURAL RESOURCES

November 11, 1975

Members Present

Senator Vincent Moore, Chairman
Representative Ansel Tobias, Vice-Chairman
Senator Dan Bromley
Senator Don Christy
Senator Leslie Droge
Representative Kenneth Althaus
Representative Gus Bogina
Representative Theo Cribbs
Representative Donald Mainey
Representative W. Edgar Moore
Representative Irving Niles
Representative Rip Reeves
Representative Fred Rosenau

Staff Present

Ramon Powers, Legislative Research Department
Emalene Correll, Legislative Research Department
Don Hayward, Revisor of Statutes Office

Conferees

Richard B. Hayter, Kansas State University
Doug Wallace, Latimer, Miller, Sommers and Wallace, P.A.
Hassan H. Jabara, Law/Kingdom, P.A.
Frank Applegate, Division of Architectural Services

Morning Session

Chairman Moore called the meeting to order and the staff advised the Committee the minutes from the last meeting were being typed and would be mailed to them for approval.

Proposal No. 16 - Energy
Study Report (Attachment 1)

Senator Christy moved to approve the final report on this proposal. Representative Tobias seconded this motion. During ensuing Committee discussion, it was suggested that the word "considered" in line 5 of the last paragraph of page 4 be inserted in lieu of the word "supports". It was also suggested that the paragraph end after the second sentence. Senator Christy made a motion to change the word "supports" in line 5 on page 4 to "considered" and accept the report as amended. Representative Tobias agreed to this substitute motion. The motion did not carry.

Senator Bromley moved to adopt the report in its present form. After brief discussion, Senator Bromley withdrew the motion. Representative Reeves moved to change the last sentence to read, "The Committee is not recommending legislation at this time." Senator Christy seconded this motion which was approved by the Committee.

Staff directed the attention of the Committee to the statement at the top of page 4 regarding the review of rules and regulations by the legislature. Staff indicated that if the Committee understood at the time this was discussed that the legislature could review the energy office rules and regulations in 1976 this would not be the case. Staff advised the Committee that it will actually be January 1977 before the legislature has an opportunity for review of the rules and regulations.

Upon a motion by Representative Tobias and second by Representative Bogina, the Committee approved the final report on Proposal No. 16 as amended. Approval of the report was understood to include any editing which the staff will do.

Proposal No. 15 - Soil and
Sediment Control Report
(Attachment 2)

After brief discussion, a member stated he would like to include in the report a statement saying that "the Committee recommends additional public hearings be held in various areas of the state similar to the ones held by this Committee before any legislation is proposed in the future." Senator Bromley moved for inclusion of that sentence in the report and Senator Christy seconded the motion. A vote was taken on the motion and the motion carried.

Chairman Moore reviewed the timetable appended to the nonpoint source pollution management draft which had been distributed to the members. (See Attachment 3).

Representative Niles moved to insert language in the last paragraph on page 10 of the report as suggested by staff. Senator Droge seconded the motion, which was approved by the Committee.

Senator Droge moved to change language in the last paragraph by inserting the following sentence, "In order to accomplish expansion of soil conservation programs, the Committee urges the administration and the Congress to increase the federal funding for cost sharing in conservation practices and to maintain funding at a stable level which will enable farmers and contractors to carry out conservation planning on an on-going basis." This was seconded by Senator Christy and approved by the Committee.

Discussion was held relating to the section on hearings. Upon a motion by Senator Bromley and seconded by Representative Reeves, the Committee approved striking the first paragraph of the hearing section on page 4 of the report. Staff was directed to add a new section to the report explaining the 1972 amendments to the water pollution control act as they relate to nonpoint source pollution and to explain the 303(b) planning which is being carried out by the Department of Health and Environment pursuant to the federal act. The third full paragraph on page 4 is to be deleted and the side heading "Hearings" is to be moved to the next paragraph.

The Committee's attention was then directed to page 9, item 5, and upon a motion by Representative Bogina and seconded by Senator Bromley, the Committee approved reversing the numbering of items 5 and 6 and changing the present item number 5 to read as follows: "In lieu of mandatory compliance, a complaint procedure be provided as the basis for action against persons in violation of the proposed law."

The Committee also agreed to change the wording in the final sentence on page 9. It should read as follows: "If the six changes noted above were included in a bill, a minority would favor passage of such legislation at all meeting places except one."

Representative Tobias moved to accept the final report on proposal 15 as amended. Representative Bogina seconded this motion which was approved by the Committee.

Proposal No. 14 - Groundwater Use
Report (Attachment 4)

Staff advised that pages 1 through 7 of this report contained the new section and had not previously been reviewed by the Committee.

Also, distributed for Committee review, were two new tables prepared for insertion on pages nine and ten of the report as the Committee had directed at the October meeting. (Attachment 5). Chairman Moore gave the members a short time to read the new portion of the report before discussion was held.

The Committee instructed staff to move the heading "Background" down one paragraph. It was the consensus of the Committee that the two new tables which had been submitted by the staff were suitable for inclusion in the final report.

Chairman Moore referred to page 6 and asked if anyone felt there should be any recommendation for legislation.

After considerable discussion Representative Cribbs moved and Senator Christy seconded a motion that the Committee approve the final report of Proposal No. 14, as amended and subject to editing.

Proposal No. 62 - Insulation and
Energy Consumption (Attachment 6)

Chairman Moore advised the members and audience that the proposed bill draft before them was the fourth revision which had been made. Chairman Moore introduced Richard B. Hayter of Kansas State University, Mr. Doug Wallace a professional engineer, Mr. Hassan Jabara, a professional architect, and Frank Applegate of the state architect's office. It was explained that these individuals had worked as a subcommittee in preparing the bill draft before the Committee (Attachment 7). Professor Hayter made a presentation in which the insulation standards incorporated in the bill were explained.

Senator Bromley moved to strike the words "unless the context requires a different meaning" in Section 2 beginning with line 2. Representative Rosenau seconded the motion. A show of hands vote was taken with the motion carrying five to three.

Upon a motion by Representative Bogina, seconded by Senator Droge, the Committee struck the words "output capacity" in line 11 of Section 2 and inserted in lieu thereof "connected load", and struck the number "one" in the same line and changed it to "three". Included in this motion was the deletion of the words

"or cooled" in line 7 and "or cooling" in line 10 of Section 2, the words "or cooled" in line 2 of Section 3 and "or cooled" in Section 4. The motion carried.

Chairman Moore advised the Committee there were two subsections, b and c, in K.S.A. 6-103 which needed to be deleted if this bill is enacted. Staff questioned whether it would be possible to amend K.S.A. 6-103 without the drafting of a second bill. Staff was directed to check on this. Representative Tobias moved to recommend this bill for passage, as amended with staff to determine the need for a second bill. Representative Niles seconded this motion which was approved by the Committee. Senator Bromley and Representative Cribbs voted in opposition. It was requested by the members voting in opposition that the Committee report indicate they had so voted.

Upon a motion by Representative Mainey and seconded by Representative Bogina, the Committee approved the final report.

It was agreed that the minutes of the last two meetings would be sent out to the Committee with a deadline date for comments or revisions by the members. After the expiration of the deadline the minutes will be considered approved or approved as amended and filed as final minutes.

Following approval of the report on Proposal No. 62, the Committee adjourned its final meeting of the iterim.

Prepared by Ramon Powers

Approved by Committee:

Dec. 15, 1975
(Date)

Attachment
9

COMMITTEE REPORT

TO: Legislative Coordinating Council
FROM: Special Committee on Energy and Natural Resources
SUBJECT: Proposal No. 16 - Energy Study

Proposal No. 16 directed the Special Committee on Energy and Natural Resources to: (1) study tax or other incentives to encourage decreased energy consumption, (2) study the relationship between lessees or operators of service stations and petroleum marketing companies, and (3) survey implementation of 1975 S.B. 13 which created a state energy office and provided for certain energy emergency powers.

Study of Tax or Other Incentives
to Encourage Decreased Energy
Consumption

The staff was directed to inquire of other states about legislation enacted to provide tax or other incentives to encourage a reduction in energy consumption. Copies of legislation and other materials compiled by the staff are available in the Legislative Research Department.

With the additional charge to the Committee to study insulation and energy consumption standards under Proposal No. 62, the Committee directed its efforts toward that end. They also recommended that the Special Committee on Assessment and Taxation develop legislation on tax incentives for development of energy resources under Proposal No. 67.

The Relationship Between Lessees
and Operators of Service Stations
and Petroleum Marketing Companies

The gasoline shortage has created problems for independent retail motor fuel station operators who have faced cancellations or refusals to renew contracts by certain major refiners and suppliers of gasoline and other fuels. The fear that the elimination of independent marketers of gasoline and other fuels would reduce competitive pricing and marketing and promote price-fixing by major suppliers led some independent service station dealers to request legislation to alleviate this problem.

In some states legislation was proposed or passed to deal with two major issues. Several states enacted legislation to prohibit the cancellation or termination of contracts by major oil companies. Such legislation assures those who have regular contracts with major oil companies that their contracts cannot be cancelled or terminated without "good cause". In a few states, "good cause" is defined in the statute. The motor fuel dealers are also given the right to bring an action in the courts against the distributor or supplier for unjustly cancelling, terminating, or failing to renew a contract. Several states have proposed legislation to prohibit major oil companies from opening or operating retail gasoline outlets in the particular state.

Under Proposal No. 16 the Committee considered 1975 S.B. 84. S.B. 84 would prohibit the operation of any service station in the state with personnel employed by a producer, refiner or wholesaler of petroleum products or his agent. Under the provisions of S.B. 84, all equipment rental charges would have to be uniformly applied to all service station operators in the state.

In a shortage situation, the Governor could require producers, refiners, and wholesalers to apportion fuels to retail service stations uniformly. Finally, service station dealers could bring an action in the district court to enjoin any producer, refiner or wholesaler from violating provisions of the act.

A legislator, service station operators, representatives of the Mid-America Gasoline Dealers Association, Inc., the Kansas Oil Marketers Association, and the Farmway Co-op presented testimony on S.B. 84. In testimony, it was revealed that S.B. 84 was not a "dealers day in court" bill, and it was alleged that it contained provisions of questionable constitutionality.

The Committee recommends that 1975 S.B. 84 not be enacted by the Legislature. The Committee believes that a "day in court" bill for service station operators might be beneficial, but concluded S.B. 84 does not accomplish this end.

Implementation of 1975 S.B. 13

1975 S.B. 13, K.S.A. 1975 Supp. 74-6801 et seq., created a Kansas Energy Office attached to the Governor's office. An Advisory Council on Energy, appointed by the Governor and serving at his pleasure, was also authorized by S.B. 13. The bill provided for the declaration of an energy emergency by the Governor with the approval of six members of the Finance Council and for the imposing of energy priorities in the event of such emergency.

Mr. Larmar Weaver, who was appointed Director of the State Energy Office, September 1, 1975, appeared before the Committee to review the charge to and activities of the Energy Office. Pursuant to the requirements of the 1975 legislation, emergency

rules and regulations for an energy emergency were written, submitted and approved by the Attorney General. These rules and regulations will have to be refiled to be effective May 1, 1976, and will be subject to review by the 1977 Legislature. Mr. Weaver reviewed the temporary rules and regulations with the Committee.

The Committee is concerned that the priorities for allocation listed in the emergency rules and regulations are patterned on the Federal Power Commission's rules and regulations on curtailment priorities for natural gas. The members concluded that the priorities adopted should be reviewed critically in light of their application to the emergency allocation or curtailment of all energy resources.

The Committee also considered the issue of the State Energy Office's authority over intrastate natural gas pipelines in the event of an emergency. Testimony on this subject was received from Mr. Weaver and staff of the Kansas Corporation Commission. ~~The~~ ^{Committee} supports the need for greater mobility and availability of intrastate gas to communities in Kansas. It was not considered advisable to recommend legislation which would make intrastate lines common carriers during normal periods, due to constitutional problems.

Respectfully submitted,

Date

Senator Vincent E Moore, Chairman
Special Committee on Energy and
Natural Resources

Attachment 2
app as amend

COMMITTEE REPORT

TO: Legislative Coordinating Council
FROM: Special Committee on Energy and Natural Resources
SUBJECT: Proposal No. 15 - Soil and Sediment Control

Proposal No. 15 directed the Special Committee on Energy and Natural Resources to conduct hearings in the fall of 1975 in various places in the state to hear discussion and recommendations for amendments ^{to} /or revision of S.B. 12.

Background

The 1973 Special Committee on Water Resources recommended enactment of legislation to authorize the development, implementation, and enforcement of soil and sediment control standards within the framework of the existing state conservation agency and conservation districts. No draft legislation was prepared pending the report and recommendations of a special task force, appointed by the Governor.

The task force was the outgrowth of a 1973 statewide conference on sediment control. It was composed of 33 members representing a broad cross-section of interested local, state and federal agencies and organizations. That task force studied a Model State Act for Soil Erosion and Sediment Control included in Vol. XXXII of Suggested State Legislation published by the Council of State Governments. In January, 1974, the task force presented its report which included a draft bill based on the model state act.

The 1974 Special Committee on Conservation and Natural Resources reviewed the work of the 1973 interim study on sediment control and the task force report. It also heard testimony from the state conservationist, the Soil Conservation Service, representatives of the Department of Health and Environment and other conferees interested in the subject. The 1974 Special Committee on Conservation and Natural Resources prepared S.B. 12 for introduction in the 1975 Legislative Session.

That bill draft was substantially the legislation recommended by the task force. The 1974 Special Committee also recommended "that the appropriate committees of the legislature hold hearings on the bill during the 1975 Session and that the Extension Service, State Conservation Committee, local conservation districts, and other interested organizations and groups encourage broad dissemination and discussion of the bill prior to the 1976 Legislature in order that passage of legislation which meets the needs of Kansas can be effected by the 1976 Legislature."

Overview

As noted above, the 1975 Special Committee on Energy and Natural Resources was directed to conduct hearings on S.B. 12. The background of S.B. 12 was presented to the Committee by staff. Representatives from the State Conservation Commission, the Extension Service of Kansas State University, and the Division of Health and Environment presented testimony on the conservation and water quality aspects of the bill. In preparation for their tour of the state, the Committee was shown three sites in Shawnee County illustrative of soil disturbing activities on urban and rural sites which revealed soil loss or potential soil loss. This

preparatory tour was provided by the Shawnee County Extension Service.

Between September 22 and 25, the Committee conducted six hearings in six different Kansas Communities*:

September 22nd in Garden City and Hays;

September 23rd in Holton and Olathe;

September 24th in Chanute; and

September 25th in Wichita.

The subject of the hearings, S.B. 12, is a bill which would provide for the establishment of a statewide, comprehensive soil and sediment control program adapted to different types of soil conditions and land use. Primary responsibility for administration of the regulatory program would be placed with the 105 conservation districts of the state.

The proposed act would require the State Conservation Commission to adopt statewide guidelines, including conservation standards, for the control of erosion and sediment resulting from land disturbing activities. The individual conservation districts would then be required to establish and adopt soil and sediment control programs and locally developed district standards consistent with the state guidelines.

Most land disturbing activities would be prohibited under the proposed act unless they were conducted in accordance

* Names of those persons who registered at each meeting are on file in the Research Department. For those who had prepared written statements, those statements for each meeting place are also on file in the Research Department

with soil erosion and sediment control plans approved by the district supervisors or, in some instances, the State Conservation Commission. Persons implementing or maintaining an approved farm or ranch conservation plan would be deemed in conformance with the requirements of the act. Agricultural land owners or operators would not be considered to be in violation of the act for failing to implement conservation treatment plans if a recommended level of state or federal cost sharing were not available.

Failure to submit plans or to follow an approved plan could result in a fine of up to \$500 or one year's imprisonment with each continuing day a separate violation.

Hearings

Why is S.B. 12 necessary, was a question often asked. It was explained that the 1972 amendments to the Federal Water Pollution Control Act (PL 92-500) set goals for controlling sediment. Although PL 92-500 does not contain penalty provisions or authorize federal enforcement, it was generally agreed that a state plan was required and S.B. 12 would be partial response to that requirement. The general need to improve conservation practices in order to preserve land for future generations ^{also} was given as justification for such a law.

Based upon suggestions and comments from conservation districts, the Kansas Association of Conservation Districts' Board of Directors prepared a statement of policy for erosion and sediment control. Members of the Association were present at most meetings and presented their policy recommendations which are as follows:

- "1. State legislation on erosion-sedimentation be enacted during 1976 with a later, but reasonable, district enforcement date. The proposed bill will:
 - a. Include all land under provisions of sediment abatement law - rural, urban, private and public.
 - b. Give leadership and control to Conservation District Boards.
 - c. Hold landowners responsible for sediment but provide that persons having and following approved conservation plans are in compliance with law.
 - d. Recommend public cost sharing on permanent land treatment practices (as determined by districts) at levels of 75 percent of actual costs.
 - e. Incorporate a local appeal procedure to settle disagreements and to modify plans.
 - f. Assign Kansas Conservation Commission leadership for the erosion-sediment abatement program at state level.
 - g. Resolve that sedimentation caused by 'acts of nature' (floods, downpours, long period of draught) are the responsibility of all citizens.
 - h. Provide for enforcement, including penalties.

- "2. Continuation of a voluntary conservation program at district level for a reasonable length of time to permit individuals to get conservation plans and practices established before being faced with complaints or penalties for excess soil loss. During the time KACD would:
 - a. Give strong educational emphasis for managing land to reduce erosion and sedimentation.
 - b. Stress importance of updating farm conservation plans, and making progress toward completion.
 - c. Encourage application of conservation techniques on construction sites and road grading projects.
 - d. Seek long-term contracts (like Great Plains Program and Long-Term Agreements) in getting orderly conservation practices on agricultural lands.

"3. Revision of the National Water Quality Law goals. Two features need to be changed:

- a. Zero discharge of pollutants from nonpoint sources into navigable waters of the United States should be extended to a more reasonable rate.
- b. Timetable for bringing nonpoint pollution under control by 1985 is unrealistic. A more gradual approach is needed."

Although no one in attendance at the various meetings spoke for adoption of S.B. 12 in its present form, conferees representing conservation districts recommended S.B. 12 be adopted with amendments.

At the hearings questions were raised concerning the appeal period after a violation is alleged by the local district. It was argued that the appeal period should be extended from 15 to 30 days to allow adequate time for making an appeal during peak work periods such as harvest. Also, S.B. 12 presently contains no exemption for natural disasters. Various conferees expressed the view that individual farmers should not be held liable for damage resulting from soil erosion which occurred as a result of a natural disaster. It was also recommended that a formula for financial assistance be included in the law. (A general consensus was that 75 percent federal or state cost-sharing would be needed.) Local control was an essential ingredient for those supporting an amended version of S.B. 12. In fact, some urged that any control by the State Conservation Commission be eliminated. Some conferees indicated that standards for soil erosion should be set forth in the law and should include a minimum discharge rate. One recommendation was that any farmer actively engaged in an erosion control program be considered in compliance with the law, i.e., farm

plans should not be required of all farms. As for violations, it was suggested that a complaint be required (as in the Iowa law and under the wind erosion statutes in Kansas) to be filed against the person whose land is subject to erosion.

A more flexible and realistic time-table for implementation of any legislation would be necessary, many argued. It is believed that the shortage of conservation contractors would create problems in complying with the effective dates in S.B. 12.

It was revealed that the Mid-America Regional Council is involved in coordinating an effort to develop a "Model Erosion and Sediment Control Ordinance" for cities in the metropolitan Kansas City area.

"The 'Model Ordinance' would require that an erosion and sediment control plan be submitted and approved before a building permit would be issued for development within a city. The preliminary draft excludes agricultural land and developments of less than five acres."

Intentions are to develop a workable ordinance that the Mid-America Regional Council can endorse and recommend to units of government within the Metropolitan Kansas City Area. The Committee working on this new ordinance requested that the Special Committee delay consideration of S.B. 12 until the ordinance is available.

Opposition to S.B. 12 surfaced at all of the meetings but the intensity of the opposition varied at each meeting. A substantial amount of the opposition to S.B. 12 was from persons who wanted less government meddling in their lives. They characterized such legislation as providing "Big Brother" programs in Kansas. Many argued that the state should be trying to get the federal government to fund existing SCS programs adequately rather than passing state legislation. Others opposed the bill because

it imposed additional regulations and costs and would require more time to implement conservation practices than is required under present conservation programs.

It was pointed out that provisions in S.B. 12 as they relate to rural areas are explicit, while provisions for urban areas are nebulous. Concern was expressed over the regulatory relationship between incorporated areas, fringe areas and rural areas. It was anticipated that the fractionalization of governmental responsibility would occur under the bill as presently written.

Representatives of home builders, argued that the requirement of the issuance of permits for grading and other land disturbing activities would have a detrimental effect on real estate development. Representatives of the construction industry insisted that S.B. 12 is discriminatory in that it provides that farming activity will not be in violation if financial assistance is not available, however, no such exemption is provided for any other industry. They believe the time required in obtaining the approval of a plan before obtaining a permit would further delay building activity.

Various conferees representing conservation districts presented the Committee with surveys of the opinions of farmers on conservation. These surveys were taken after the education meetings conducted by the Extension Division of Kansas State University. The surveys show that a majority of those polled supported a national law requiring states to clean-up the air and water. (Copies of the results of surveys which were presented at each of the meetings are on file in the Research Department.)

At the conclusion of each of the meetings the various changes desired in S.B. 12 on which there was consensus were summarized as noted below:

1. A provision should be added whereby the landowner would not be considered out of compliance for erosion resulting from natural disasters,
2. A provision for hardship cases should be added to handle situations where landowners are not able to pay their share of the cost for necessary conservation work,
3. A reduction in the penalty provisions should be provided,
4. A 75 percent cost sharing provision should be added for conservation projects on agricultural land so as to assure a prescribed level of cost-sharing

to landowners who would be bound by the

law, *In lieu of a mandatory compliance provision a substitution*

5. Addition of ~~a~~ *complaint* procedure *as the basis for* action against persons in violation of the *law*, and
6. Extension of the appeal period from 15 to 30 days.

A poll of those in attendance was also taken at each meeting. The polls indicated that no one favored S.B. 12 in its present form. If the six changes noted above were included in a bill, a minority would favor passage of such legislation at *all* certain meeting places and ~~a majority would favor such legislation at~~ *except one* other meeting places.

Conclusions and Recommendations

The Special Committee on Energy and Natural Resources voted to recommend that no action be taken on S.B. 12 at this time. They ^{Committee} do recommend that if legislation similar to S.B. 12 is considered in the future, amendments such as those suggested by persons who presented testimony before ^{them} them at the various hearings be considered.

The Committee wishes to go on record as urging expansion of the ~~present~~ ^{federally assisted} voluntary program for soil erosion and sediment control and an expanded ^{state} education program relating to the benefits of soil erosion and sediment control practices.

Respectfully submitted,

Date

Senator Vincent E. Moore, Chairman
Special Committee on Energy and
Natural Resources

NONPOINT SOURCE POLLUTION MANAGEMENT

Introduction.

EPA is committed to the management of both point and nonpoint sources of pollution. It is already apparent in many areas that management of nonpoint sources is necessary to meet the water quality goals of P.L. 92-500. Adequate authority exists under sections 208, 209, 303(e) and 313 of P.L. 92-500 for EPA to initiate a program in conjunction with the States to manage nonpoint sources. Nonpoint sources are considered to be those sources, either individual or geographically aggregate, which have not been included within the regulatory requirements of the permit program.

The primary responsibility for nonpoint source management rests with the States. Establishment and implementation of nonpoint source management programs will be a part of the areawide planning process in designated 208 areas as well as a part of the State water quality management responsibilities in non-designated areas. A recent Federal district court decision has held that States must act in non-designated areas in the same manner as the designated planning agencies.

EPA's responsibility in the nonpoint source management effort will be to provide guidance to the States for planning and implementation of nonpoint source management programs in order that the 1983 water quality goals of the Act may be reached. It will also be EPA responsibility to review and approve the management plans which the State or designated agency submits. Revised State water quality management regulations (40 CFR, Parts 130-131) were published in July, 1975. These will be issued in final form during FY 76. The proposed regulations require the States that have not already done so to begin planning for the establishment of regulatory programs for nonpoint source management. Guidelines based on these regulations will be issued during FY76.

The State's nonpoint source planning and management (from initial assessment to implementation of regulatory programs) will be carried out as an element of the State water quality management process which is a combination of the planning and implementation efforts required under sections 303(e) and 208(b) (2) (F)-(K) of P.L. 92-500. As part of the State water quality management process, States will be required to assess the magnitude and extent of their nonpoint source problems. Each State will also be required to develop needed NPS regulatory programs as knowledge, legal authority, and resources permit. It is recognized that some States are already far along in managing nonpoint sources. EPA encourages such States to continue to expand their programs.

Some sources which have in the past been considered to be non-point sources must be included in the Federal State permit program, in accordance with another Federal district court decision. EPA is developing its strategy for these sources.

An Approach to Management of Nonpoint Sources.

EPA's guidance to the States and local designated agencies will strongly emphasize the value of preventive approaches to NPS management. Due to the difficulties and diseconomies involved in controlling nonpoint sources "after-the-fact" the most feasible means to deal with nonpoint source problems usually involves application of land and resource management practices which prevent the generation and run-off of pollutants to the aquatic environment. Many of these practices are already in use. Others are in the process of being developed by State, EPA, and other Federal agency research and field projects.

EPA will encourage States and designated agencies to institute "Best Management Practices." The term "Best Management Practice" refers to a practice or combination of practices that is determined by a State after problem assessment, examination of alternatives, and appropriate public participation to be practicable and most effective in preventing or reducing the amount of pollution generated by diffuse sources to a level compatible with water quality goals. According to this approach, each State selects its own set of Best Management Practices that will be tailored to meet the specific problems and environmental conditions within that State.

Best Management Practices (BMP's) are to be determined with reference to the physical characteristics of the site (e.g., soil, climate, rainfall, slope, vegetative cover, etc.), the kind of activity generating the pollution (e.g., agriculture, silviculture, construction, etc.) as well as the water quality needs of the basin or segment. A BMP for one source and type may not be appropriate in a similar situation. Therefore, a BMP should not be applied in an indiscriminate fashion across a State, but should be commensurate with the specific activity and the site. For instance, BMP's should reflect differences in the key variables of climate, soil, slope, vegetative cover, and type of activity. If one or more of the variables changes while the others remain constant, a different BMP may be necessary. For a State with a wide range of temperatures, rainfall, altitudes, soils and vegetation there will be a need for a comparable range of BMP's to apply. A State with fairly uniform physiographic and climatic characteristics will have need for fewer variations in its BMP's. There may be some activities such as road-building and construction in urban or developed areas that will not require a variety of BMP's. Some States may choose to establish a State-wide uniform set of practices for such activities.

States are encouraged to consider the following general approach to establishing Best Management Practices:

- In terms of the physical conditions and activities influencing pollution generation, the State establishes categories and subcategories of nonpoint sources within the State.
- The BMP's established by the State would apply only to significant nonpoint sources, with the State defining what constitutes a significant nonpoint source and including as a minimum those nonpoint sources causing violation of water quality standards.
- Best Management Practices (BMP) are defined for each NPS category and subcategory. This approach allows each State to define its BMP for each NPS category so that it is suited to the specific conditions within that State. Accordingly, a State's definition of BMP would have two parts: a description of the management practice and a description of the physical situations within that State where that management practice is applicable.
- In defining BMP for a particular NPS category or subcategory, the State should distinguish between existing and new nonpoint source pollution-generating activities. For most new sources, the State often has more options for highly effective management measures and these more effective management practices should be considered in the selection of BMP's for new sources.
- It is important that the State encourage public participation in the establishment of definitions of significant nonpoint sources and definition of BMP's.
- Periodically the State will reassess the adequacy of its Best Management Practices to meet water quality goals. If found to be inadequate, steps should be taken to revise BMP's to achieve a higher degree of control.

Accomplishment of Nonpoint Source Management Goals.

While the basic authority and responsibility for nonpoint source planning and management rests with the States, the State program should be viewed as a cooperative effort between the State (and State-designated 208 agencies) and other State and Federal agencies.

Parallel nonpoint source management efforts will be undertaken in each State within designated 208 areas (unless the State has pre-empted NPS authority there) and the nondesignated portions of the State. Coordination among those agencies responsible for planning and implementation should minimize duplication of effort and achieve consistency throughout the State.

The basic elements of the nonpoint source planning and management process in the above areas will generally be the following:

- Assessment -- In States where little or no evaluation of nonpoint source problems has been accomplished, an initial assessment of the nature and extent of nonpoint sources carried out through the ongoing State water quality management process will be a necessary first step. States that have already completed this step and have begun to implement an NPS program will want to periodically re-assess the nature of existing nonpoint sources and monitor to determine the success of control programs. States will propose planning and ultimately management programs through their existing State water quality management process and section 106 program strategy.
- Prioritization.--Once a problem assessment has been completed, and NPS categories and subcategories have been established, priorities should be set among the NPS categories. It is expected that priorities will vary considerably from State to State depending on the nature of the nonpoint source problems, the progress individual States may have already achieved in certain areas, and available resources. A State may choose to deal with one category at a time or several simultaneously. In any case, the State should set highest priority on those categories where most water quality improvement can be accomplished immediately and select to do those first, adding categories as rapidly as resources permit.
- Inventory of significant sources.--Once priorities have been established the State should draft the definition of a significant nonpoint source for those NPS categories receiving consideration and proceed to develop inventories of all significant sources within those categories.
- Establishment of BMP's.--The State then defines its own BMP's for the selected NPS categories, and develops regulatory programs to implement the BMP's. Where necessary, a State will define its BMP's and BMP compliance schedules through new legislation and accom-

panying schedules.

- Coordination and Implementation.--In the planning and implementation of a nonpoint source management program whether in designated or nondesignated areas, existing State, local, and Federal institutions may be utilized to monitor streams and to provide technical assistance in the field. In those cases in which a State delegates actual planning, implementation or enforcement responsibility to other State or local agencies, the State will be responsible for the effectiveness and coordination of such arrangements, as well as the consistency of the management plans prepared within the State.

It should be emphasized that any State that can make more rapid and effective progress following some other process should do so and should not be constrained by the steps listed above.

In addition to the management programs carried out in designated and nondesignated areas, Federal land managing agencies will also address their nonpoint source problems and develop management programs for their controls in cooperation with the State. Activities on Federal lands are expected to be in compliance with State, interstate, and local substantive requirements respecting control and abatement of pollution to the same extent that any person is subject to such requirements according to section 313 of P.L. 92-500 and Executive Order 11752.

Disputes or conflicts between Federal agencies and State, interstate, or local agencies in matters affecting the application of or compliance with a requirement shall be mediated by EPA. In such cases, if attempted mediation is unsuccessful the matter should be referred to the Office of Management and Budget under provision of E.O. 11752.

EPA support for NPS Management

By late 1975, EPA issued final state water quality management planning regulations and draft guidelines on which the States will base nonpoint source planning and management. In addition, EPA will provide ongoing support in the form of written guidance and technical assistance to States and designated agencies.

Information will be provided on a continuing basis on specific control methods, results of pilot programs and research and on relevant nonpoint source management concepts that might be useful to State and designated agencies. This information will be a part of updating the information EPA provides under section 304(e) of the Act.

Information provided by EPA will be along the lines of the following broad categories:

stormwater	mining
residual wastes	construction
agriculture	ground water
silviculture	hydrological modifications

The purpose of providing information within these categories is not to impose these categories on the State, but rather to facilitate communication. Studies are encouraged to identify and categorize nonpoint source pollution in a manner deemed to be most suitable. Examples of Best Management Practices that could be adapted to suit specific local conditions will be provided by EPA. Also, for some NPS categories EPA will develop handbooks containing technical, legal, and institutional information. EPA will also make available analytic techniques and computer models to aid in analyzing the magnitude and effects of nonpoint sources.

A working group composed of EPA personnel, State, Federal, and designated 208 agency personnel, and members of relevant industries and conservation groups will meet periodically to assist EPA in developing appropriate guidance.

Information concerning various methods of control of NPS (including preventative practices, financial incentives, legal and institutional means, and treatment facilities) that would be of use to State programs will be continually sought from other Federal, State, Regional and local agencies and distributed on a regular basis to EPA's Regional offices for use by the States. In addition to this "clearinghouse" function, EPA will continue to provide funding for research and pilot programs.

Included in the guidance EPA will provide will be information on the results of its pilot programs. Pilot programs will be carried out in the Regions as time and resources permit. Existing pilot programs that will be continued in FY 76 are the following:

Rural Sanitation (Septic tanks)	--- Region I
Mining	--- Region III
Irrigation Return Flows	--- Region VIII
Ground Water	--- Region IX
Silviculture	--- Region X

Additional pilot programs in other problem areas are contemplated but not yet funded or initiated.

Current research is focusing on assessment techniques, loading relationships of specific nonpoint sources, and control methodologies and costs. Research efforts are being concentrated in the following four general activity areas and sub-areas:

1. Agriculture

- animal feeding operations
- surface or sub-surface runoff from dry land farming
- surface or sub-surface runoff from irrigated land

2. Mining

- active operations
- abandoned mines

3. Hydrologic Modifications

- land modifications
- stream modifications

4. Silviculture

- timber harvesting
- road building

It is expected that from current research projects, outputs for FY 76 will include some predictive techniques as well as management practices. The development of predictive techniques to estimate the effect of nonpoint sources on water quality is important to nonpoint source management. Right now not much is available in the area of predictive techniques. Current research is attempting to remedy this deficiency. Predictive techniques will allow an existing or potential generator of a nonpoint source to estimate the magnitude of his problem given his specific set of conditions (i.e., slope, rainfall, vegetative cover, etc.). Existing preventative management practices are being studied as to their effectiveness, and new methods are being explored.

In the area of agriculture, for example, EPA in conjunction with the Department of Agriculture is preparing an extensive user's handbook of information on predictive and preventative measures. The information contained in it will be useful on a broad scale across the country; but to be applicable to specific sites, it will need to be modified.

Other Federal Agency Support.

State and designated agencies will rely to the extent possible on existing programs and expertise in other Federal agencies. At the Headquarters level, EPA will consult and coordinate with other Federal agencies during the preparation of nonpoint source guidance and will encourage other agencies to contribute ideas, examples, control methods, and any other relevant information. These contributions will be issued as part of the ongoing "clearinghouse" function that EPA will perform for the benefit of States and 208 designated agencies. Any information available through Federal agencies that is not in a form readily applicable to specific problems at the local or State level will be made available to the States by EPA in a form that is useful to their planning programs.

Section 304(j) of P.L. 92-500 requires EPA to enter into inter-agency agreements with other Federal agencies for purposes of coordination. One such agreement has been signed by the Administrator and the Secretary of Agriculture. Work on management approaches is currently in progress between EPA and USDA's Soil Conservation Service and Forest Service. Similar working relationships will be established through interagency agreements with the U.S. Army Corps of Engineers and the Department of Interior.

Timing for the Nonpoint Source Management Process.

Timing in nondesignated areas (and designated areas for which the State has retained NPS planning and management responsibilities).

- In 1975 the State and EPA Regional Administrator will agree on a level of detail and the timing for preparation of State water quality management plans.
- As planning proceeds, States will refine their NPS problem assessments which they addressed in their first 305(b) report and define their nonpoint source control needs and regulatory programs.
- Beginning in April 1976, the more specific timing of State implementing actions identified in State water quality management plans will be reflected in annual State strategies.
- Specific controls and regulatory programs are to be developed by the States on a priority basis as soon as adequate information, resources, and legal authority become available.

- All regulatory actions should be initiated in time to achieve the 1983 water quality goals.

Timing in Designated Areas (where the State has not retained NPS planning and management responsibilities)

- In designated areas program planning is to be completed in the first two years after designation. Implementation of regulatory programs is to be completed in time to achieve the 1983 water quality goals.

Program Reporting of Nonpoint Source Management Progress.

The States are to identify nonpoint source problems areas through the ongoing State water quality management process and to report yearly on their findings in the 305(b) report. Widespread participation of Federal, State and local agencies in the formulation of the 305(b) reports should be encouraged. These reports along with State program plans and Regional mid-year and end-of-year evaluations will be an important mechanism for judging the progress made in the nonpoint source program. The 305(b) report to the Congress can also underscore any possible financial assistance needs for carrying out the program.

Attachment 4
ok
as answer

COMMITTEE REPORT

TO: Legislative Coordinating Council
FROM: Special Committee on Energy and Natural Resources
SUBJECT: Proposal No. 14 - Groundwater Use

The Special Committee on Energy and Natural Resources was directed to engage in the review of data relating to increased use of groundwater, including projections of future use and supply and the economic, legal and social effect of increased groundwater development.

Background

In its review of this subject, the Committee heard testimony from the Chief of Water Resources, State Geological Survey; the Executive Director of the Water Resources Board; the Director of the State Division of Planning and Research, the Chief Engineer, Division of Water Resources, State Board of Agriculture, and an engineer from the Water Rights Section of the Division of Water Resources. Considerable data on groundwater use was collected by the Committee. This data is on file in the Legislative Research Department.

Precipitation provides the source of all usable groundwater in Kansas. A certain portion of precipitation penetrates the topsoil and enters a vast underground network of water storing and transmitting rock formations known as aquifers. The process whereby rainfall resupplies the aquifers is called recharge. The amount of water in underground storage depends on the rate of recharge, the space for storage, and the withdrawal of groundwater.

Groundwater is discharged through springs, but the major draw on the groundwater in an aquifer is through man-made wells. "The largest groundwater aquifers, and those capable of the greatest yields to wells, are concentrated in the western, south central, and extreme southeastern parts of Kansas," according to A Kansas Water Atlas (1967). It is significant that the western part of the state which has the least rainfall, has the most groundwater storage while eastern Kansas has more rainfall and little groundwater storage.

According to testimony presented to the Committee, it is estimated that there are approximately 500 million acre feet of water in storage underneath the surface of the state. Experts feel that, at most, 50 percent of this supply is available for immediate utilization. Approximately 65 percent of the available groundwater is in the western third of the state. This groundwater supply is dwindling at about a one foot per year depletion rate which gives us an average life expectancy of groundwater supplies of 45 years.

The demand for groundwater in western Kansas has been increasing dramatically in the past few decades as the use of irrigation has increased. Without the introduction of new technology and changing water management practices, given current water supply and usage conditions in the state, the groundwater supply in western Kansas will soon be depleted. The Committee was informed. Should this happen, the impact would be drastic; not only would agricultural production be seriously curtailed but the business and revenue normally generated by the agricultural section would be lost, according to conferees.

The Chief of Water Resources, State Geological Survey told the Committee that chief among the considerations that should be made by the people directly involved in the irrigation community are the following:

1. Over what time span do the people in the individual irrigation regions want the water to last?
2. How much water should be left in the system to meet emergency needs for the municipal and irrigation purposes in the event of a drought?

That official also suggested that the legislature consider the following questions:

1. Is the present law and the present regulatory system adequate to meet the challenge that obviously will come in the near future concerning depleting ground water supplies in Western Kansas?
2. Should the system that is currently in place to regulate future development be markedly altered?
3. Should people that choose not to develop irrigation systems or not to pump water be compensated for their efforts to conserve and promote the overall longevity of the system?
4. What action, if any, should the legislature take to encourage income tax relief along the lines of a depletion allowance?

The Committee was informed by the Division of Planning and Research that given the present situation, several short and long-range options are available. The short-range options include:

1. Review and strengthen, if necessary, the ground-water management districts established by the 1972 Legislature;
2. Recognize water as a scarce resource with serious consideration given to the development of a progressive state system of groundwater user fees

which would charge most groundwater users at a rate commensurate with the level of their usage;

3. Determine whether the special district approach to water management provides for the effective coordination of efforts to conserve and better manage our dwindling groundwater resources;
4. Consider developing policies and standards requiring the preparation and approval by the Chief Engineer of the Division of Water Resources of groundwater impact statements by large scale public and private groundwater users;
5. Implement a concerted state research program which would endeavor to find ways to: (a) cut water losses due to evapotranspiration; (b) artificially recharge and store groundwater; (c) modify weather; (d) dissolve brines in water; (e) recycle and reclaim water; and (f) provide for importation or interbasin transfer of water;
6. Develop ways to decrease waste in the use of existing groundwater resources; and
7. Conduct research into saline water irrigation.

The long-range options include:

1. Development of methods by which state and local governments can adjust economic activity to water use so as to reduce water depletion where supplies are low;
2. Development of long-range plans for changes in agricultural and other economic practices in case the short-term options do not solve the western Kansas water problem;
3. Defining the state role for maintaining the economies of various regions of the state by providing new water resources directly or supporting communities that must develop new economies if water supplies run out.

The procedure for acquiring a right for the use of groundwater, as set forth in the Water Appropriation Act, was explained to the Committee. The Committee was told that as of

December 31, 1974, a total of 23,552 applications for permits to appropriate water for beneficial use had been filed in the Office of the Chief Engineer. Of this total, 19,661 applications were for the appropriation of groundwater, including 18,547 for irrigation use. The major portion of these applications are for water located in the western one-third of Kansas because this area is underlaid with the state's major groundwater aquifer and has the least amount of precipitation.

Groundwater irrigation has increased at a rapid pace during the last ten years. There has been a possible increase in the use of groundwater for irrigation purposes of nearly 170 percent during the last decade. The Kansas Geological Survey has published water level changes in northwestern Kansas for the period 1950-1973. This information shows the number of irrigation wells in the six northwest counties has increased from about 100 to 2,550 during the period 1950-1972 and that annual withdrawals of groundwater in this area are estimated to have increased from 15,000 to 500,000 acre feet during that same period. There are an estimated 7,000 irrigation wells in 12 counties in southwestern Kansas and an estimated 13,000 irrigation wells located in the 23 counties of western Kansas.

As of June 16, 1975, there had been petitions filed with the Chief Engineer to organize five groundwater management districts. Of these five applicants, two have completed organization and the other three are anticipated to complete organization in the near future. If all five districts are eventually organized,

they will include most of the areas in Kansas which overlay the major aquifer systems.

The Chief Engineer of the Division of Water Resources recommended a change in the Water Appropriation Act. The act presently provides that any application for a permit to appropriate water for beneficial use may be filed before or after the commencement of any work in connection with the construction of any works for diversion and use of water. There is no penalty for failure to obtain the approval of the Chief Engineer before withdrawing or diverting water. In order for the Division of Water Resources and the groundwater management districts to regulate the withdrawal of groundwater within the districts effectively, it will be necessary to require that before any person withdraws or diverts any waters of the state for ^{any} the purpose, other than domestic use and except for those holding vested rights, an approval of an application for beneficial use first be obtained from the Chief Engineer of the Division of Water Resources.

Outside of western Kansas, the Little Arkansas River Basin is an area where major Equus Beds are located which provide the water supply for Wichita, for all other cities in the basin, and for an increasing amount of irrigation. A recent volume in the State Water Plan Studies entitled Little Arkansas River Basin (1975) contains the following recommendations concerning irrigation water supplies of that region.

"Groundwater users of the area overlying the Equus Beds should take advantage of the 1972 state law which allows the formation of groundwater management districts. A groundwater management district could do the following:

- "1. Set policies acceptable to the groundwater users as to an allowable rate of depletion of the Equus Beds. For example, an acceptable policy could be that no new wells could be developed past the number which would deplete the Equus Beds to 50 percent of its present saturated thickness by the year 2000. This would presumably allow irrigators developing systems within the next ten years to recover a major portion of their investments.
- "2. Cooperate with the chief engineer of the Division of Water Resources, State Board of Agriculture, to develop and enforce well spacing criteria and pumping rates which would implement the above policies.
- "3. Require the elimination of wasteful practices by all water users.
- "4. Encourage irrigators to implement methods which would improve the efficiency of their water use, including such steps as: getting a competent design of the irrigation system, having the land properly leveled, using tailwater pits to catch and reuse runoff from irrigation and rainfall, metering the water pumped, using sprinkler systems, and replacing ditches with underground pipe.
- "5. Hire an irrigation technician to work with irrigators on scheduling irrigation applications and to assist them in instituting other efficient practices.
- "6. Institute a groundwater quality monitoring program to prevent the intrusion of poorer quality water into the Equus Beds.
- "7. Emphasize striving for the most profitable level of crop yields rather than for maximum crop yields.

"Because of the importance of streamflow for groundwater recharge and fish and wildlife habitat, new water rights for irrigation using streamflow as a source should be limited by the Division of Water Resources, Kansas Board of Agriculture, to making withdrawals only when the flows are above a specified minimum level. New or clarifying legislation may be required before this could be enforced."

Irrigation makes an important growing contribution to Kansas agricultural production. In 1973, 6.8 percent of the state's irrigated, cultivated land in the western one-third of Kansas, produced 17.6 percent of the cropland income and contributed to 15 percent of the state's income which results from beef production. This is an increase from 1961 when 2.8 percent of the irrigated, cultivated cropland of the western one-third of Kansas produced 7.9 percent of the crop income and contributed to the production of 18 percent of the livestock income.

The rate of increase of irrigation from 1928 to 1952 was about 4.75 percent per year. From 1950 to 1959, the rate of expansion was about 32.5 percent per year. Since then, the rate of expansion has been about 7.7 percent per year. The 7.7 percent trend has persisted for 16 years with some indication recently of an increase in rate. This trend can be anticipated to continue if the economic rewards persist, especially if drought develops. However, were it necessary to convert from natural gas to diesel fuel, the extra costs and lack of diesel motors would tend to slow development.

Much of the recent irrigation development has been due to the development of economically feasible equipment such as plastic transmission pipe and gated pipe which make it possible to use marginal aquifers. Gated pipe makes it possible to do winter irrigation which results in more efficient water utilization and extends the pumping season. Plastic underground pipe also adds to water use efficiency and encourages the utilization of the more marginal water supplies.

The development of sprinkler systems probably has made the recent increase in irrigation possible. When the Kansas Water Resources Board wrote the Upper Arkansas Unit of its State Water Plan Studies Series in the early 1960's. it was recognized that there was a lot of groundwater underlying the sand hills. It was presumed that someday, when water became needed for food production, it would be piped to the irrigable lands. Since the report was written, the center-set sprinkler system has become available. A sizeable part of the rolling sandy lands along the Arkansas and Cimarron Rivers and South Central Kansas can now be irrigated by using a sprinkler system, thereby contributing to the recent major growth in groundwater irrigation.

An analysis of the growth rate of ditch and gated pipe irrigation of the seven counties with the longest history of substantial development is as follows:*

Ditch and Gated Pipe Irrigation
(Selected Years)

<u>Years</u>	<u>Average Percent Per Year Increase</u>
1939, 1940, 1941	6.6%
1948-1960	5.6
1960-1972	2.8

SOURCE: Data compiled by Russell Herpick, Extension Engineer, KSU from county agent's annual reports.

* Finney, Ford, Hamilton, Hodgeman, Kearny, Pawnee, Scott Counties.

Three of the counties experiencing the most rapid growth in irrigation -- Grant, Stanton and Wichita -- were analyzed for growth rate:

Grant, Stanton and Wichita Counties

<u>Years</u>	<u>Percent Per Year Increase</u>
1948-1955	16.8%
1955-1960	17.2
1960-1966	7.4
1966-1972	7.6

SOURCE: From County Agents' Annual Reports.

Each county that has a substantial quantity of useable groundwater has a finite quantity that is economically feasible for use. Areas underlain by the deeper strata tend to develop first. As the know-how and the equipment become available, irrigation extends to the areas where the quantity of water in the aquifer is more limited.

It can be anticipated that some areas will pump enough water so that irrigation will no longer be feasible. Since there is some interference between wells in fully developed areas, water shortages generally first appear during the critical growing season. The initial effort of the owner is to do more winter irrigation. As the situation worsens, the realization comes that more hours of pumping are required. Finally, it becomes necessary to put in more wells to produce the same amount of water.

Careful financial consideration needs to be given to installing more wells. Since the use of 1.75 feet of water per year seems to lower the water level about two feet per year, on

an overall basis, the use of the top 50 feet of a 100 foot aquifer takes 25 years. It can be expected that another well will be required in about 15 years. It can be further assumed that it will take only 12 years to deplete the remaining 50 to 25 feet of water before the next major economic decision is necessary -- a \$10,000 original investment in an irrigation well and pump made in the 1960's was capable of producing an additional 8,000 bushels of grain over a 25-year period or a 25-year total of 200,000 bushels of grain.

The landowner would get one-third or under past prices, about 66,666 bushels at \$1.25 per bushel or approximately \$83,000. His expenses, based on depreciation, repairs, fertilizer, increased taxes and management and risk would have been about \$50,000 over the 25-year period. Thus he would have realized about \$1,350 per year return on the original investment of \$10,000 or 13.50 percent.

By the same analysis, after half the water in the aquifer is gone, the expense would be \$89,000 based on requiring four wells to produce the same yield. The value of the crops produced in the next 12 years would be \$44,000 or a negative return on the investment. To continue irrigation beyond the 12 years would require 16 wells.

In other words, the owner cannot afford to continue to irrigate if the incentives remain the same. However, when corn went to \$3.00 per bushel from \$1.00 and wheat went to \$4.00 per bushel from \$1.05 per bushel, the potential return became \$300,000 hence the return from the crop became \$100,000.

There are a number of farmers whose irrigation wells do not now produce enough water to justify irrigation. They have returned to dryland agriculture. While their gross product has fallen sharply, their net profits have improved materially. The question which this raises is the affect on the economy of the communities of Western Kansas?

To test the effect of changing from irrigated to dryland farming on the area (using the present dryland and 1,670,000 irrigated acres and the yields of the 1958-73 period) the total return would be \$967,000,000 or 35.14 percent of the state's farm crop income.

Without irrigation, and with intensified dryland cropping (one-third, wheat; one-third, dryland milo; one-third, fallow) the total return would be \$748,000,000.

The dryland operations would have produced approximately three-fourth as much gross product as we now produce. If a 15 percent increase in production could be obtained by two of the several potential possibilities, such as weather modification, hybrid wheat development, tillage practices, or new developments, the gross product on the basis of 1973 prices would have equalled the actual value of production in 1973.

A comparison of the hypothetical dryland yield (based on one-third, wheat; one third, milo; and one-third fallow) in Wichita County in 1973 with the 1973 actual production in the county would indicate that the dryland production would have been 44 percent of the actual production.

The use of irrigation does not appear to alleviate the impact of drought to a high degree. For example, in Wichita County during the rather dry year of 1963, if 1973 prices are applied to the 1963 yield per acre, the relationship would have been 46 percent. Thus, having irrigation in 1963 improved the gross production by only about two percent.

A comparison was made of the nine most heavily irrigated counties in 1955 and the adjacent counties. There was little significant difference. In other words, drought appears to affect the irrigated areas substantially in the same magnitude as it affects the non-irrigated areas.

Legal Questions

A water right is a property right obtained by developing the water production facilities and putting the water to beneficial use. That right is subject to continued beneficial use and is limited only by vested rights and prior water rights.

Considering that a water right is a property right, the holder of such a right can drill more wells on his property in order to maintain his established right subject to receiving a permit from the Division of Water Resources. The new wells needed to maintain the right cannot be spaced close enough to prior-right wells to cause material pumping interference or unusual lowering of the water table. A water right is a property right and it would appear that denial of the right for additional diversion facilities would constitute a taking of property without due process.

In areas where there are many wells, the drawdown cones may overlap as shown in the attached figure. Such interference between wells results in larger drawdowns and reduces well yield. Continued pumping of mutually interfering wells can lower water levels to the point that one well, or both, become uneconomic. The failure of older domestic and livestock wells in fully irrigated areas are numerous. These wells were normally drilled only 10 or 15 feet into the water table. Declines caused by interfering irrigation wells causes the wells to go dry.

In general, the courts, in states following the water appropriation doctrine, have held that the development of an area is so important that reasonable deepening of a domestic well is not a cause for damages. On the other hand, when extreme expenses are involved damage actions have been sustained.

Conclusions

Wells in the Alluvial Valley soils spaced at least 500 feet apart and wells in the Ogallala spaced more than 1,000 feet apart should not result in serious interference. However, even if normal seasonal interference between individual wells is not a problem, water level lowering will be increased in the area bringing an early end to the economic life of irrigation.

In general, "About one-half of the groundwater reservoir can be withdrawn by irrigation wells. The groundwater will never be depleted completely by irrigation because it is physically

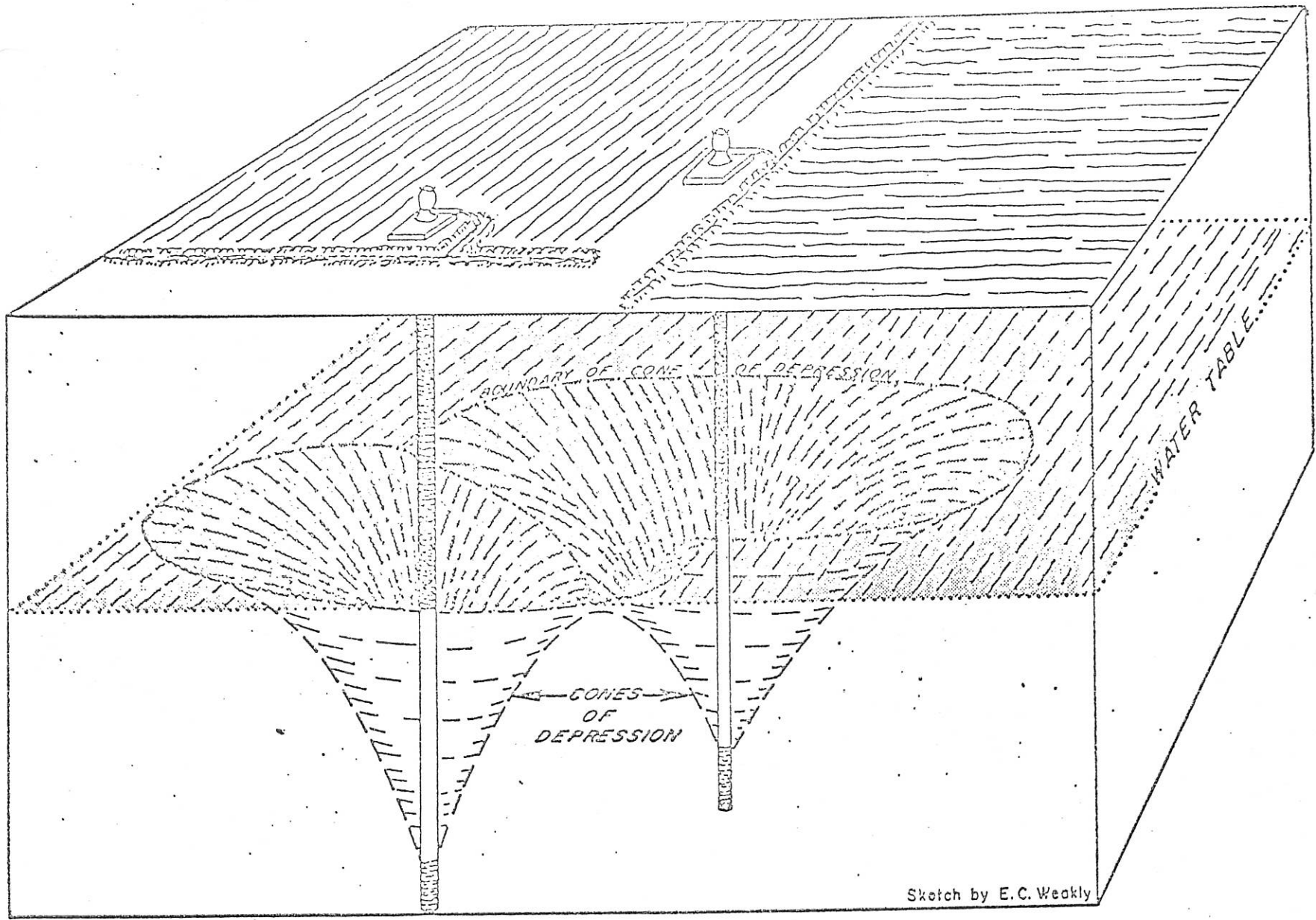


Figure 1 -- Sketch showing interference between drawdown cones of two closely spaced discharging wells
SOURCE: Paper prepared by John Halepaska, Kansas Geological Survey

impossible to do so. All the wells in an area will not become unusable at once, but gradually."*

Numerous schemes can be devised to prolong the irrigation economy of the area. All of them depend on some type of control on the use of the water with the reduction in the water used per acre being the fundamental requirement. Crop production can be improved by increased moisture-use efficiency.

Moisture-use efficiency can be improved by numerous techniques. The goal of utilizing the water at the optimum maximum return per acre-foot probably has the most merit. It offers a substantial reward for its implementation. The problem is that the irrigator is not encouraged for example, to apply only six inches of water or corn at the pretassel stage to make the most efficient use of the water if a neighbor uses 30 inches of water to produce the maximum bushels per acre. In other words, the neighbor capitalizes by using the water from under the land of the man trying to use water efficiently.

It should also be recognized that so far as irrigation is concerned, economic limitations will prevent complete utilization of the groundwater supply and thus establish an economic control on groundwater utilization that is already in effect.

Recommendations

The Committee recommends that the groundwater management districts be given time to determine the needs of the area encompassed by the districts and, if it is found that present

* Jenkins-Pabst, Water Development for Irrigation in Northwest Kansas, pg. 35).

laws are not adequate, their recommendations for needed legislation be evaluated by the legislature.

There is great potential for using water more efficiently, therefor state agencies should assess and make available basic research data that has a potential for increasing water use efficiency. For example, the experience of the Colby Experiment Station with pretassle irrigation of corn should be more widely publicized. A great deal of data exists in the files of the Experiment Stations which would be of value in efforts to increase water use efficiency. Such data should be searched, compiled and disseminated to those who could benefit from implementing the practices found to result in increased water use efficiency.

Weather modification projects aimed at increasing rainfall and reducing hail loss should be implemented. The costs of such projects are low compared to the rewards.

_____, 1975

Respectfully submitted,

Senator Vincent Moore, Chairman
Special Committee on Energy
and Natural Resources

OK'd

The growth in acres under ditch and gated pipe irrigation in the seven counties in the region with the longest history of substantial development is as follows:

	<u>1939,</u> <u>40,41</u>	<u>1948</u>	<u>1960</u>	<u>1972</u>
Finney	40,553	65,000	100,000	194,000
Ford	3,637	8,000	13,000	53,500
Hamilton	5,279	7,000	11,600	25,400
Hodgeman	4,600	8,106	9,600	16,947
Kearney	20,909	22,000	58,005	91,900
Pawnee	6,238	1,400	15,000	35,000
Scott	<u>15,900</u>	<u>50,000</u>	<u>103,000</u>	<u>133,100</u>
TOTAL	97,116	161,506	310,210	549,927

SOURCE: Data compiled by Russell Herpicl, Extension Engineer, KSU, from County Agent's Annual Reports.

Three counties which experienced the fastest growth in irrigated acres are Grant, Stanton, and Wichita. The number of acres under ditch and gated pipe irrigation for selected years is:

	<u>1948</u>	<u>1955</u>	<u>1960</u>	<u>1966</u>	<u>1972</u>
Grant	14,500	46,000	80,000	109,000	158,560
Stanton	7,520	70,000	64,750	94,000	176,800
Wichita	<u>9,000</u>	<u>26,000</u>	<u>58,700</u>	<u>110,000</u>	<u>175,320</u>
TOTAL	31,020	92,000	203,450	313,000	510,680

SOURCE: Same as for the preceding chart.

COMMITTEE REPORT

TO: Legislative Coordinating Council

FROM: Special Committee on Energy and Natural Resources

SUBJECT: Proposal No. 62 - Insulation and Energy Consumption Standards

The Committee was directed to conduct "a study on insulation and energy consumption standards in residential, commercial, industrial and institutional buildings with attention to similar studies by the U.S. government and other states; and potential state action for the adoption and use of such standards."

During the 1974 interim, the Special Committee on Conservation and Natural Resources studied insulation and energy usage standards as part of Proposal No. 22. The report of that Committee contained the following conclusion:

"It was the consensus of the Committee that if energy conservation practices are to be effective, we can no longer afford to build facilities for the lowest possible initial investment at the expense of fuel energy costs. To achieve fuel energy savings it will be necessary to design facilities as total systems. This will require the closest possible relationship between architects, engineers and builders as techniques must be developed to maximize energy efficiency by building design."

As a means of dealing with the problems involved in achieving full energy savings, the Committee recommended the passage of 1975 S.C.R. 2 which would have directed the Director of Architectural Services to prepare a report containing an evaluation of weather and materials data, including scientific and engineering studies, that were relevant to developing design criteria

for building insulation and energy consumption standards. S.C.R. 2 was not adopted and the subject was assigned for interim study.

The Committee received information on insulation and energy consumption standards from representatives of the Architectural Services Division of the Department of Administration, the Mechanical Contractors Association, the Energy Conservation Committee of ASHRAE (American Society of Heating, Refrigeration, and Air Conditioning Engineers), the American Institute of Architects, the Johns-Manville Products Corporation at McPherson, and a member of the/^{Kansas}Advisory Committee on Statewide Building Codes.

In testimony the Committee was told that a great deal of insulation work is being done on existing buildings. However, it is difficult to get the average homeowner to invest in energy conservation measures without providing incentives. Some conferees expressed the belief that the problem of energy conservation is more critical in older buildings.

The Committee was informed that an Advisory Committee on Statewide Building Codes, established by 1973 S.B. 71 and composed of various state officials and 11 persons appointed by the Governor, will present their recommendations to the Legislature next year.

Approximately 30 percent of the total energy consumed in the United States is used for heating, cooling and operation of equipment in buildings according to a representative of the Mechanical Contractors Association. Approximately 25 percent to 50 percent of energy usage in most buildings is wasted. Examples of wasted energy pointed out by conferees are excessive exhausting of air from buildings; insufficient thermostatic or zone control of temperatures which forces occupants to set thermostats to provide

heat to the coldest room in winter and cooling for the hottest room in summer, resulting in excess energy being wasted since some rooms are overheated or under-cooled; leaking steam traps and heat exchangers, etc.

Up to now, comfort has been the prime design objective. Now engineers must give highest priority to minimum energy consumption. To facilitate design change, the Mechanical Contractors Association of America is urging Congress to pass legislation in four areas:

1. Investment tax credit or rapid depreciation for capital improvements that will increase the energy conserving performance of mechanical systems in new and existing buildings;
2. Energy users should pay premiums for excessive use of energy and receive credit for reduction in energy use in buildings;
3. Incorporation of industry developed national consensus standards for energy conservation into building codes and regulations; and
4. Financial support of research programs to accelerate use of commercially feasible alternative sources of energy.

The Mechanical Contractors Association of America urges that state legislation be delayed until ASHRAE 90-75 is completed. (The ASHRAE 90-75 standards are the building design standards being developed by the American Society of Heating, Refrigeration, and Air Conditioning Engineers.) ASHRAE 90-75 would give a general guideline to follow that could be updated as research into

new methods is completed. Others urged the Committee to avoid specifics in legislation, Insulation legislation should be left flexible to enable the professionals to decide the best system for reducing energy consumption.

Some conferees indicated that the incorporation of even ASHRAE standards into legislation is ill-advised at this time. The American Institute of Architects supports legislation which provides for broad incentives to conserve energy in buildings and does not feel that prescriptive standards of energy conservation should be legislatively defined.

K.S.A. 75-1211 et seq., the Mobile Home and Recreational Vehicle Code, establishes a standard code for mobile homes sold at retail in the State of Kansas. The insulation standards established in the mobile home code are based on 1972 American National Standards Institute (ANSI) recommendations and need to be updated. Representatives of the mobile home industry will be requesting the 1976 Legislature to amend the Kansas statutes to reference the 1975 ANSI Code. The Committee was told that the vast majority of mobile home manufacturers now meet the 1975 ANSI standards which basically encompass the proposed ASHRAE 90-75 standards.

The Committee considered a bill draft which would set minimal design criteria in the building of certain new structures. The bill would apply to "any building that plans for the construction or remodeling of which require certification or preparation by a registered architect or licensed professional engineer or both, and which utilizes energy for heating or cooling or both."

The minimum design criteria is set out according to the "U" factor (as described in ASHRAE 90-75 Standard) for roofs, walls, and floors, and the maximum summer and winter design conditions would be limited to a specified CFM per cubic ventilation rate of outside air. (This section to be expanded if the bill is recommended by the Committee.)

Recommendations

The Committee recommended that the Special Committee on Assessment and Taxation give serious consideration to some kind of tax incentive for improving insulation in existing homes.

Respectfully submitted,

Date

Senator Vincent E. Moore, Chairman
Special Committee on Energy and
Natural Resources

_____ BILL NO. _____

By Special Committee on Energy and Natural Resources

Re Proposal No. 62

AN ACT concerning minimum design criteria for structures; providing for certificates of compliance therefor; prescribing certain duties for the director of architectural services.

Be it enacted by the Legislature of the State of Kansas:

Section 1. The purpose of this act is to provide design requirements which will improve utilization of energy in new structures. The requirements of this act are directed only toward the design of building envelopes with adequate thermal resistance and low air leakage which will enable the effective use of energy in new structures.

Sec. 2. As used in this act the following terms and phrases shall have the meanings respectively ascribed to them ~~[unless the context requires a different meaning]~~ (a) "Structure" means any building the plans for the construction or remodeling of which require certification or preparation by a registered architect or licensed professional engineer or both, ^X and which utilizes energy for heating or cooling or both; (b) "partially heated ~~or cooled~~ structure" means any building or portion thereof which is not normally heated ~~or cooled~~ ^{OK} or in which only supplemental or localized heating ~~or cooling~~ is used, or in which the total ³ ~~output capacity~~ of heating and lighting is less than one ~~(1)~~ ³ watt ~~*~~ ^{per square foot for all sources of energy;} (c) "energy" means that derived from fossil or atomic fuels excluding that derived from solar, wind or other non-depletive sources.

Sec. 3. Each application for a building permit for the construction of any structure except partially heated ~~or cooled~~ structures shall be accompanied by a certificate of compliance executed by a registered architect or a licensed professional engineer or both. Such certificate shall indicate that such

structure has been designed to comply with and does not exceed the minimum design criteria as determined in accordance with section 4. In any case where no building permit is required for such construction such certificate shall be filed with the state director of architectural services.

Sec. 4. (a) The minimum design criteria for the exterior building envelope of any structure except any partially heated ~~or cooled~~ structure shall be determined in accordance with section 4 (exterior envelope requirements) of ASHRAE standard 90-75.

(b) An allowance of ten percent (10%) over the minimum design criteria may be allowed for in cases of unusual design and climatic, orientation or siting problems upon good cause shown in the certificate of compliance.

Sec. 5. The director of architectural services is hereby authorized and directed to promulgate and adopt rules and regulations to enforce and insure compliance with the provisions of this act. Such rules and regulations shall authorize the utilization of county or municipal building code inspectors to act as designees to perform such inspection duties ~~as the director may require~~ as the director may require.

Sec. 6. The provisions of this act shall not apply to any structure existing, under design, construction or reconstruction on the effective date of this act but such provisions shall apply to any new addition or reconstruction of the roof, outside walls or floor of such structure which was not under design, construction or reconstruction on the effective date of this act.

Sec. 7. This act shall take effect and be in force from and after its publication in the statute book.