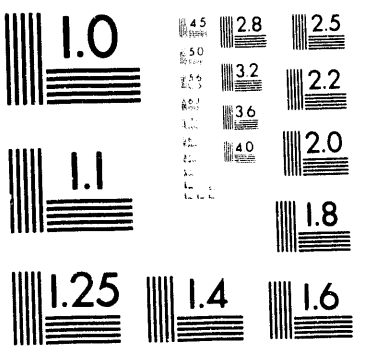
1.0
1.1
1.25
1.4
1.6
1.8
2.0
2.2
2.5
2.8
3.2
3.6
4.0
4.5
5.0

1 of 1

IOGCC/DOE OIL AND GAS ENVIRONMENTAL WORKSHOP

DISCLAIMER

May 16, 1991
Pittsburgh, Pennsylvania

TABLE OF CONTENTS

INTRODUCTION

The Interstate Oil and Gas Compact Commission (IOGCC) in cooperation with U.S. Department of Energy (DOE) has developed a workshop format to allow state regulatory officials and industry representatives the opportunity to participate in frank and open discussions on issues of environmental regulatory compliance. The purpose in providing this forum is to assist both groups in identifying the key barriers to the economic recoverability of domestic oil and gas resources while adequately protecting human health and the environment.

The IOGCC and DOE staff worked with key state and industry representatives to develop a list of appropriate regulatory and industry representatives to be invited to participate. A list of potential topics for discussion was circulated to invitees who were asked to prioritize these topics as well as provide any additional items for discussion. W. Timothy Dowd, IOGCC Executive Director, and Denise Swink, U.S. DOE, co-chaired the workshop and asked certain individuals to lead the discussion on specific topics.

As the first workshop to be conducted in this program, the objectives for establishing this effort were obviously met in this Appalachian Regional workshop.

After the topic leader set out the issue, views of those present were solicited. In almost every case, both the industry representatives and the regulatory personnel spoke with candor in discussing the problems. In some cases, potential solutions were agreed upon. In other case, it was determined that the problem was outside the control of either group (e.g., a federal government regulation), and in some cases the parties simply could not agree on solutions.

At the conclusion, all of the participants were asked to complete a questionnaire which critiqued the days activities. A discussion of each of the issues is made a part of this report as is a summary of the critique questionnaires which were received.

PARTICIPANTS

W. Timothy Dowd, IOGCC Executive Director, Co-Chair
Denise Swink, U.S. DOE, Co-Chair

Jerry R. Simmons, IOGCC
Nancy Johnson, DOE
Bill Hochheiser, DOE
Brent Smith, DOE
William Haggerty, DOE

STATE

Donald Mason, Ohio Department of Natural Resources
Mike Hoyal, Tennessee Oil and Gas Board
Theodore M. Streit, West Virginia Division of Energy
James E. Erb, Pennsylvania Department of Environmental Resources
Michael Wallen, Kentucky, Division of Oil and Gas
Benny Wampler, Virginia Department of Mines, Minerals and Energy
Greg Sovas, New York State Department of Environmental Conservation, Mineral Resource Division
Tom Segall, Michigan Department of Natural Resources

INDUSTRY

Shawn Huey, CABOT
Jerry Olds, Ohio Independent
Bob Radabaugh, Trio Petroleum Corp.
Stan Masoner, Petroleum Resources
Kathy Beckett, Appalachian Producers
Steven Rhodes, Pennsylvania Oil and Gas Association
Barry Russell, IPAA
Larry Cardos, POGAM
A. George Mason, Jr., EREX (KOGA)
John S. Graham, III, Virginia Oil and Gas Association
Barry Cosey, Independent Oil and Gas Association of Pennsylvania
Rex Burford, West Virginia Oil and Natural Gas Association
Michael P. Sanders, Kentucky Oil and Gas Association
Joseph E. Campbell, Columbia Natural Resources
Arthur E. Yingling, Angerman Associates
David M. Flannery, Appalachian Producers
Gary Charles, Equitable Resources

DISCUSSION TOPICS

GROUNDWATER PROTECTION

I. Presentation

The absence of a comprehensive federal approach to groundwater protection, the individual states are addressing this issue through a wide variety of policies and goals. While some states have developed programs that allow a balance of the goals of groundwater protection with those with important social societal, other states have adopted programs that prohibit altogether activities that could have an impact on groundwater whether harmful or not.

In many circumstances, the land application of certain E&P wastes offers a low cost, environmentally effective means of waste disposal. State groundwater programs should be reviewed in light of this fact to encourage land application as a disposal technique in the absence of information indicating that the technique would interfere with the beneficial use of groundwater.

II. Discussion

The State of Pennsylvania allows land application of certain E&P wastes. Pennsylvania is currently considering establishing a policy of non-degradation for groundwater protection. It was commented that non-degradation for much of the groundwater in Pennsylvania is of little benefit based on the fact that the state's groundwater does not meet the standards of the Safe Drinking Water Act (SDWA). Under an anti-degradation program, Pennsylvania proposed that for those activities which are deemed as necessary, a best management practices (bmp) standard would be applied. As the law stands currently, there is no impediment to land application. The State of West Virginia also has a land application approach to disposal of certain E&P wastes. It was learned that research conducted at Ohio State University has indicated that no groundwater problem is detected with the application of produced water that is seven times the approved levels. In response to the OSU study, it was pointed out that there is a need to match the waste stream with the environmental end point. All options for disposal need to be preserved based upon the fact that each option has a potential to be beneficial to specific fact scenario.

It was suggested that there is a need to determine which groundwater is of a quality that warrants rigorous protection prior to establishing restrictive regulatory programs. Additionally, there are concerns that need to be addressed about separate permitting. The discussions indicated that the industry is in a relatively powerless position as a result of little economic clout and that the public also misperceives industry's ability to afford a wide margin of compromise before experiencing difficulty. It was suggested that state agencies are in the position to encourage and facilitate some compromise on the part of the environmental community and order that a reasonable middle ground can

be obtained. It was noted however that states have very limited resources and additional funding would need to be provided if there is to be an increase in their role from regulators to arbitrators. One participant offered that if industry were to take a more active role in self policing the public perception toward the oil and gas industry would improve making compromise attainable. The State of West Virginia has been successful in negotiating a compromise with the citizens, industry, and the regulatory agencies and has passed a groundwater protection bill this past session.

The question was raised whether or not cost information was used to respond to legislative proposals which threaten the viability of the oil and gas industry. It was the opinion of some that the development of such cost data is the responsibility of the regulatory agency as part of the rulemaking process.

TEMPORARILY ABANDONED AND IDLE WELLS

I. Presentation

Thousands of wells throughout Appalachia have ceased production for technical or economic reasons but have not been permanently plugged. They vary widely in physical condition and geological setting, which affect their potential for both future production and environmental risk. Further, these wells represent a future liability either for operators or, in the case of wells whose operators are no longer in business--so-called "orphaned wells"--for the states.

There is a need to balance the considerations of maximizing recovery of oil and gas resources with environmental concerns associated with temporarily abandoned or idle wells. State regulators need to assess both the risks of and potential benefits from these wells and make a decision on plugging requirements based on that tradeoff. Priorities must be set for spending limited state resources. Operators may need assistance in demonstrating the future recovery potential of idle wells and the degree or lack of environmental risk.

The cost of properly plugging wells may be beyond the current financial capability of some operators. This can present a dilemma for states whose plugging orders may put operators out of business and force the liability back onto the state. Orphan wells pose a similar problem for states who must decide how to set up and finance plugging funds and what financial assurances to require from operators.

ABANDONED WELLS

Wells that were plugged and abandoned in the past using practices that do not meet current standards can pose environmental risks and financial liabilities. Abandoned wells that are allowing saline waters to contaminate drinking water or surface areas require corrective action at considerable expense. These costs often fall on states or operators who have inherited the problems. In addition, operators applying for an underground injection permit, e.g., for an enhanced recovery project, must demonstrate that nearby abandoned wells have been adequately plugged and do not pose a threat of contaminating drinking water aquifers. If this cannot be shown, then corrective action must be taken. This can be difficult if plugging records cannot be found or the wells cannot be located.

II. Discussion

The opinion was expressed by some present that abandoned wells are the biggest problem in the Appalachian Basin. There were two problems identified: 1) improperly abandoned historical wells; and 2) insuring the proper plugging of existing wells. A discussion took place on the issue of who should pay for plugging old (orphan and improperly plugged) wells. Where some felt that the burden should be entirely on industry since they drilled the wells and produced the oil and gas for economic benefit, others point out that the public received the benefit of low cost energy plus stimulation of the economy and contributions to public treasuries, therefore the public should share the cost. One industry opinion was that if the economic burden on the industry was too great, many small operators would just walk away from their wells creating a larger environmental problem. There was also discussion from West Virginia that there is a barrier to those who want to pay to plug someone else's wells, e.g. a coal company that wants to mine in the area may not be allowed to perform this in a "good samaritan" plugging.

A discussion of the state's financial resources available for plugging orphaned wells found that Kentucky developed an innovative approach that uses the interest from the state's plugging bond fund to finance an orphan well plugging fund. West Virginia and Virginia have plugging funds supported by such mechanisms as permit fees and forfeited bonds. Operators in Pennsylvania are concerned about proposals in the state legislature to provide funds through permit surcharges, drilling footage levies, or severance taxes. There was concern expressed that current operators are not plugging their wells and are not setting aside plugging money either up front or out of revenues. A state regulatory official observed that the industry must show that operators are acting responsibly with regard to their current wells in order to improve their image and avoid saddling them with the full burden of correcting all the past problems.

Three actions were identified that could contribute to solving some of these problems: 1) identify idle, orphan, and other problem wells and assess their status and the risk they pose to the environment; 2) eliminate barriers to "good samaritan" plugging; and 3) expand bonding requirements to fully cover the cost of plugging. Information was shared that the IOCC was about to begin a study that will develop a census of idle wells in the U.S. and examine state strategies for balancing the resource potential and environmental risks associated with such wells.

EFFLUENT DISCHARGES

I. Presentation

EPA promulgated BPT (best practicable control technology) effluent limitation guidelines for on-shore oil and natural gas operations (except for stripper oil wells) on April 13, 1979. These BPT regulations for the on-shore oil and natural gas industry were challenged in court by the American Petroleum Institute ("API"). The Fifth Circuit ruled that EPA was compelled to consider the creation of a special sub-category for stripper natural gas wells as it did for stripper oil wells. American Petroleum Institute v EPA, 661 F.2d 340 (5th Cir. 1981). Pursuant to the Court's directive, EPA sought comment of the appropriateness of the creation of a stripper natural gas well category. To date, EPA has not finalized any rulemaking with respect to the regulation of stripper natural gas wells under its "zero discharge" effluent guidelines.

In an effort to cause EPA to address not only marginal natural gas wells, but also to broaden the applicability of the zero discharge effluent guideline to all wells in the Appalachian states, the Appalachian Producers consisting of nine Appalachian oil and gas trade organizations filed a rulemaking petition with EPA in 1987. On November 8, 1989, EPA responded to that petition by publishing in the Federal Register a request for comments relating to possible revision and additions to existing regulations of effluent limitations guidelines and new source performance standards for the oil and gas extraction point source category and coastal and stripper sub-categories. 54 Fed. Reg. 46919. EPA's notice, which nominally focusses on the coastal sub-category, invited comment on all aspects of the current effluent guidelines to stripper oil wells and marginal gas wells. Comments have been filed on behalf of the Appalachian Producers urging that, at a minimum, the exemption from the effluent guidelines be extended to include both stripper oil and marginal gas wells.

Revisions to this effluent guideline is a critical first step in the long-awaited issuance of NPDES permits for the oil and gas industry. Efforts are currently under way in both West Virginia and Pennsylvania to issue such permits; however, those efforts are hampered by the failure of EPA to address the effluent guideline issue.

II. Discussion

The opening comments summarized the issue regarding effluent discharges by emphasizing the need for a meaningful disposal method for gas, especially stripper gas wells. Disposal methods need to be researched and approved which will be consistent with other existing or proposed programs such as RCRA, groundwater protection, etc. As the regulatory dilemma presents itself to the industrial community, the promulgated standard is zero discharge but in practice there is no enforcement of this standard. It is essential that a meaningful disposal program be established which is flexible enough to take into consideration site specific permitting, but which is also enforceable. In order to enhance the credibility of the entire environmental regulatory program for the oil and gas industry, effluent discharges need to be reasonably and consistently regulated.

As suggested in the summary of the history of the debate with EPA regarding the zero discharge effluent limitation, industry has led the discussion. Unfortunately, the government has not chosen to respond.

Currently, in Pennsylvania the process is under way in an attempt to draft a general permit and obtain approval from Region III.

If permitting is established, there is a reasonable concern for costs imposed upon the industry for application fees and compliance fees. Exorbitant fee assessment of whatever type could seriously inhibit the industry's economic viability.

The DOE grant representative Mr. Brent Smith commented that research regarding the effluent discharges will be addressed in a few weeks when announcements are issued awarding funds.

As well as acknowledging the role the DOE can provide, it was also commented that the I.O.G.C.C. should also define a role for itself in support of the industry's position regarding regulation of industrial discharges. It is essential that the Appalachian region's governors actively request the attention of EPA regarding this issue.

With regard to EPA, both Jim Erb of Pennsylvania and Ted Streit of West Virginia offered to raise the effluent limitation issue with Region III in a meeting scheduled to take place within a week.

STORM WATER RUNOFF

I. Presentation

November 17, 1990, EPA promulgated final storm water regulations. The final rule sets forth an exemption for oil and gas exploration, production, processing, treatment

operations, and transmission facilities from the requirement to submit a permit application for discharges composed entirely of storm water. Only oil and gas facilities which have had a release of oil or hazardous substances mingled with its storm water discharge in the past three years will be required to submit a permit application. The regulations set forth the visible sheen test for the release of oil to a storm water discharge. EPA has estimated that there are over 705,000 oil and gas wells alone in the United States, therefore, reliance on the oil sheen test to determine if storm water discharges from oil and gas sites are "contaminated" will be a reasonable test for operators to determine whether to file a storm water permit application.

EPA has drafted guidelines for a storm water general permit. It is EPA's intention to issue general permits that cover the majority of storm water discharges covered by the regulation. (i.e. oil and gas facilities which have a release.) Once baseline permitting is accomplished, EPA intends to focus upon watershed permitting, industry specific permitting and facility specific permitting in that order of priority.

November 18, 1991 is the deadline for application for a storm water permit for non-exempt storm water discharges. While EPA has proposed to extend that deadline to May 1992, it is important for states to move quickly to put general permits in place to remove the obligation of addressing these non-exempt discharges through individual permitting.

II. Discussion

The effect of the newly promulgated storm water regulations on the oil and gas industry is minimal. Only if you have a spill will an oil or gas operation need to concern itself with the storm water program. Otherwise, the program contains a clear exemption for the oil and gas industry.

The State of West Virginia commented that some state agencies are considering issuing a permit to include everyone and allow "exemption" for those who may opt out as provided in the regulations. In response, it was suggested that it might be more desirable to have a general permit, but only for facilities covered by the storm water program.

MONITORING AND COMPLIANCE

I. Presentation

A key component to any regulatory program is the ability to adequately monitor and insure compliance with its rules and regulations. Regulatory agencies must be adequately staffed with well educated and knowledgeable personnel to properly monitor and insure compliance.

State programs generally have the capability for inspection and surveillance procedures, the capability to make comprehensive surveys of facilities and activities, and to conduct periodic inspections of regulated facilities and activities in order to insure compliance.

II. Discussion

The need for education as well as monitoring enforcement was expressed. The industry and state representatives expressed concern over the education level of state inspection personnel. Industry indicated that associations could assist in the educational process and also that by self-education, industry might possibly reduce enforcement actions. A brief description of the IOGCC's state review and training projects was provided as a possible solution to the state and industry educational needs.

Some enforcement options were also discussed. Industry expressed a concern that enforcement actions were taken against mostly against compliance operators and the bad operators were not bothered because they wouldn't comply. This opinion was supported by several of the state regulatory personnel. The solution to this problem again went back to a heightened educational level for state field personnel as well as industry field personnel.

UNDERGROUND INJECTION CONTROL

I. Presentation

Underground injection control is a valuable disposal option for E&P waste in portions of the Appalachians. Unfortunately, its potential has not been as fully realized in some areas as it has been in others. For example, Pennsylvania has only seven UIPC wells for E&P waste disposal.

The UIC program itself established careful drinking water supply safeguards that provide a sound basis for encouraging the use of this disposal methodology.

States should review this disposal option and seek ways to encourage its development in accordance with the UIC program.

II. Discussion

It was commented that Region IV has created a problem for the industry in Kentucky. Region IV has taken the position that it will only accept stand-by trust agreements as opposed to corporate financial statements. Additionally, Kentucky is

having difficulty obtaining delegation for the UIC program. One criticism offered was that the federal government has little incentive to delegate away the funding which accompanies these regulatory programs.

Encouragement needs to be offered by the UIC or the IOCC in the form of active involvement with EPA to get this program to work. The UIPC has directors through which these issues can be raised. Among those directors are Jim Erb and Mike Lewis.

WETLANDS

I. Presentation

Currently, it is estimated that over 80 percent of all wetlands loss is caused by unregulated activity, the major causes of which are drainage, natural erosion, subsidence, sea level rise, and clear cutting. However, oil and gas operations may also contribute to the loss of wetlands. Impact-producing factors from oil and gas operations include pipeline construction, drill site construction, navigation and pipeline canal construction, access road construction, service and support base construction, and oil and gas wastes.

In 1988, the National Wetlands Policy Forum presented its recommendation to establish a national policy of "no overall net loss" of the nation's remaining wetlands base, as defined by acreage and function, and to restore and create wetlands, where feasible, to increase the quality and quantity of the nation's wetlands resource base." President Bush has endorsed the no overall net loss goal and established an Interagency Wetlands Task Force under the Domestic Policy Council to study the issue.

Since 1988, considerable attention has been focused on how to improve the wetlands protection afforded by the Clean Water Act, Section 404 dredge and fill permit program, which governs operations in wetlands. Section 404 requires that adverse ecological impacts of a development project be mitigated for by the developing agency or individual. The "no overall net loss" goal, as well as Section 404 of the Clean Water Act and other Federal and State requirements, are potential constraints to oil and gas drilling, production, and transportation operations.

Creative solutions are needed that are appropriate for a particular wetland environment. Flexibility has to be incorporated into any wetlands regulatory framework os the mitigation sequencing steps of avoidance, reduction and compensation need not all be applied in every instance, if they are not warranted. In some instances, compensation may be desirable as a first step. In other cases, avoidance and minimization may be sufficient. Permitting authorities should consider the relative value and function of a wetland when making permitting decisions, with permits being easier to obtain for wetlands of low value.

In some regions, and on some projects, wetlands mitigation banks that set aside and upgrade wetland habitats can be used as one means of satisfying mitigation requirements. These banks can accrue mitigation "credits" based on the habitat that has been enhanced. Banking of credits in advance of actual need should speed the permitting process, lower costs per acre or per unit of habitat improvement, benefit wildlife since larger developments will tend to incorporate entire ecosystems, and reduce uncertainty concerning the success of mitigation actions.

II. Discussion

Discussion was brief as participants felt that other issues deserve more attention.

NORM

I. Presentation

The presence of naturally occurring radioactive materials (NORM) in oil and gas operations has been recognized since the 1930's. NORM exists on the inner surfaces of some oil and gas equipment, generally in the following forms: Radium 226 and Radium 228 - coprecipitated in some production equipment as mineral scales, sediment and sludges; Lead-210 in gas plant equipment as a thin film or coating, primarily propane and ethane pumps; and Radon gas co-produced with natural gas.

Regulatory agencies in several of the Gulf Coast states began to focus attention on NORM in the exploration and production segment of the oil and gas industry. Concern was expressed by regulatory agencies that presence of NORM in the workplace could have worker health and safety implications. In addition, the release for unrestricted use of NORM contaminated oil and gas equipment was being questioned from a public health and safety standpoint.

Although widely dispersed in the earth's crust, elevated levels of NORM in oil and gas production equipment and wastes appear to be restricted to certain geographic areas. The American Petroleum Institute (API) funded a 1989 study [National Survey on Naturally Occurring Radioactive Materials (NORM) in Petroleum Producing and Gas Processing Facilities by Gordon Otto] to identify geographic areas within the U.S. where oil processing facilities have the highest incidence of NORM contamination, and to identify the types of equipment at these facilities that have the highest NORM concentrations. Otto analyzed over 36,000 external gamma measurements at API member facilities in 20 states and three offshore areas. Results indicated that oil workers have little chance of being exposed to external radiation doses in excess of accepted safety standards since greater than 99% of the survey measurements taken were less than 0.6 mR/h (Micro-Rems/Hour). The study indicates that the only state within the Appalachian region with

known quantities of NORM in oil and gas operations is Kentucky. Data was available from production facilities in Union County (19 observations) and Henderson County (2 observations), with median measurements of 10.0 and 9.0 mR/h (Micro-Rems/Hour), respectively from water tanks.

Ingestion and inhalation of sufficient quantities of NORM to cause health concerns can be prevented by application of standard industrial hygiene practices at the workplace. Concern over radon gas inhalation and internal dose to lungs from daughter products is minimized by following standard closed space entry precautions prevalent in the oil and gas industry as a result of the presence of hydrogen sulfide, carbon monoxide and oxygen depleted atmospheres often found in tanks and other closed vessels. NORM wastes can be handled and disposed of on-site at oil and gas operations in a number of ways with no adverse environmental effects or health of safety effects.

II. Discussion

Discussion was brief. Participants not aware of any particular NORM related problems.

RCRA REAUTHORIZATION

I. Presentation

In 1980 amendments to the Resource Conservation and Recovery Act (RCRA), wastes from oil and gas exploration and production operations were exempted from being regulated as hazardous wastes under the Subtitle C Federal hazardous waste management program. EPA was directed to study these wastes and recommend appropriate action to Congress. The exemption is specifically for drilling muds, produced waters and other "associated" wastes.

EPA issued a report to Congress in December 1987. Major conclusions were that:

- oil and gas wastes rarely pose significant threats to human health and the environment; and

- regulation of oil and gas wastes under Subtitle C appears unnecessary and impractical, and would have a substantial impact of the U.S. economy.

In June 1988, after opportunity for public comment, EPA published a regulatory determination for oil and gas wastes which concluded that regulation under Subtitle C was not warranted, and existing State and Federal programs (e.g., those under RCRA Subtitle D, the Clean Water Act and the Safe Drinking Water Act) are generally adequate to

regulate these wastes. EPA pledged to work with States, through organizations such as the Interstate Oil Compact Commission, to improve State programs, if necessary, and develop tailored Subtitle D, Federal standards for the management of oil and gas waste.

Some environmental groups want the exemption for oil and gas wastes eliminated, and contend that these wastes should be regulated solely on the basis of their toxicity and hazards. At minimum, this could entail the characterization of individual waste streams. Regardless of whether the exemption is maintained, Congress is considering more stringent requirements for Subtitle D solid waste management facilities.

II. Discussion

Having benefited from a presentation on RCRA reauthorization at the previous days Appalachian Producers' meeting, the industry representatives were well informed on RCRA and the implications of reauthorization. The discussion centered around exchanging information and possible reauthorization scenerios for state E&P regulatory programs and the effects of those program changes on the industry.

OIL POLLUTION PREVENTION REGULATION

Following the collapse in January 1988 of a 4 million gallon aboveground storage tank owned by the Ashland Oil Company and the resulting spill of diesel fuel into the Monongahela River, EPA initiated an effort to strengthen Federal oil pollution prevention regulations (40 CFR Part 112). These regulations, also known as the Spill Prevention, Control and Countermeasure (SPCC) regulations, are designed to prevent discharges of oil from certain onshore and offshore facilities and to contain such discharges when they occur. The principal authority for the SPCC program in section 311(j) of the Clean Water Act.

SPCC regulations were first published in 1973 and amended in 1976. EPA currently plans to revise them in two phases. For example, Phase I which is in the final stages of EPA and OMB review may require the owners/operators of non-transportation related facilities storing oil to notify EPA. It may also reaffirm an EPA assertion that many portions of the regulations are mandatory (changing "shoulds" to "shalls"). Phase II may include requirements for the preparation, submittal and, in some cases, EPA approval of facility-specific response plans. In accordance with the Oil Pollution Act of 1990, these plans must account for the worst case discharge from the facility.

Coinciding with regulatory change, EPA has announced renewed emphasis on facility inspections and enforcement actions.

II. Discussion

Participants discussed the SPCC regulations and the Oil Pollution Act of 1990 and the possible effects these regulations could have on the Appalachian Independent Producers. The state regulatory officials and industry representatives discussed implementation and enforcement of this federal regulatory program.

TOPICS NOT DISCUSSED

- Fluid disposal from coalbed methane

Outreach and Education

Waste Management Program Changes

Communications Across States and EPA Regions

SUMMARY

It was stated that all members at the workshop are experiencing pressures for what has developed into a national environmental movement. Barriers exist which are attempting to prohibit discussion and resolution. Workshops with attendees such as those present are evidence that those barriers do not exist everywhere. It should also be pointed out that the Directors of the six states involved met informally to discuss the formation of an organization of Appalachian state regulatory officials. It was agreed among those present that it would be beneficial for these people to meet regionally to discuss mutual problems from time to time and that an organization should be formed perhaps as a subset of the Council of State Regulatory Officials which meets at the IOGCC semi-annually. It was further decided that the IOGCC would act as secretariat to the organization and would coordinate and plan a meeting to be held in the end of October somewhere in the region. Jim Erb from Pennsylvania was nominated and elected Chairman by acclamation.

CRITIQUE QUESTIONS AND SUMMARIZED RESPONSES

1. Were the issues discussed at today's workshop relevant to your company or agency's operations.

   Yes - 21 No - 0

2. Was time allotted to the issues in proportion to their importance?

   Yes - 17 No - 2

3. Were there other topics that should have been discussed?

   Yes - 7 No - 13

4. Was the size and format of the workshop conductive to constructive discussion and movement toward resolution of the issues?

   Yes - 19 No - 2

5. Will contracts or discussions initiated at this workshop encourage you to participate in future efforts to resolve issues addressed here?

   Yes - 21 No - 0

6. What follow-up actions would you recommend by the various participants:

   Industry: communication and cooperation with states, find solutions, identify problems, increase education.

   States: communication and cooperation, meet regionally, increase education.

   DOE: Work with states and industry on research needs.

   IOCC: Follow-up or summary of these issues, assist in communication for these groups, gather data.

7. Were those conducting and participating in this workshop the right ones to address these issues? Should anyone else be invited?

Yes - 15 No - 0

8. Should this workshop be repeated? If so, in what time frame (e.g., annually or biannually)?

Yes - 20 No - 0

9. Please report any other comments, criticisms, or suggestions to assist us in preparing in future workshops.

Success, follow through, more notice, time schedules for items, very helpful, great job, lead to solutions, regional concept for workshops is on target.

DATE
FILMED
12/8/93
END