

PUTTING "INTERNATIONAL" BACK IN IPEC

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ABSTRACT

During the previous six annual sessions of the International Petroleum Environmental Conference (IPEC), little attention has been given to international issues. Although the United States is clearly a leader in oil field research and regulatory development, information is available on interesting projects throughout the world. Many participants in IPEC have little exposure to international oil and gas environmental problems and solutions. Beginning with the 7th IPEC, a stronger effort is being made to include international issues in the conference. This paper describes some of the author's experiences in working with international oil and gas environmental issues in North America, Latin America, Europe, and Asia. Among the topics to be discussed are the issues that developing oil and gas-producing nations face and the need for sensitivity to other nation's cultures and legal systems.

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INTRODUCTION

Oil and gas are being produced in many countries around the world. Table 1, based on data collected by the U.S. Department of Energy's (DOE's) Energy Information Administration (EIA), shows the production levels of the major oil-producing nations in the world. Nations in the Organization of Petroleum Exporting Countries (OPEC) produce about 43% of the world's total of nearly 68 million barrels per day (bpd). Saudi Arabia is the world's largest producer at 8,250 bpd (12% of total), followed by Russia and the former Soviet states at 6,421 bpd (9%), the North Sea offshore (includes offshore production from the United Kingdom, Norway, Denmark, the Netherlands, and Germany) at 5,914 bpd (9%), and the United States at 5,761 bpd (8%). Oil and gas are being produced in virtually all geographic and climatic areas, from tropical rain forests, to Middle Eastern deserts, to Arctic regions, to deep offshore areas.

Most participants at the International Petroleum Environmental Conference (IPEC) live and work in the United States. Many do not deal with international issues and do not follow international information on petroleum production and environmental concerns. The United States has been and continues to be a world leader in oil and gas technology and in higher education and research. Our citizens have good reason to be proud of U.S. accomplishments. However, we do not have all the answers or good ideas. We are missing out on valuable information by ignoring the contributions of scientists and engineers from other countries. This paper describes some of the author's experiences in dealing with international issues and seeing how other countries decide to regulate oil and gas activities.

PAST PARTICIPATION IN IPEC

Stephen Hall of the University of Tulsa provided statistics on participation of persons from countries other than the United States at IPECs held in 1996 - 1999 (2). He also indicated the number of non-U.S. speakers scheduled for IPEC 2000. The total number of non-U.S. speakers has steadily increased from 6 in 1996 to 19 scheduled for 2000 (Table 2). The total number of non-U.S. participants has also generally increased from 14 in 1996 (3.9% of all participants) to 35 in 1999 (9.6% of all participants).

Representatives from 27 foreign countries, including North America (2 countries), South America (7 countries), Europe (8 countries), the Middle East (3 countries), Asia (5 countries), Africa (1 country), and Australia, have attended past IPECs or are scheduled to speak at IPEC 2000. At least one representative from Mexico, Canada, and the United Kingdom has attended all IPECs from 1996 to 2000.

While it is encouraging that the level of participation in IPEC by non-U.S. individuals is increasing, the meeting is far from a true international gathering and forum for exchange of ideas. For IPEC 2000, a new session dedicated to international issues is included on Wednesday, November 8. The response of abstracts for this area was so outstanding that there were more papers on international topics than could be accommodated in one session. As a result, there will be papers on international topics or by non-U.S. speakers in many of the sessions through the conference. Hopefully, this cross-pollination of international ideas with domestic ideas will be beneficial to all participants.

ENVIRONMENTAL PROTECTION IN THE INTERNATIONAL PETROLEUM INDUSTRY

The international petroleum industry consists of numerous companies operating in many countries. Some countries have national oil companies (e.g., Petróleos Mexicanos or PEMEX in Mexico; Petróleos de Venezuela, S.A, or PDVSA in Venezuela), while others produce their petroleum primarily or totally through private companies. Some multinational companies operate in numerous locations around the world while others operate in just one or a few locations.

The United States and the nations surrounding the North Sea have mature petroleum industries, and the governments of those countries have established organized environmental standards and requirements for oil and gas operations. Many other countries with developing petroleum industries do not have a long history of environmental protection for oil and gas operations and have less organized environmental protection requirements.

Comparison of International Requirements

One of the opportunities provided by international meetings and conferences is to allow participants with different backgrounds and experiences to encounter other ideas and ways of doing business and learn from one another. In 1996, the United Nations Commission on Sustainable Development directed the Dutch and Brazilian governments to organize an international meeting to focus on offshore oil and gas environmental issues. The Offshore Experts Meeting was held in the Netherlands in November 1997 and included representatives from over 60 countries. The meeting was valuable in outlining the variety of environmental controls required by governments and used by industry throughout the world. A second Offshore Experts meeting was held on a smaller scale in June 2000 in Norway.

Several papers in IPEC 2000 deal with international regulatory issues. Veenstra and Mohr (3) will give an overview of U.S. and international regulations concerning hydrocarbons in effluents, and Jones et al. (4) will describe international offshore discharge practices and standards. Getliff et al. (5) will give an international perspective on ecotoxicity of drilling fluids. These papers should provide participants with a better sense of the range of requirements imposed throughout the world.

U.S. Guidance to Other Nations

Nations with developing petroleum industries have looked to the United States and the North Sea countries for guidance on how to best protect their environment without unduly hindering economic development. The author has been involved in several workshops that were designed to explain U.S. offshore and waste management requirements to other governments. The first such workshop occurred in April 1998 when DOE and the U.S. Environmental Protection Agency (EPA) organized a trip to Moscow to explain U.S. offshore requirements and the scientific and policy basis for those requirements to the Russian government. The impetus for that trip was expanded offshore operations by U.S.-based companies in the Sakhalin Islands, off the Pacific coast of Russia. The existing Russian requirements for management of offshore wastes were

confusing, and it was hoped that after learning how the United States regulates offshore operations, the Russian government might modify its requirements.

Earlier this year, the author was asked to participate on a team that was assisting the Mexican government in developing a wider range of drilling waste management options. The existing options in that country are limited and expensive. A paper by Rivera et al. (6) in the Legal and Regulatory Issues session describes the process used to develop other more flexible waste management options using a risk-based approach.

Recently, the author was invited to participate in a workshop later this year for the Brazilian government describing U.S. offshore regulations. Brazil is in the process of opening its petroleum industry to firms other than its national oil company, Petrobras, and wants to learn how other developed countries regulate private companies.

Concerns About Transferring U.S. Regulatory Requirements to Other Countries

The United States is generally seen to have a stable and logical set of offshore regulatory requirements and is often emulated by other nations. However, not all nations are eager to adopt U.S. regulatory requirements. This reluctance may be due to different cultures, historical precedents, and political climates. For example, the nations operating in the North Sea have decided to prohibit most or all discharges of cuttings from wells drilled with synthetic-based fluids. Conversely, the United States will presumably adopt final regulations later this year allowing discharges of synthetic-based cuttings to offshore waters. Another example is that a large proportion of the U.S. offshore oil and gas waste brought onshore for disposal is disposed of through commercial injection wells. By comparison, injection is not widely practiced in Europe and many other parts of the world.

Decommissioning of old offshore platforms takes different forms in the United States and the North Sea. Efforts to abandon the Brent Spar platform in the North Sea generated a fire storm of criticism in Europe, ultimately leading to use of the platform structure as part of the dock facilities in a port. On the other hand, many offshore platforms in the Gulf of Mexico are cleaned and placed on the sea floor through the "Rigs to Reefs" program to create new fishing habitat.

Some requirements that are common in nations with developed oil and gas industries are not practical in developing areas. For example, in many areas, drilling wastes and other solid or oily wastes are disposed of in onshore landfills. Sakhalin Island does not have existing landfills that are suitable to handle large volumes of wastes. If the government adopted regulations requiring zero offshore discharge of drilling wastes, there would be no way of managing them onshore.

The former Soviet Republics are beginning to exploit their substantial petroleum reserves, and they recognize the need to establish environmental protection requirements. Three papers in the Legal and Regulatory Issues session, by Bryson (7), Ivanova (8), and Gotsiridze (9), describe the processes being followed there and the difficulties in melding western standards with local customs and requirements.

The author has observed during his workshops with foreign governments the pride that government officials often have in their existing requirements. As a representative of the United States, the author had to be cautious not to offend other government officials by touting the virtues of U.S. controls and downplaying the value of local controls. There is a fine balance to sharing information about U.S. practices without imposing those practices as the only way to do things.

INTERNATIONAL OPPORTUNITIES

Major U.S. oil and gas companies have recognized that domestic oil and gas reserves are limited and will not supply their long-term business needs. For many years, these companies have explored for and produced oil around the globe. U.S. technology is employed throughout the world. At the same time, foreign-owned companies are exploring and producing in U.S. regions, and foreign technologies and equipment are employed where they offer better performance or value.

Ample opportunities exist for U.S. businesses and agencies to assist foreign governments and foreign oil companies. A paper by Rivera et al. (10) describes the complicated process employed to establish an innovative cooperative agreement between Mexico and the United States for environmental technology deployment.

IPEC 2000 participants should take advantage of the international information available at this meeting and should seek out non-U.S. participants as professional colleagues. There are many bright and capable people in other countries who can share information and help you in your work or who can be potential clients. Numerous papers will be presented at the 7th IPEC by non-U.S. authors describing technologies, processes, or situations that may not be familiar to other participants. If we are to succeed in a global economy and a global petroleum industry, we must get to know the players from other parts of the world.

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Table 1 - World Crude Oil Production Including Lease Condensate
(in thousands of bpd)

OPEC Countries	1999 Average	June 2000
Algeria	1,202	1,250
Indonesia	1,504	1,490
Iran	3,557	3,705
Iraq	2,508	2,565
Kuwait	1,898	2,150
Libya	1,319	1,420
Nigeria	2,130	2,140
Qatar	694	735
Saudi Arabia	7,833	8,250
United Arab Emirates	2,169	2,280
Venezuela	2,826	2,940
Subtotal	27,641	28,925
Non-OPEC Countries		
Angola	766	770
Argentina	802	755
Australia	539	747
Brazil	1,094	1,120
Canada	1,907	2,025
China	3,206	3,295
Colombia	817	720
Ecuador	373	370
Egypt	852	820
Gabon	340	350
India	653	630
Malaysia	720	660
Mexico	2,906	3,056
Norway	3,018	3,002
North Sea offshore	5,949	5,914
Oman	899	910
Russia	6,079	6,421
Syria	538	520
United Kingdom	2,684	2,589
USA	5,881	5,761
Other	3,963	4,264
Subtotal	43,986	44,699
Total	65,678	67,710

Source: U.S. DOE, EIA (ref. 1)

Table 2 - Participation at IPEC by Persons from Countries other than the United States

	1996	1997	1998	1999	2000 (pre-registration)
Non-U.S. speakers	6	7	13	15	19
Other non-U.S. attendees	8	22	11	20	??
total non-U.S.	14	29	24	35	19 +
Percentage of non-U.S. participants	4	7	7	10	??
Number of Countries	9	8	9	16	8 +

Source: Stephen Hall, University of Tulsa (ref. 2)