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KAZAKHSTAN POST TRAINING REPORT

**NIS Institutional Based Services Under the Energy
Efficiency and Market Reform Project
Contract No CCN-Q-00-93-00152-00**

**Kazakhstan
Oil & Gas Sector Reform Program
Delivery Order No 17**

Final Report

Prepared for

U S Agency for International Development
Bureau for Europe and NIS
Office of Environment, Energy and Urban Development
Energy and Infrastructure Division

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CONTENTS

EXECUTIVE SUMMARY		3
SUMMARY OF THE EFFECTIVENESS OF THE TRAINING		4
PARTICIPATION OF THE GOVERNMENT		8
OVERALL EVALUATION OF THE COURSE DESIGN, GOALS, AND OBJECTIVES		10
LESSONS LEARNED AND NEXT STEPS		11
APPENDIX I	Basics of International Oil & Gas Agreements Course Outline with the List of Attendants	13
APPENDIX II	International Petroleum Economics Course Outline with the List of Attendants	15
APPENDIX III	Oil & Gas Project Financing Course Outline with the List of Attendants	18

EXECUTIVE SUMMARY

The legal and economic training program required under the subject contract was prepared in collaboration with USAID Central Asian country representatives through a joint effort of Hagler Bailly's U S based employees, resident advisors, independent contractors, and faculty of the University of Houston

The following short-courses were conducted

- International Petroleum Agreements
- International Petroleum Economics
- Oil and Gas Project Financing

Approximately 50 mid-level representatives of the Government of Kazakhstan ministries, agencies, committees, and state companies participated in the short courses USAID should consider training government counterparts, giving them exposure to international practices and standards in the oil and gas industry

SUMMARY OF THE EFFECTIVENESS OF THE TRAINING

In accordance with the Training Implementation Plan, five short-courses in support of the Institutional Reform Project were developed and planned for Kazakhstan government counterparts. However, due to changes in the government structure of ministries, agencies, and state companies, the movement of the Government to Akmola, and the demands on fiscal planning, only three courses were conducted.

International Petroleum Agreements

August 11-12, 1997 (16 hours)
Instructor Thad Grundy

This course provided an introduction to the principal agreements used around the world between host governments or their state enterprises and private companies which are interested in exploration for and production of oil & gas. The course addressed production sharing contracts, tax royalty agreements, service contracts, confidentiality agreements, study and bid agreements, and joint operating agreements. The course materials included examples of agreements, with provisions used in other countries or developed by various trade associations, as well as materials developed specifically for this course by the Consultants.

International Petroleum Economics

October 27-28, 1997 (16 hours)
Instructor Bhamy Shenoy

This course covered concepts of the time value of money, calculation of return on investment, and various criteria for prioritizing investment using some illustrative examples of capital investment projects in petroleum operations. Examples included evaluation of exploration investment, production projects, enhanced petroleum recovery projects, refinery investment, recovery of natural gas liquids, pipeline investments, etc. In the case of exploration investment, emphasis was placed on the impact of different parameters such as royalties, different kinds of bonuses, and taxes. The concept of "fair rate of return" from different viewpoints was discussed to illustrate risk and return relationships.

Oil and Gas Project Financing

November 17-18, 1997 (16 hours)
Instructor Michelle Michot Foss

This course focused on the relationship between risk and rate of return, and was oriented toward the oil and gas sector. Instruction covered some principles and key concepts of project finance and investment decision making, such as typical balance sheet and income statements for international energy companies, equity capitalization of private companies, and issues for international oil and gas companies in evaluating project investment opportunities.

For the purpose of evaluation of the effectiveness of the respective courses, a questionnaire was designed to be completed on the final day of each seminar.

It included the following questions:

1. Did you find the seminar and the manual helpful to your work?
2. What were the most important subject areas that were covered?
3. Were there subject areas in relation to the seminar topic that were not covered and that need to be covered in future seminars?
4. How does this seminar differ from other seminars that you have attended? How can the format be improved?
5. Overall, on a scale of 1 (poor) to 5 (excellent), how would you rate this seminar?

The following evaluation was given to the seminar on International Petroleum Agreements:

1. The general opinion was that the workshop was useful, subject areas of the seminar were directly in line with the participants' interests, and the training manual served as valuable guidance in their work.
2. With regard to the most important subject area, the majority of the respondents believed that all of the subject areas were of importance for them. Some of the participants considered international oil & gas investment agreements to be the most important topic. The other subjects that were indicated were as follows: production sharing agreements on joint participation in oil development, financial conditions, taxation issues and principles of concluding international agreements, balance between the government pressure in the form of taxes and actual opportunities for an oil business considering all types of risk, as well as relationships between the government and the company.
3. The following areas, according to the participants, required more detailed coverage:
 - Relations between private companies and US Department of Energy, the role of the

Department, pricing policy and price regulation for the oil industry in the US, and international accounting

- ▶ Assessment of the companies reliability and actual opportunities
 - ▶ More details on the agreements signed between the Government and the company showing the conditions under which they are most beneficial for both
 - ▶ How to assess such a quality category as political risks by using a quantitative procedure for tender announcement, and principles used for the tender preparation
 - ▶ Specific examples of the problems related to the issue of obtaining an oil exploration license, and environmental problems created by companies, illustrated with figures and provision of a listing of time parameters
- 4 As for the format of the workshop, respondents preferred to have more specific examples, and an increased use of visual aids, slides, demonstration materials, etc There were recommendations to use role playing, wherein participants could develop model agreements, negotiate them in groups, and identify the best solutions
- 5 The scores for the seminar ranged from 4 to 5

The questionnaire was not distributed upon the completion of the workshop on International Petroleum Economics But during the informal discussions, high appreciation was indicated by the participants both in terms of the presentation itself and the training materials However, it was remarked that specific examples should be used during the course delivery considering country-specific issues The role playing format was proposed for future courses

The last seminar presented in Kazakhstan was devoted to Oil and Gas Project Finance Unfortunately, due to the reorganization of the Government and the movement of some Kazakhstan counterparts to the new capital, the seminar did not attract the expected number of participants Only 5 persons out of 18 invited were present at the classes Given the few participants who attended the course, the informality in the discussion of the course materials and current issues dictated that written questionnaires were not needed The participants expressed their satisfaction with the course topics and materials and regretted the poor attendance level

The training courses on Basic Oil and Gas Accounting and Regulatory Agency Law were not conducted in Kazakhstan, due to the lack of availability of GOK attendees resulting from the structural changes, the movement to the new capital, and the work required for the beginning of the fiscal reporting period

KAZAKHSTAN POST TRAINING REPORT ▶ 7

In addition to the planned training courses, a brief half-day Workshop on Strategic Planning was conducted by John Sanders per written request made by the counterpart government representatives on July 2, 1997

PARTICIPATION OF THE GOVERNMENT

Implementation of the training program involved interaction with local counterparts including different governmental agencies and business entities. An extensive discussion of the issues that were to be covered by the series of seminars took place between Hagler Bailly and representatives of the counterpart government.

In order to identify training needs, a tentative outline of each course was submitted for review and comment to the following major counterparts: Ministry of Energy, Industry, and Trade, National Oil Company "KazakhOil", National Oil Pipeline Company "KazakhNefteProvod" (now "KazTransOil"), "KazakhstanCaspShelf", and the Agency for Control Over Strategic Resources.

Based on the feedback provided by the counterparts, training agendas were finalized and a tentative list of participants was defined. In addition to the proposed list of courses, representatives of the counterpart Government, notably the Ministry of Energy, Industry and Trade and KazakhOil, expressed their interest in the issues related to strategic planning and requested relevant training.

After the delivery of the first course, in order to better understand the needs of the actual participants of the training program, further efforts were undertaken. One such effort was the development of a questionnaire that was offered to the participants of the workshop on International Petroleum Economics to be answered prior to the beginning of the course. The questionnaire included the following questions:

1. Why do crude oil and petroleum product prices fluctuate in the international market? What factors influence the petroleum price movement? During the first oil shock, crude oil prices went up from around \$3/barrel to about \$12/barrel and during the second oil shock they went up further to as much \$40/barrel. However, during the Iraqi invasion of Kuwait, though oil prices went up first, they came down quickly. Why did OPEC fail to increase prices? What are likely to be future crude oil prices? Is it possible to forecast future crude oil prices?
2. What financial criteria should be used to evaluate projects? What is meant by the time value of money?
3. How can one estimate cash flows and discounted cash flow rate of return for investments in exploration, production, refining, marketing, gas processing plants, and pipelines?
4. How can risk associated with the exploration projects be evaluated?

- 5 How are international gas prices determined?
- 6 What should be the role of government during petroleum operations? What happens when government interferes with the free market of petroleum?
- 7 How do international oil companies allocate their capital among competing projects?

Based on the answers obtained, the course design was modified to accommodate the participants' level of knowledge in the subject field

OVERALL EVALUATION OF THE COURSE DESIGN, GOALS AND OBJECTIVES

The training program was designed in support of the legislative and institutional reform project in the oil and gas sector of Kazakhstan. The topics chosen were satisfactory to local counterparts. Hagler Bailly worked closely with those same counterparts in the development of a cost of service pipeline tariff methodology to foster competitive transportation of oil and gas, and on the drafting and the adoption of rules and regulations governing offshore petroleum operations. Efforts were taken to incorporate proposed suggestions and recommendations. However, the lack of case studies related to local experience, and the theoretical approach to the delivery of the courses were identified as issues. Participants expressed their desire to play a more active role during the seminar, to work in groups and participate in the role playing rather than passively listen to the instructors. Notwithstanding the above mentioned remarks, general goals and objectives of the training program, such as the enhancement of internationally skilled local specialists with legal, economic, and accounting backgrounds shall be deemed achievable in terms of participants' familiarization with international concepts, practices, and standards in various subject areas covered during the short-courses.

Another aspect for improvement was the proper scheduling of the courses and identification of the target audience. The goals of the training program and degree of participation could be better achieved through the coordination of the time of course delivery with the working schedules of the local counterparts. For example, the seminar on Basics of Accounting was planned for December, or mid-January, which were the months when fiscal reports are written in the CIS countries. Some agencies could not even allow one person to be present at the seminar, while initially it was planned to have five people from each agency. Secondly, similar seminars on accounting were conducted by Western experts for many agencies in connection with the transition of Kazakhstan to a new accounting system, therefore a lot of specialists (especially from private entities which could afford to pay for the courses) had already participated in similar seminars. Due to the lack of availability demonstrated by the GOK, USAID requested that Hagler Bailly not continue training, unless a specific request was made from the GOK. However, some of the government counterparts, such as KazTransOil and the Ministry of Energy, Industry, and Trade are still interested in participating in such courses.

LESSONS LEARNED AND NEXT STEPS

The experience of conducting workshops demonstrated that the general approach chosen was correct. The information presented at the seminars was useful and relevant to the day-to-day activities of the participants. However, more detailed research is required in order to increase the effectiveness of the training program. It is necessary, prior to the conduct of seminars, to study specific needs of each agency and thoroughly plan the time to accommodate schedules of each interested counterpart.

It is suggested that instructors conducting seminars, prior to development of the course outlines and training manuals, should familiarize themselves with the current situation in the host country in order to adapt the training materials to the specific needs of the potential participants. The training needs may also vary from one agency to another. Thus, a detailed study on this matter shall be undertaken. Consideration should be given to agency-specific training courses, if required. In order to avoid overlap on delivery of similar courses to the same audience, a survey of the number of training opportunities provided to the Government by different donor organizations should be performed.

The format of the courses should be slightly modified to accommodate the expressed interest in the more active role playing by participants during the course delivery.

The next steps to be taken shall include follow-on activities targeted at actual introduction of the new concepts within the framework of the restructuring of the oil and gas sector. This may include delivery of the initial courses to the different audiences, as well as the development of additional courses based on the specific requests from local counterparts. Beyond that, two courses that were not delivered can be presented to the interested counterparts. This is especially important with regard to the course on the Regulatory Agency, due to the recent elevation of the Committee for Regulation of Natural Monopolies and Protection of Competitiveness, accountable directly to the President, to the enactment of the Law On Natural Monopolies, and to the numerous discussions concerning the need to establish a separate agency regulating the energy sector.

Significant interest has been expressed in the Strategic Planning Process, and a brief Workshop is being developed, but a commitment should be made to preparing a formal short-course with a basic manual and case studies. The objective of this course would be to train and develop middle level decision makers connected with the oil and gas sector, either in the government or industry, and to think and plan strategically to solve problems facing the country in the energy sector, in general, and the oil and gas sector in particular. The subjects of a strategic nature that might be covered are World Energy Supply and Demand, Long Term Crude Oil Price Forecast, Transportation Requirements, Creating Natural Gas Demand and Supply Markets, etc.

As it was suggested in the training implementation plan, consideration shall be given to presenting some of the courses outside of the capital cities in either other central cities or in a resort type of setting. Although increasing the cost of the presentations, giving the short-courses in a mountain resort proved successful in retaining the audience for the duration of the course and in attracting a high level of participation.

APPENDIX I

BASICS OF INTERNATIONAL OIL & GAS AGREEMENTS COURSE OUTLINE

I INTRODUCTION

- A Territorial Sovereignty and Ownership of Mineral Rights
 - 1 Territorial Regimes
 - 2 Maritime Boundaries
 - 3 Military Occupation
- B Participants in Mineral Development
 - 1 Host Countries
 - 2 State-Owned Companies
 - 3 Multinational Corporations
 - 4 Other Participants
- C Role and Sources of Law

II OIL & GAS INVESTMENT AGREEMENTS

- A Issuing Development Rights
 - 1 Private Negotiations
 - 2 Tenders
 - 3 Single and Multi-Stage Agreements
- B Forms of Agreements
 - 1 Concessions and Licenses
 - 2 Production Sharing Agreements
 - 3 Risk-Service Contracts
 - 4 Participation Agreements
- C Principal Terms
 - 1 Financial
 - a Bonuses and Rentals
 - b Royalties
 - c Taxes
 - d Production Shares

- 2 Government Control
 - a Relinquishment Provisions
 - b Exploration Phase
 - c Development Phase
 - d Regulation and Management
 - e Termination Provisions
- 3 Social and Economic
 - a Employment and Training
 - b Local Goods and Services
 - c Infrastructure
 - d Sale of Production

D Negotiations, Risk Assessment, and Risk Reduction

- 1 Risks and Risk Assessment
- 2 Financial Analysis
- 3 Risk Reduction
 - a Export of Production
 - b Import and Export of Materials
 - c Currency Controls
 - d Stabilization
 - e Political Risk Insurance

III DISPUTE RESOLUTION

- A Consideration for Choice of Method
- B Arbitration Agreements
- C Choice of Law
- D Recognition and Enforcement of Judgments and Arbitration Awards
- E Limitations on the Right to Expropriate
 - 1 International Law
 - 2 Problems of Suing Governments in Foreign Courts

IV JOINT DEVELOPMENT

- A Participation Agreements and Transfers
 - 1 Joint Bidding Agreements
 - 2 Confidentiality Agreements
- B Joint Operating Agreements

LIST OF ATTENDANTS
International Petroleum Investment Agreements
Oil & Gas Training Center

August 11, 12, 1997

NAME	TITLE	COMPANY/INSTITUTION	PHONE
1 Mike Biddison	Regional Manager	Hagler Bally	62 81 86
2 Nugmanov Yakub Daudovich	Head of Oil & Gas Development Control	Oil & Gas Department under the Ministry of Energy and Natural Resources	62 84 90 (Mr Zhapargaliev)
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17 Shanbaev Turemurat Duzbaevich	Consultant of the control and audit department	Agency on Control over the Strategic Resources	
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APPENDIX II

INTERNATIONAL PETROLEUM ECONOMICS COURSE OUTLINE

I OBJECTIVES OF THE WORKSHOP

- A To understand the economic factors underlying the decisions taken by the oil companies while managing their day to day as well as long-term operation in the areas of exploration, production, refining, transportation, and marketing
- B To learn about the time value of money and how it influences the calculation of rate
- C To learn about how to evaluate investment projects in various petroleum sectors, namely exploration, production, refining, marketing, recovery of natural gas liquids, and pipeline operations
- D To learn about the international spot and term crude oil, product, and gas markets
- E To learn about the significance of liberalization (deregulation), privatization and globalization for petroleum operations
- F Overview and schematic of oil & gas industry
- G Risk Analysis in conjunction with Value Chain Analysis

II COMPUTING RATE OF RETURN

- A Various methods of evaluating projects
- B Time value of money
- C A simple example to illustrate the calculation of DCF rate of return, payback period, and present value of the project
- D Hurdle rates, internal cost of money
- E Capital budget, long range planning, and prioritizing of projects

III EXPLORATION INVESTMENT

- A An example to illustrate exploration investment - a computer model with various factors (royalty, different kind of bonuses, production sharing, taxes, etc) which have influence on rate-of-return
- B How to estimate exploration risk - Monte Carlo technique
- C Why high risk projects require high returns?
- D Factors which influence the investment decisions of trans-national oil companies

IV PRODUCTION INVESTMENT

- A An example to illustrate production investment
- B How to evaluate risks of the projects?

V REFINING INVESTMENT

- A An example to illustrate refining investment
- B How to evaluate risk of the projects
- C How to evaluate the value of different crude oils?

VI MARKETING INVESTMENT

- D An example to illustrate marketing investment based on constructing a new service station

VII PIPELINE INVESTMENT

- A Natural monopoly versus market competition
- B Need for Public Utility Commission and how they work

VIII NATURAL GAS PROCESSING PLANTS

- A An example to illustrate the economics of recovering natural gas liquids like ethane, propane, butane, and other liquids from rich gas

IX INTERNATIONAL OIL AND GAS MARKETS

- A How much crude oil, products and gas are marketed internationally?
- B Short-term world crude oil supply and demand balances
- C Development of spot and term market and also development of oil futures market
- D Problems involved in forecasting long-term crude oil prices
- E Role of OPEC and IEA
- F Development of international gas markets pricing, long-term contracts, economics of LNG

X LIBERALIZATION, PRIVATIZATION, AND GLOBALIZATION

- A Examples to illustrate pros and cons of market forces and government interference to show how petroleum investments are influenced
- B Small refinery bias in the US unproductive investment in small refineries which were later closed when it was removed
- C Regulated interstate gas market in the US for a long time and subsequent deregulation instead of the forecasted tight gas market and high prices, there was a gas surplus and low prices
- D Subsidy to gasohol in the US is there a need to promote alternative energy sources from a strategic point of view
- E Different exploration policies of Norway, Mexico, and Venezuela What lessons can we learn?
- F Petroleum product price control by government examples of Italy, West Germany and the United Kingdom
- G Total government control of petroleum operations, i e , India what was achieved?

LIST OF ATTENDANTS
 International Petroleum Economics
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October 27 28 1997

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1	Mike Biddison	Regional Manager	Hagler Bailly	62 81 86
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APPENDIX III

OIL & GAS PROJECT FINANCING COURSE OUTLINE

I INTRODUCTION

- A Role and Objective of Financial Management in International Energy Companies
- B Major Financial Concepts, Shareholder Value, Cash Flow, and Net Present Value

II CAPITAL INVESTMENT DECISION MAKING

- A Risk and Return Concepts
- B Common Stock Valuation
- C Returns Required on Projects by International Energy Companies
- D Major Steps in Evaluating Capital Investments Projects

III PROJECT CASH FLOW ANALYSIS

- A Incremental Cash flow Analysis
- B Capitalizing Versus Expensing Costs
- C Estimating the Initial Investment
- D Estimating the Annual Operating Cash Flow
- E Estimating the Terminal Year Cash Flow
- F Illustrations of Project Cash Flow Analysis

IV METHODS OF DETERMINING PROJECT RETURNS

- A Net Present Value
- B Time Value of Money
- C Internal Rate of Return
- D Cost of Capital
- E Payback and Return on Investment
- F Illustrations of Project Return Calculations

V PROJECT RISK ANALYSIS

- A Scenario Analysis and Range Estimating
- B Simulation Analysis
- C Sensitivity Analysis
- D Illustrations of Project Risk Analysis

VI FINANCIAL STATEMENTS OF INTERNATIONAL ENERGY COMPANIES

- A Balance Sheets
- B Analysis of Balance Sheets ROA, ROE, etc
- C Income Statements
- D Analysis of Income Statements EPS, Margins
- E Cash Flow Statements
- F Analysis of Cash Flow Statements
- G Illustrations of Energy Company Financial Statements

VII ISSUES IN PRIVATIZATION

- A Equity Valuation Concepts
- B Equity and Debt Considerations in Privatization

LIST OF ATTENDANTS
Oil & Gas Project Financing
Oil & Gas Training Center

November 17, 18, 1997

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