

VOLUME ONE

MAIN REPORT

MID-TERM EVALUATION OF THE CH2M HILL COMPONENT OF THE ENVIRONMENTAL POLICY AND TECHNOLOGY PROJECT

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In association with:
Development Alternatives, Inc.
7520 Woodmont Avenue
Bethesda, MD 20814

Development Associates, Inc.
1730 North Lynn Street
Arlington, VA 22209-2023
(703) 276-0677

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EXECUTIVE SUMMARY

The overall conclusion of this evaluation is that the CH2M Hill (CH) component of the Environmental Policy and Technology (EPT) project is an important USAID initiative that merits the full policy and financial support of the United States government. Despite initial start-up problems, the project is now making good progress toward addressing environmental problems that are serious threats to human health and economic growth in the former Soviet Union.

The CH component of EPT began in late September 1993 and will end in September 1997. It should be noted that certain government agencies, such as the Environmental Protection Agency and the U.S. Forest Service, and a number of private and non-governmental organizations, such as the Harvard Institute for International Development and the World Wildlife Fund, are responsible for other components of the overall EPT project. This report evaluates only the CH component of EPT.

The data for this evaluation were collected in October and November, 1995, at roughly the mid-point in the project's four-year implementation cycle. A U.S.-based team examined the project's financial status and the management of its Washington-based office. A field team visited all six countries in which the project has field operations — Russia, Ukraine, Moldova, Kazakhstan, Uzbekistan, and Turkmenistan. Two team members also attended a regional water policy conference sponsored by the contractor in the Kyrgyz Republic. A draft evaluation report was issued in December 1995. This final evaluation report constitutes a revision of the draft based on comments received from USAID/Washington, from the three Regional USAID Missions in Moscow, Kiev, and Almaty, and from CH2M Hill.

The project's accomplishments in its first two years form a solid basis for achievement of development impact. In a project as large and complex as the CH component of EPT, it can be expected that some activities are progressing more rapidly and more effectively than others. It can also be anticipated that some management problems exist. The problems that exist are not, however, insuperable. Overall, this evaluation concludes that the project should not only be continued, but should be extended, if possible.

The main report identifies several problems that need to be addressed to improve project implementation. A larger number of issues are identified in Volumes Two, Three, and Four, which contain region-specific, country-specific, and delivery order (DO)-specific annexes. Each issue is analyzed and accompanied by a recommendation. For purposes of this executive summary, five problem areas can be highlighted.

1. In its last two years, the project should shift its focus from technology transfer to policy and institutional development.

In its first two years, the project has taken the approach, either implicitly or explicitly, that technology transfer should precede policy reform and institutional development. The project's engineering achievements have, for the most part, been impressive. Many have been carried out in remote regions under extremely difficult conditions. With appropriate follow-up, they will provide thousands of people in the former Soviet Union with the benefits of improved land use, cleaner drinking water, and improved air quality. Of equal importance, the project's accomplishments to date have provided the project with a platform and with the credibility it needs to engage in the more

difficult task of bringing about systemic change. Policy and institutional tasks have not been entirely neglected in the project's first two years, but the concentration has been on engineering. In the last two years, the project should focus on working with cooperating country nationals on bringing about policy reform and institutional development.

2. CH2M Hill should continue a process, already begun, of shifting the responsibility for Delivery Order management from Washington to the field.

In the beginning, CH managed virtually all of its EPT DOs and tasks through country managers based in Washington. This arrangement may have been appropriate and desirable for a centrally funded project in its start-up stage. Now that all delivery orders are designed and that field offices have a full complement of expatriate and cooperating country national staff, the time has come to devolve project and task management responsibilities to the field. CH has already begun this process in certain regions and for certain DOs. The process should be completed.

3. CH2M Hill should manage its field activities on a more strategic basis rather than on a task-by-task basis.

CH tends to manage DOs on a task basis with task leaders or sub-task leaders assigned to carry out specific tasks and sub-tasks identified in work plans. The use of this approach carries with it the danger of losing sight of higher-level, strategic objectives, such as the overall objectives of a DO. To address this problem, CH should manage its field activities by DO and should assign a field-based manager for each DO. This individual should be invested with the authority to exercise flexibility and discretion in the sequencing and implementation of specific tasks. The DO manager's principal responsibility should be the accomplishment of DO objectives. As will be explained in the body of the report, this management arrangement will require some aggregation as well as some disaggregation of tasks in existing DOs, but will not require DO modifications.

4. Senior USAID Mission managers should give EPT their full moral, management and financial support.

The project's engineering works are highly visible examples of American know-how and commitment to technological excellence. They are greatly appreciated by collaborating country governments and local populations and reflect well on the USAID program in the former Soviet Union. In certain areas, EPT is virtually the only project from any donor agency that has achieved concrete results. Unfortunately, the project's positive image is not entirely appreciated or shared by senior managers in the USAID missions in Kiev, Moscow, or Almaty. Senior managers in the three USAID Missions expressed little interest in EPT, explaining that the project did not fit well with their strategic objectives. At a time when the project is poised to bring about real systemic change on the policy and institutional front, it is critical that the Missions provide it with solid and enthusiastic support, at least for its remaining two years and, hopefully, beyond that.

5. Although CH has a strong management team in place in the RFE, CH should not be asked to assume, by itself, the burden of coordinating the activities of other EPT contractors. It will not be able to do this successfully without much stronger support from USAID/Moscow or without a substantial reduction in the number of tasks and sub-tasks for which CH is responsible.

In the RFE, the CH component of EPT has 22 tasks and some 250 sub-tasks. CH is also responsible for coordinating the activities of other EPT implementors, such as the U.S. Forest Service and the

Harvard Institute for International Development. Despite strong management already in place, this is too much of a burden. USAID/Moscow should assume responsibility for coordination of EPT activities in the RFE and should draw up a coherent integrated work plan that ensures that all EPT implementors are working in concert. If USAID/Moscow wants CH to continue to act as the EPT coordinator in RFE, it should consider reducing the scope of CH activities in the region.

The environmental problems of the former Soviet Union are deeply imbedded, the result of 70 years of a centrally planned splurge of heavy industry and over-irrigation. The devastation of the Aral Sea basin, the unbreathable air in Novokuznetsk, and the destruction of forests in the Russian Far East will not be undone by a single four-year project. But EPT, or at least the CH component of EPT, has made a good start. It deserves to be supported and USAID should plan to continue its environmental assistance in the former Soviet Union after EPT ends.

I. INTRODUCTION

A. THE ENVIRONMENTAL POLICY AND TECHNOLOGY PROJECT

The Environmental Policy and Technology (EPT) project was authorized through a special Project Memorandum approved by the director of the NIS Task Force to help the new states of the former Soviet Union develop appropriate policy, legal and management frameworks that would incorporate environmental considerations into economic and democratic reforms. Specifically, the Project Memorandum stated that project activities would include work with government agencies, the private sector and non-governmental organizations. Assistance would also be provided to strengthen environmental management institutions, foster appropriate environmental policy and legislative reforms, promote the growth of indigenous environmental technology markets and U.S. private sector involvement, and encourage democratic participation in the identification and solution of environmental problems.

On September 29, 1993 USAID awarded a contract to CH2M Hill International Services, Inc. (CH) to implement the largest component of the EPT Project.¹ The completion date of the base contract was 24 months after its effective date, or September 28, 1995. The contract provided, however, for two one-year options following completion of the base contract. The CH contract has now entered into the first option year. If the second option year is exercised by USAID, the project will terminate on September 27, 1997.

B. APPROACH AND METHODS

This report evaluates the status and performance of the CH component of EPT as of October 1995 — one month into the first option year. The report provides an evaluation of project management, an assessment of field operations, and a projection of the project's likely impact, in particular its contribution to systemic change on a regional and national level. The mode of this evaluation is prospective, not retrospective, although some history is important to place project activities in perspective. The evaluation's objective is to help USAID and the contractor implement the project more effectively and efficiently.

The evaluation team was composed of 15 specialists each with various levels of effort and various assignments. Four team members, including the team leader, were assigned to a U.S. based-team that analyzed the operations of the CH project office in Washington, D.C., its corporate headquarters in Denver, Colorado, and its international headquarters in London, England. A deputy team leader and 10 other team members traveled to seven countries in the three regions — Russia, the Western Newly Independent States (NIS), and the Central Asian Republics (CAR) — of the former Soviet Union to analyze the project's field operations. Four team members traveled to Russia, three to the Western NIS (Ukraine and Moldova), and three to CAR (Kazakhstan, Uzbekistan, Turkmenistan, and the Kyrgyz Republic.) The deputy team leader traveled to Russia, Ukraine, and Kazakhstan.

To implement other components of EPT, USAID negotiated a cooperative agreement with the Harvard Institute for International Development (HIID), grants with non-governmental organizations, and inter-agency agreements with other agencies of the U.S. government, including the Environmental Protection Agency and the U.S. Forest Service. This evaluation covers only activities in the contract awarded to CH2M Hill.

The evaluation was carried out in four phases. The first phase consisted of a literature and document review of contract work orders, reports and other appropriate project files. Subsequent to this review, a questionnaire and interview guide was developed for the team members. Interviews were conducted with contractor staff and with USAID personnel in Washington D.C. In addition, the Vice President of CH2M Hill International, who is responsible for this project on behalf of the corporation, was interviewed both in Washington, D.C. and in London, England.

The second phase consisted of field visits to the seven countries in the NIS. Team members prepared detailed reports on field operations in Ukraine, in Moldova, in Turkmenistan, in Uzbekistan, in Kazakhstan, in two sites in Russia, and on a regional cooperation project covering the entire CAR. In addition, subteam leaders prepared summary reports covering each region — Russia, West NIS, and CAR.

The third phase consisted of conducting follow-up interviews with USAID and contractor staff in Washington and preparing a series of draft reports. The draft reports consisted of 20 detailed evaluations (labeled “annexes”) of the contractor’s discrete field activities in the three regions and a main report that summarized and, to the extent possible, generalized, the findings and conclusions from the field reports. The draft main report was submitted to USAID/Washington, to CH2M Hill, and to the three USAID missions in Moscow, Kiev, and Almaty on December 20, 1995. At the same time, all 20 annexes were distributed to USAID/Washington and to CH2M Hill while the Russia annexes were submitted to USAID/Moscow, the West NIS annexes to USAID/Kiev, and the CAR annexes to USAID/Almaty.

The fourth phase consisted of preparation of this final report. The evaluation team received detailed comments on the draft report from USAID and from CH2M Hill on January 26, 1996 and from USAID on February 1, 1996. The comments pointed out some errors of fact which have been corrected in this final report. The comments also registered disagreement with some of our analyses, conclusions and recommendations. In some cases, we have modified the document to reflect these comments; in other cases we have retained what was in the draft.

This final report is presented in four volumes. Volume One contains the main report which presents findings, conclusions, and recommendations as they pertain to the project as a whole. Volume Two contains the Russia annexes. It consists of two annexes presenting detailed evaluations of the Novokuznetsk and Russian Far East subprojects. Volume Three contains the West NIS annexes. It consists, first, of a field report, which contains generalized findings, conclusions, and recommendations on the contractor’s operations in Ukraine and Moldova. Volume Three also contains 13 annexes, most of which consist of detailed status reports and evaluations of discrete subprojects (labeled “tasks” in West NIS) in the two countries. Volume Four contains the Central Asian Republics annexes. It consists of detailed evaluations of four subprojects — one in Turkmenistan, one in Uzbekistan, one in Kazakhstan, and one involving cooperation among these three countries plus the Kyrgyz Republic on regional water issues.

II. FINDINGS

A. PROGRAM IMPACT

The CH2M Hill component of the EPT project has only recently passed the mid-way mark in its four-year implementation period. As such, it is not possible to observe or measure directly the impact that the program will eventually have. Some projections of likely impact are possible, however, based on activities that have been completed, initiated, or planned. Some projections apply to all three regions. Others apply to only one region or to particular projects in a region.

The overall goal of the EPT project, as outlined in the Project Memorandum², is to ensure that economic and social restructuring in the Newly Independent States is achieved in an environmentally sound manner. To achieve this goal, the Memorandum identified three purposes:

1. Foster sound environmental policy, strengthen important government environmental institutions, and reform and develop environmental laws and regulations in support of shifts from command to free market economies and the establishment of democratic societies.
2. Promote the growth of an indigenous private sector in environmental management and develop a market for U.S. environmental know-how and technology while generating tangible improvements in environmental quality.
3. Enhance improved awareness and encourage democratic participation in environmental management.

The EPT goal and the three purposes are included in the CH2M Hill core contract.³ It is not clear whether, by including these objectives in the contract, the designers of the EPT project intended explicitly to make CH accountable, in whole or in part, for the accomplishment of the three purposes.

CH2M Hill is only one of several organizations that has a contract with USAID for the implementation of EPT.⁴ However, activities and tasks that touch on all three purpose categories have been included in CH delivery orders. As such, it is fair to conclude that CH has a contractual responsibility at least to contribute to the achievement of the three purposes, if not to achieve them fully.

To date, the CH2M Hill component of EPT has concentrated most of its efforts on purposes #2 and #3. Less effort to date has gone into #1. However, the achievements of #2 and #3 have laid the groundwork for a serious concentration of project efforts on #1 in its last two years. Should this occur, as this report recommends, CH could make a substantial contribution to the achievement of all three purposes.

New Independent States: Environmental Policy and Technology (110-0003), Approved: February 4, 1993.

Contract Number 110-0003-3-366-2663, Signed September 29, 1993.

The scope of this evaluation covered only the activities that were the responsibility of CH2M Hill; it did not cover activities funded under other contracts, interagency agreements, or cooperative agreements with other institutions unless those institutions are subcontractors to CH.

1. Policy, Institutional and Legislative Reforms

To date, the CH2M Hill component of the EPT project has carried out relatively few activities in the area of policy reform and institutional development. The project has apparently taken the approach, implicitly or explicitly, that technology transfer should precede policy change. The strategy seems to be that successful demonstrations of new technologies will create a demand for the policy changes needed to put the new technologies to best use. As a result, the project has focused less attention on attempting to influence policies directly than it has on designing and implementing demonstrations of new environmental technologies.

One of the reasons for the contractor's relative inactivity in this area is that another contractor, the Harvard Institute for International Development (HIID), has a cooperative agreement with USAID to work on environmental policy issues. At the same time, HIID is a subcontractor to CH2M Hill. The purview of this evaluation included looking at HIID work under the CH subcontract, but not under its own cooperative agreement, so HIID may well have some policy and institutional accomplishments under its own contract of which the evaluation team is unaware. A problem that often plagues projects, the implementation of which is divided among several contractors (or, in this case, contractors, U.S. government agencies, and non-governmental organizations), is ineffective and inefficient coordination of activities. As will be discussed again in a subsequent section of this evaluation, this problem has not escaped EPT.

Whatever are the responsibilities of HIID or other contractors in the areas of policy and institutional reform, the overall CH contract, as well as tasks included in certain delivery orders, make it clear that CH itself has responsibilities in these areas. In some cases, CH has already initiated policy-related activities. It has, for example, organized a series of highly successful regional cooperation workshops in Central Asia, which are aimed at influencing water policies that affect the entire CAR region.

It has also helped establish work groups in West NIS that hold promise for affecting policy change although, according to the CH work plan, the CH work groups are aimed more at transferring lessons learned from the demonstration projects than at influencing directly Ukrainian policies or regulations. Because the work groups had just been established at the time of the evaluation and had not yet even met, it is too early to project their impact. Another West NIS activity related to policy change is the adoption of risk assessment methodologies; the outcomes of risk assessments could result in a demand for changes in policies or regulations. Also, in Russia, CH has engaged the services of one of its subcontractors — the Center for International Environmental Law --, but it was not clear, at the time of the evaluation, what exactly the Center would be doing.

Notwithstanding these specific activities, the contractor has provided fewer resources and paid less attention to policy-related activities than it has to engineering-related activities. In some cases, the contractor has scheduled policy and institutional activities required in delivery orders for later implementation. In other cases the contractor did not appear to have made any plans to carry out policy and institutional work that was required in delivery orders. Examples of activities that have either been neglected or postponed include:

- < a water pricing study and the installation of water meters required by DO 7 in Kazakhstan;
- < demonstration of water and sewage system cost recovery techniques in the Crimea Health Improvements Task in Ukraine, required by DO 9;

- < a demonstration of billing and metering in Lviv, Ukraine required by DO 9; and
- < development of a strategic plan for the future institutional set-up of the Lviv Vodokanal also required by DO 9.

The consequence of this lack of attention to policy and institutional issues is that several of the project's engineering accomplishments are not supported by appropriate policy, institutional, or legal arrangements that would help ensure their institutional and financial sustainability.

2. Tangible Improvements in Environmental Quality

The project has initiated or completed a significant number of engineering-related activities. These include the construction of a reverse osmosis water treatment plant in Turkmenistan, well field rehabilitation in Kazakhstan, and the installation of chlorinators in Uzbekistan and Kazakhstan. The project has made progress toward setting up several demonstrations of environmental-related technologies. These include risk assessment methodologies in Donetsk and Moldova, forestry regeneration in the Russia Far East, and a hydraulic model of the drinking water distribution system in Novokuznetsk. The project has also initiated a number of activities in health and sanitary education that involve the procurement of laboratory and other types of equipment.

American businesses have already benefitted from the initial procurement of such items as pipes, chlorinators, air quality monitoring equipment, fire fighting equipment, computers, and other such technology. Whether this initial procurement will lead to follow-on sales of American commodities and services once the project is completed is difficult to assess at this time.

The project's engineering achievements have the potential, albeit only the potential, for "generating tangible increases in environmental quality." However, most of the project's accomplishments will be engineering studies or demonstration activities. As such, they will not have significant tangible impact without follow-on funding for complementary engineering. In some cases, such as in the Russia Far East, the EPT design calls for CH to do studies while other EPT organizations, such as the U.S. Forest Service, are to follow up with concrete activities. But in most cases, such as the Lviv, Novokuznetsk, and Kazakhstan water projects, some donor or collaborating country institution will have to finance follow-on activities based on the studies or demonstrations in order to generate tangible impact.

There are some exceptions. The water treatment plant in Turkmenistan should have a significant impact on the provision of potable water if a sound distribution plan is adopted and institutional issues are addressed. The community based sanitary health programs in CAR are, in fact, addressing the need for complementary projects by assisting communities on the local level to devise their own programs. But most of the project's achievements constitute plans or demonstrations which cannot have real impact unless the plans are adopted and funded or the demonstrations lead to engineering interventions which will need complementary funding.

In addition, the project will have to turn its attention to policy and institutional issues in order for the engineering achievements to have lasting impact. The main problem is that water treatment plants and other such facilities need a stable source of revenue to be successfully operated and maintained. The project was to, and still should, conduct institutional and economic analyses to analyze operations and maintenance (O&M) costs and to identify sources of revenue to pay for these

costs. The project should also identify policy changes needed to ensure the viability and successful operation of the project's facilities.

To date, the project's only direct attempt to develop an indigenous private sector in environmental management has been in Russia. The project has established a small enterprise fund in the Russia Far East and a business support center in Novokuznetsk. Both initiatives were aimed at funding small environmentally-oriented enterprises. At the time of the evaluation, there existed some doubt, however, as to whether USAID would provide full funding for these initiatives.

3. Improved Awareness and Accountability

The project has great potential for impact in this area. Through workshops, seminars, and demonstrations, the project has already raised the level of awareness of environmental problems among the general population and among key collaborating country institutions in the public and private sector. The increase in awareness is leading to a recognition of the need to address environmental issues.

There is strong collaborating country support and commitment to the objectives of the EPT project. This support is manifest at the grassroots level among non-governmental organizations and small businesses as well as at the higher levels of private industry and government. Virtually all NIS participants had a good understanding of the rationale for the project as well as its objectives. In CAR this support and understanding reached top levels of government as indicated by high-level participation in the regional cooperation conferences. In Russia and West NIS, the support was more localized reflecting the nature of the project's activities in those regions. However, the Russian Ministry of Environment is now interested in cultivating a working relationship with the project. In West NIS, although the projects are localized at the Oblast level, the work groups will include national-level participation.

One problem is that while governments in the collaborating countries are committed to working with the project on concrete environmental problems, they appear not to be as strongly committed to making the policy changes that may be required to ensure that the project's interventions are sustainable. In Turkmenistan, for example, government officials appear committed to working with the project to get clean water to the target population around Turkmenbashi, but are reluctant to discuss the possibility of instituting user charges to ensure that the water treatment plant will be effectively operated and maintained.

The achievements of the EPT project reflect positively on both USAID and the US government. In CAR, the EPT project is the only donor project in the region that has produced tangible deliverables. Collaborating country officials are among the first to point this out. The flip side of this finding is that collaborating country officials are also aware that the project still has much more to deliver. Expectations have been raised. Failure to make good on the project's potential will negatively affect the perception of USAID and the United States government.

B. FIELD OPERATIONS

The CH field operations of the EPT project are being carried out in six countries of the former Soviet Union: Russia, Ukraine, Moldova, Kazakhstan, Uzbekistan, and Turkmenistan. In addition, a regional cooperation seminar covering all of CAR took place in the Kyrgyz Republic. For purposes of management and administration USAID and CH have grouped these countries into three regions

— Russia, the Western NIS, and CAR. Ukraine and Moldova are in West NIS. Kazakhstan, Uzbekistan, Turkmenistan, and the Kyrgyz Republic are in CAR.

CH field operations consist of the implementation of delivery orders (DOs) that are issued under CH's requirements contract. To date, CH has signed 13 DOs, four for Russia, three for West NIS, and six for CAR. One of the 13 DOs, No. 3, was evaluated previously and is, therefore, not a subject of this evaluation. The other 12 DOs were signed at different times and have different expiration dates. The earliest DOs were signed in the spring of 1994, the latest in the summer of 1995. One DO has expired. Three Russia DOs expire at the end of the CH contract — September 27, 1997. The other eight DOs expire in 1996 or earlier in 1997.

Some DOs can be viewed as discrete projects with budgets, schedules and deliverables. Other DOs were issued to provide resources for the planning of subsequent DOs. Still other DOs were issued to add activities and resources to tasks described in existing DOs. DO 9 includes tasks for two countries in West NIS--Ukraine and Moldova.

For this evaluation, findings pertaining to field operations will be presented with the DOs grouped as follows:

Russia⁵

- < Novokuznetsk — DO 10
- < Russia Far East — DO 11

West NIS

- < Ukraine tasks included in DOs 5, 9, and 13.
- < Moldova tasks included in DOs 5 and 9.

Central Asia⁶

- < Turkmenistan Water Treatment Plant — DO 2 and portions of DO 12
- < Uzbekistan Potable Water Supply — DO 6 and portions of DO 12
- < Kazakhstan Potable Water Supply — DO 7 and portions of DO 12
- < Regional Water Cooperation — DO 8

1. Overall Field Operations Findings

In the beginning, the project's pace of implementation was slow. The first delivery orders were not signed until six months after the contract's effective date and some of the tasks required in several delivery orders have not yet begun. The initial slow pace was due to the difficulties encountered by

DO 1, which was signed on April 4, 1994 was aimed at gathering information and planning for subsequent Russian DOs, mainly DOs 10 and 11. DO 1 will not be evaluated separately.

DO 4, which was signed on May 3, 1994 and expired on August 15, 1994, was basically used to define the scopes of work that became part of DO 6 and DO 7. It produced an Environmental Action Plan for the Region.

the contractor in establishing regional offices, in recruiting staff for these offices, and in mobilizing activities in remote sites of the former Soviet Union. Most projects encounter start-up problems of various kinds. But it could be anticipated that start-up problems would be even more difficult in a part of the world where few contractors had any experience and USAID Missions had only very recently been established.

With the CH regional offices now, for the most part, fully staffed, the project's pace of implementation has increased. However, many tasks required in some DOs have either just begun or have not begun at all. This is particularly true for non-engineering tasks dealing with institutional or policy reform. For the contractor to complete all the activities required in the 12 DOs, the expiration date of several DOs will have to be extended.

Many of the activities that have already begun have progressed extremely well. The evaluation team was particularly impressed with the quality of CH's engineering achievements in physically inhospitable areas of CAR. In other areas, by contrast, it was difficult for the evaluation team to discern what exactly has been accomplished or will likely be accomplished. This is particularly true of activities in the Russian Far East where CH is directly responsible for the implementation of some 22 tasks and 250 sub-tasks and also has responsibility for coordination of the activities of other EPT contractors as well as some 50 Russian institutions.

2. Russia⁷

Although CH's regional office for Russia is located in Moscow, its Russian field operations are located in two administratively and geographically separated areas: the city of Novokuznetsk in Siberia and the Russian Far East (RFE). In Novokuznetsk, EPT activities are all concentrated within the city. In RFE, by contrast, EPT activities are spread over two Krai⁸ which cover an area larger than the three Pacific states of the continental United States.

The nature of the activities in the two Russian regions is quite different. In Novokuznetsk, the contractor is addressing problems of water and air pollution. In RFE, the emphasis is on forestry and biodiversity. In both regions, the contractor is engaged in a large number of discrete activities. Inevitably, some of these activities are progressing better than others.

The sheer volume of contract activities in Russia, especially in RFE, has placed a very large management burden on CH2M Hill. In general, EPT activities in the Russian region, especially in RFE, are too diffuse. They should be focused and concentrated to become more effective.

a. Novokuznetsk

EPT activities in Novokuznetsk are referred to collectively as the Novokuznetsk Multiple Pollution Sources Management Project. The overall objectives of the project are to (1) reduce pollution-related health risks, and (2) to assist the city in its efforts to achieve environmentally sound and sustainable economic development. The pollution-related health risks involve contaminated drinking water and air pollution from heavy industries and coal-fired boilers.

This section summarizes findings and conclusions that are provided in more detail in Volume Two of this evaluation, which contains the Russia annexes.

Krais are the administrative equivalents of Oblasts.

In general, these tasks are progressing well. The evaluation team is concerned, nevertheless, that the tasks, however well implemented, will have only a limited effect on the extremely serious environmental problems of Novokuznetsk. The main reason for the team's concern is that the activities in Novokuznetsk are mainly in the form of technical assistance, training, and demonstrations which, by their nature, will require a series of follow-on activities — and investments — in order to bear fruit.

The Novokuznetsk DO consists of seven tasks.

Task 1. Subproject Management. This task involved nominating personnel to manage the project from Washington and in Novokuznetsk. From April, 1994 until recently, the management of Novokuznetsk tasks has been the responsibility of a “project manager” resident in Washington, DC. Four task managers, all resident in the United States, reported to the project manager. A “site manager” and a Business Support Center manager, who were both assigned to Novokuznetsk in August 1994, also reported to the project manager in Washington. All these individuals are American. The CH Moscow field office provided administrative, logistical and technical support for Novokuznetsk activities.

The first draft of this evaluation stated that, although the centralized management structure for Novokuznetsk may have been necessary for various reasons in the early stages of the project, “the time had come to devolve project management responsibilities to personnel in Novokuznetsk and to bring Russian nationals onto the management team.”

At the time of the field investigations for the draft evaluation, in October, 1995, CH had not yet completed its 1996 work plan. The 1996 work plan has now been submitted to USAID. It indicates that CH has indeed made plans to devolve authority over project management to the field. The plan states that the locus of project management responsibility will shift from Washington to Novokuznetsk, first to the expatriate Novokuznetsk manager, then to a Russian manager. The organization chart shows that the Washington-based project manager, who is now retitled “project coordinator,” the four task managers who report to the project coordinator, and all the Novokuznetsk staff report to the CH regional director in Moscow.

At the same time, the work plan states that the CH project office in Novokuznetsk will be closed in September 1996. Meanwhile, the services of the Washington-based project coordinator will “be required through project end,” which is September 1997. Among the responsibilities of the project coordinator, according to the updated work plan, will be “formulating and updating work plans.” To complete the devolution of authority to the field CH should ensure that work plans are formulated and updated in the field rather than in Washington and should make clear how the project will be managed from the field once the project office in Novokuznetsk is closed.

Task 2. Risk Management. The contractor conducted an initial assessment in March 1995, which concluded that the greatest environmentally-related health risk in Novokuznetsk was from air pollution. The assessment determined that contaminated water also constituted a health risk, albeit less severe than air pollution.

The March 1995 assessment was conducted on the basis of “best professional judgment.” Although the methodology used was not in accordance with EPA, World Bank, or European Community procedures governing such assessments, it was apparently accepted by USAID as optimal in the absence of good data. HIID has agreed to conduct another risk assessment, probably under its cooperative agreement rather than under the CH subcontract, using more rigorous standards in 1996.

Task 3. Water Supply Management. Activities under this task involve technical assistance, training and limited commodity procurement to the Novokuznetsk Vodokanal, the local water and sewer company, and the Novokuznetsk Sanitary-Epidemiological Control (SanEpi). The overall objectives are to demonstrate cost-effective methods for decreasing the level of contaminants in public drinking water and to strengthen the ability of laboratories to monitor drinking water quality.

The activities under this task have, to date, been well conducted and well received. The contractor organized an exposure tour of U.S. water supply facilities in 1994 and provided training in drinking water control in 1995. At present, CH is designing a new control system for Vodokanal using hydraulic modeling.

CH has provided computer software to the Dragoonksy water treatment plant in Novokuznetsk. The contractor is also providing equipment and training to the staff of Vodokanal and SanEpi for maintaining a computerized database of water quality information and is assisting in the planning for the creation of a water research laboratory that could serve beyond Novokuznetsk to the entire population of Kemerovo Oblast.

In the realm of environmental education, CH helped Vodokanal organize a conference to introduce to water supply managers the environmental benefits of the project's improved technologies and its modern management techniques. The contractor has also provided materials to the local media detailing the harmful effects of ingesting polluted water.

Task 4. Air Pollution Reduction. The major sources of air pollution in Novokuznetsk are several large industries and 160 coal-fired heating plants. The contractor is addressing this problem by providing technical support and training to enhance the city's air quality and visible emissions monitoring capabilities. CH is currently helping the city conduct an emissions inventory. Its plans include installation of air quality monitoring stations and conducting tests using energy-efficient coal briquets. In addition, HIID has agreed to undertake a policy study on air pollution in Novokuznetsk, which, again, will probably be funded through its cooperative agreement rather than through the CH subcontract.

These activities are necessary but insufficient. If tests reveal the nature and extent of air pollution and indicate what is needed to reduce pollution, the operators of the pollution sources must still be convinced to invest in the equipment needed to reduce pollution. This will require a much greater effort in formulating appropriate policies that will provide the economic incentives needed to induce appropriate investments.

Task 5. Industrial Environmental Audits. This task is closely related to Task 4 in that it is aimed at reducing air pollution. In 1994 CH conducted industrial audits of the city's two major steel complexes. Two other major industries — a ferroalloys plant and an aluminum refinery — refused to participate in the audits for fear that the results would deter foreign investments. In 1995, CH conducted audits of six heating plants. Shortly after the evaluation field team departed, CH also conducted tests to demonstrate the advantages and cost-effectiveness of using clean coal and a more efficient burning process at three district heating sites.

CH is making plans to procure emissions control equipment for the heating plants audited in 1995.

Task 6. Sustainable Development. CH's strategy for this task was two fold. One involved a "bottom-up" city planning exercise named Novokuznetsk 2010. The other involved the establishment of a business development center.

With respect to Novokuznetsk 2010, the contractor organized working groups of local leaders from government, academia, and private business to generate community participation in the development of the plan. After an initial period of enthusiasm, the activities connected with this task have slowed down. According to the updated work plan, CH will redirect a portion of the 2010 funds to low-cost sustainable development efforts growing out of tasks 3-5.

The purpose of the business development center is to train local business people in basic business skills so as to promote the development of small and medium-scale businesses. The task does not have a direct environmental objective. Indirectly, its rationale is that small and medium-sized businesses constitute less environmentally dangerous economic alternatives to the heavy industries that are the source of most of the pollution. In addition, if for financial reasons, these heavy industries are closed down, the small and medium-sized industries will represent a source of jobs.

The Business Development Center opened in September 1995. It offers 114 hours of business training to small business operators and is planning to provide assistance to businesses in locating capital financing. The Center has been extremely well received by the community. Courses are over-subscribed, perhaps because they are, at present, free. The Center will soon begin charging a fee for its courses and services, which will test its sustainability.

Task 7. Lessons Learned and Dissemination. The purpose of this task was to replicate whatever successes occur in Novokuznetsk to other cities in Russia. The updated work plan, however, eliminates this task.

b. Russian Far East

EPT activities in RFE were originally intended to be rather limited, with original funding of \$3 million. One of the results of the Gore-Chernomyrdin Commission process was a very large expansion in the scope and variety of RFE activities accompanied by an increase in funding to \$15.5 million. Of this amount, CH is responsible for activities that are budgeted at \$9.35 million. The remaining funds are obligated in an interagency agreement with the U.S. Forest Service, and in contracts or cooperative agreements with HIID, the World Wildlife Fund (WWF), and ISAR (formerly, the Institute for Soviet-American Relations.) One of CH's responsibilities is to coordinate the activities of all the organizations that are receiving funding from USAID for the implementation of EPT activities in the Russian Far East, as well as some 50 Russian counterpart organizations.

At present, responsibility for the management of CH's RFE activities is vested in an expatriate project manager residing in Vladivostok who reports to the CH regional director in Moscow. The Vladivostok office employs an expatriate biodiversity specialist and is proposing to employ an expatriate writer-editor; it also employs a Russian community development specialist, a Russian senior scientist, a Russian small enterprise specialist, and Russian clerical staff. There is also an expatriate site manger in Khabarovsk who reports to the project manager in Vladivostok. The Khabarovsk office employs Russian clerical staff and is proposing to hire an expatriate forester.

Unlike in Novokuznetsk, responsibility for project management in RFE has, since 1994, been delegated to the Vladivostok project manager. There is a U.S.-based project coordinator for RFE

in the CH Washington office, but the coordinator does not take direct charge of RFE project activities.

CH spent much of the first year of the project establishing offices in the two Krai, and mobilizing short-term technical assistance teams for the purpose of task planning. The result is a work plan that contains 22 tasks and more than 250 discrete activities, which CH refers to as “sub-tasks.” Russians interviewed by the evaluation team indicated that much of this initial planning activity could have been accomplished by the Russians themselves with much less use of American TA.

During the project’s second year, CH has been able to initiate and, in fact, complete a large number of planned activities. In so doing, it has engaged a good cross-section of Russians in the management of these activities. Russian involvement in project activities is institutionalized through the establishment of two Project Coordinating Committees, one for each Krai, which are chaired by the Vice-Governors of each Krai.

The CH delivery order for RFE, DO 11, was signed on September 30, 1994 and expires at the end of the contract — September 27, 1997. The DO requires the contractor to carry out 22 major tasks in Primorsky and Khabarovsk Krai of the RFE. The DO organizes these tasks under three components: (1) institutional development, (2) sustainable forest management, and (3) biodiversity conservation management.

Component 1. Institutional Development. The activities in this component are aimed at strengthening policies and incentives for sustainable natural resource management, at supporting integrated resources planning and management, and at promoting US/Russian partnerships for sustainable development and NGO strengthening.

CH has worked with HIID to prepare a set of initial policy papers and is working with Russian counterparts on forestry legislation currently being considered by the Khabarovsk regional parliament. Relative to other tasks, however, the contractor has not devoted a great deal of attention to policy development.

More work has been done on integrated resources planning and management. CH has established Project Coordinating Committees (PCCs) in both Krai and is working with Russian counterparts on rayon-specific plans. The contractor organized a study tour to the Pacific Northwest of the United States to strengthen relations between Russian foresters and state and local officials in the United States. It also has organized several GIS workshops. Currently, CH is preparing landscape-level and stand-level forest management plans. It is also scheduling a number of other planning-related activities, including the preparation of maps, census, and studies, and the organization of training seminars.

Russian NGOs are more active in environmental matters in RFE than in any of the other EPT areas. The contractor has had some success in getting NGOs involved with EPT. CH has organized five environmental education and NGO strengthening seminars. Two small grants have been awarded to NGOs. NGOs also participated in the project’s integrated resource planning activity in the Chuguevsky Region although they have had little involvement with the planning process subsequently. Despite these activities, NGOs in the region feel that they could and should have a stronger involvement in project planning and implementation as well as in the project’s public education and awareness activities.

Component 2. Sustainable Forest Management. This strategy for the implementation of this component revolves around getting private forest operators to practice environmentally sound forest management.

The contractor has provided recommendations to USAID on the establishment of a Small Enterprise Fund to be funded at \$2 million. The Fund would encourage the creation of small, environmentally friendly forest enterprises that would offer alternative employment opportunities to forest operators who might otherwise be engaged in destructive forestry practices. The contractor has also completed an assessment of forest-based industries in Primorsky, has conducted small business training workshops in both Krai, has procured reforestation and firefighting equipment, and has developed and used a fire fighting training module for training in Khabarovsk. Planned activities include procurement of GIS equipment, the design of a fire prevention program and the training of firefighting crews, providing technical assistance for seed collection and plantation establishment and maintenance, and a workshop on Korean Pine.

The workshops and training sessions have been well received. USAID voiced some reluctance in the beginning to approve funding for the Small Enterprise Fund, but has now informed the evaluation team that it will approve funding at one-half the amount requested.

Component 3. Biodiversity Conservation Management. This component is aimed at preservation of a habitat for several endangered species in the Sikhote-Alin of Primorsky Krai. The DO calls for CH to strengthen management of protected areas, to establish a conservation trust fund, and to promote community development through the design and implementation of integrated conservation and development projects.

To date, CH has helped Primorsky Krai demarcate four new nature preserves and has provided some technical assistance and equipment to improve management in existing preserves. In addition, the World Wildlife Fund, a CH subcontractor, has prepared a proposal to USAID for a Conservation Trust Fund. USAID expressed some skepticism about this proposal, but subsequently approved \$2 million for this Fund. The community development work has been slow to begin; the evaluation team was not convinced that this task has a clear set of objectives.

3. West NIS⁹

Field operations in West NIS consist of six tasks in Ukraine and three in Moldova. Four of the Ukraine tasks are site-specific tasks aimed at industrial waste management in the city of Donetsk, water and wastewater improvements in the city of Lviv, water quality improvement at the Kaniv reservoir, and improving health conditions in the Crimea. The two other Ukraine tasks are not site-specific; they are aimed at the preparation of a biodiversity strategy and the use of Ukrainian-American work groups to advise the Ukrainian government on the implementation of its National Environmental Action Plan (NEAP) and on related policy and institutional strengthening issues. The three tasks in Moldova called for the preparation of environmental risk assessments, for the demonstration of environmentally sound farm management practices, and the promulgation of an outreach campaign for environmental awareness and consensus building.

This section summarizes findings and conclusions that are provided in more detail in Volume Three of this evaluation, which contains the West NIS annexes.

Most of the tasks to be carried out in West NIS are included in DO 9 which was signed in September 1994. Despite its authorization of the DO, USAID did not allow some DO 9 tasks to proceed without modification of their scope. A DO modification reflecting these changes in scope was signed in August 1995. The delay caused by the modification means that, while concrete activities have been under way on several DO 9 tasks for about one year, other tasks are just getting started. The tasks that have the longest maturity include the tasks involving Crimea and Kaniv reservoir as well as most tasks in Moldova and some in Lviv. The Donetsk, Biodiversity, Work Group, and other Lviv tasks encountered the greatest delays while awaiting the DO modification.

Given the relatively short period of operations of CH activities in West NIS, the evaluation team's overall finding for West NIS is that field operations are, after some initial delays, progressing well. The contractor has established excellent working relations with Ukrainian and Moldovan counterparts and with the environmental office of USAID/Kiev. Overall, the project is making good progress toward the achievement of DO objectives.

Most DO 9 tasks contain a mixture of technology-related and policy-related activities. To date, the contractor has concentrated almost all its work on technology-related tasks. It has not yet initiated most of the policy and institutional development work called for in DO 9. The DO, itself, did not contain a delivery schedule. The delivery schedule was provided by the contractor in the form of a work plan, which has been revised several times, and was submitted to USAID in October 1995. The work plan indicates that policy and institutional development activities will take place in the options years of the contract.

a. Ukraine

Task U-1. Industrial Waste Minimization in Donetsk, Ukraine. The purpose of this task is to undertake a demonstration project to promote more effective control of enterprise waste releases into the environment. Activities involve conducting industrial pollution control assessments and audits and demonstrating improved methods for reducing solid and hazardous waste emissions.

This task was only recently authorized by the DO modification and has, therefore, just begun. A CH site manager has only recently taken up residence in Donetsk, but appears already to have established excellent working relations with public officials and industrial managers in Donetsk Oblast. These officials appear to be eager to work with CH and they view the EPT program in Donetsk as integral to the implementation of the NEAP. Some work has begun on preparing for the environmental audits and for training and workshop activities, but no concrete activities had yet been undertaken at the time of the evaluation.

The contractor and key participants in Donetsk appear to have a solid understanding of the nature of the environmental problems in the city and of how the EPT task can help address them. Since this task is just beginning, it is premature to recommend any adjustments or modifications to improve its implementation.

Task U-2. Urban Water and Wastewater Management Treatment in Lviv, Ukraine. The overall purpose of this task is to address problems connected with water supply and wastewater treatment in the municipality of Lviv. With respect to water supply, CH was to:

- < Develop guidelines for the repair or upgrading of water supply facilities;
- < Develop a program to increase revenues, decrease costs, and increase billings based on metered water use; and

- < Develop a strategic plan for the future institutional set up of the Vodokanal, which is the municipal department responsible for water supply.

To date, CH has undertaken activities aimed almost exclusively at the first of these three tasks. The decision to begin with this task before undertaking the others is apparently based on a decision that some concrete improvements in the delivery system must be undertaken to ensure that the project has credibility before the other tasks are undertaken.

To this end, CH has begun work on the preparation of an overall engineering schematic of the city's water distribution system. The schematic will be included in a feasibility study of repairs and upgrading that are needed so that the city will have 24-hour water supply. (At present, water is provided, on average, for only about six hours per day.) The engineering work needed to improve the city's water supply will probably consist mainly of replacing leaking pipes and defective pumps, and installing elevated tanks. The EPT project will not actually undertake any of these engineering works, but the feasibility study is intended to be used by the city to seek funding from other sources, such as the World Bank.

During the evaluation team's visit to Lviv, the contractor conducted a water utility management workshop that was very well received by its participants. The purpose of the workshop was to allow Ukrainians who had participated in a study tour of U.S. water facilities (which was organized by another USAID project) to share the knowledge and insight they had obtained during the tour.

With the exception of this workshop, which dealt with utility management as well as utility operations, work has not yet begun on the other two Lviv tasks. The Lviv task had only recently been authorized to proceed as a result of the DO modification so it is understandable that not all tasks would have been initiated. The team believes, however, that it is a mistake to carry out these tasks in sequence rather than simultaneously. First, the schematic that will be the result of the first sub-task will not actually result in any improvements because some other donor, probably the World Bank, will have to use the results of the study to actually undertake the pipe repair or replacement. Second, it is the team's understanding that increasing the revenues of Vodokanal and taking steps to make the Vodokanal financially and administratively independent have been established as prerequisites by the World Bank in order for the Bank to consider funding of the water improvements. Accordingly, CH needs to focus its attention immediately on these two tasks before the DO expires in December 1996.

Task U-3. Kaniv Reservoir. The purpose of this task is to assess water quality in the Kaniv reservoir and to introduce measures to improve water quality. This task is being carried out mainly by the U.S. Environmental Protection Agency (EPA) under its inter-agency agreement with USAID. The role of CH is limited to procuring and delivering laboratory equipment and employing and supervising Ukrainian specialists to assist EPA experts in support of this project.

CH has initiated procurement of the equipment which should be delivered by March 1996. CH has already employed two Ukrainians who are working with the Institute of Mathematical Machines and Systems of the Cybernetics Center of the Ukrainian Academy of Sciences to establish a computerized model for the analysis of water quality. The model has been established. What remains is to collect data to test the model.

This relatively small task is functioning well to date and needs only continued monitoring to assure that it continues to make progress toward the achievement of its objectives.

Task U-4. Crimea Health Improvements. The purpose of this task is to improve environmental health conditions for the Tatar populations who are returning to Crimea after having been deported from the area by Joseph Stalin during World War II. The primary problem addressed in this task is water quality. The delivery order requires the contractor to carry out several activities. These include procuring and overseeing the installation of nine kilometers of pipe to extend a water line from a well field to a Tatar settlement; procurement of water quality testing materials; preparation of an instruction pamphlet on home-level sanitation improvements; and demonstration of water and sewage system cost recovery techniques.

The contractor was unable to procure the pipe as originally scheduled because USAID decided to carry out an independent environmental assessment before authorizing procurement of the pipe. As a result, the local Vodokanal procured its own pipe and installed its own pipeline to the Tatar settlement. Subsequently, the contractor provided the Vodokanal with replacement pipe.

The other activities required in the delivery order are planned for 1996. The current West NIS work plan describes an approach to accomplishing the task related to cost recovery, but this task is not included in the work plan schedule.

Task U-5. Preparation of a Biodiversity Strategy. The purpose of this task is to help the government of Ukraine implement the biodiversity conservation element of the NEAP. Specifically, the contractor was to help the government prepare a Biodiversity Conservation Strategy and Action Plan.

CH submitted its draft report to USAID in May 1995. When it received no comments after several months either from USAID/Kiev or from USAID/Washington, CH revised the report and submitted it as a final delivery in September, 1995.

Task U-6. Ukraine-American Work Groups. This task calls for the establishment of five environment-specific work groups that will transfer American experience to Ukrainians for the purpose of developing and implementing environmental policies, legislation and regulations. Part of this experience was to come from lessons learned from the demonstrations in Moldova, Lviv, and Donetsk. The delivery order requests that CH provide a coordinator for three of the five work groups. The three are the work groups on Industrial Waste Management, Urban Water, and Agriculture and Agricultural Chemicals.¹⁰

The work groups have just recently been established. CH has named coordinators for the three work groups for which it is responsible, but the work groups had not met at the time of the evaluation.

b. Moldova

Task M-1. Environmental Risk: Priority Setting and Training. The purpose of this task was to assist Moldovans in understanding how to carry out environmental risk assessments. To this end, the contractor has organized a workshop and study tour, both of which were well received by participants. CH has also prepared an explanation of Environmental Risk Decision Making Process terminology, guidelines on water sampling, and a manual on risk assessment, all of which have been translated into Romanian.

The other two work groups, which are to be coordinated by staff from another USAID project, are Policy and Sustainable Development and International Cooperation.

Task M-2. Farm Environmental Demonstration. The purpose of this task is to demonstrate environmentally sound farm management practices, which will address problems of over-use of agricultural chemicals, soil erosion, and management of animal wastes that can contaminate drinking water.

CH has completed several activities required under this task. These include an assessment of analytic capabilities in Moldova related to environmentally sound farm management. A similar assessment of technical capabilities is under way and scheduled to be completed in January 1996. The contractor has also organized a technical workshop and a training workshop on topics related to agriculturally-related environmental protection. The training workshop involved use of the Revised Universal Soil Loss Equation. Another technical workshop is scheduled for May 1996.

The contractor used data from the analytic capabilities assessment to identify three sites at which demonstrations are to be held. The planning document for these demonstrations was submitted to USAID in mid-1995, but had to be revised because of the DO 9 modification in August. The revised document had not been submitted to USAID at the time of the evaluation, but the team has subsequently been informed that the demonstration will involve the use of improved equipment to reduce tilling, thereby reducing soil erosion.

The actual demonstrations are scheduled for the spring 1996 planting season. Originally, demonstrations were to be conducted in 1995, but procurement problems delayed the arrival of equipment. A potential problem is that the contractor's country manager for Moldova, who has been the main actor in the planning and implementation of EPT Moldovan activities, is to be transferred to the CH regional office in Kiev. The contractor should do everything possible to ensure that the country director is available for all the work needed to prepare and carry out the demonstrations. The team has recently been informed that the country manager will be available, from his new position in Kiev, on a 25 percent basis, to oversee Moldova operations. In the meantime, Moldovan staff will remain on site in the Chisinau office.

Task M-3. Environmental Education Outreach. The purpose of this task is to enhance the sustainability of the first two tasks through a program of public information and education. Activities include the use of publications for public awareness and the introduction of materials on risk assessment and risk management in university courses for medical and agricultural students.

The contractor has undertaken several activities under this task. It has organized workshops to plan for education outreach initiatives. It has provided soil and water testing kits and other equipment for an American-Moldovan summer camp organized by the Peace Corps. It helped organize and it participated in the first International Symposium on Ecological Chemistry, which was held in Chisinau in October 1995; the conference helped gain publicity for the EPT program and it linked the field demonstration projects with its education outreach programs. The contractor has also completed outlines for the university courses and plans to print public awareness brochures in 1996.

4. Central Asian Republics¹¹

This section summarizes findings and conclusions that are provided in more detail in Volume Four of this evaluation, which contains the CAR annexes.

Field operations in the Central Asian Republics consist of three country-specific projects and one regional project. All four projects deal with issues of water supply. The three country-specific projects are aimed at providing potable water to populations in remote areas who have been severely affected by the Aral Sea disaster. The regional project is aimed at promoting cooperation in water management among five countries in Central Asia. Because of the similarity in the projects' objectives in the region, this section will present an overall evaluation, rather than, as was done for the other regions, a project by project evaluation, of CAR field operations.

The contractor's engineering achievements are impressive. The water treatment plants, the well rehabilitation, the chlorinator installation and other such engineering works are of high quality. They have, for the most part, been accomplished expeditiously, especially considering the extremely adverse working conditions that exist at most of the project sites.

Two other elements of the EPT program in CAR are equally impressive. One is the community-based approach that the contractor is taking to help resource-poor communities solve health and sanitation problems. Another is the regional policy seminars the contractor has organized. These seminars constitute unique mechanisms for fostering much needed discussions among high-level government officials on the critical topic of water policy and water management.

These accomplishments are highly visible and are universally appreciated by beneficiary populations and public officials. The accomplishments reflect well on EPT, on the contractor, and on USAID. In some countries, they are virtually the only concrete achievements of any Western donor.

The field operations are not, however, without problems. One problem is that the project's engineering operations are necessary but not sufficient to make a marked impact on the supply of potable water. In all three countries, complementary engineering works will be needed for the projects to accomplish their objectives. In Turkmenistan, a distribution system must be designed and implemented in order to get water from the water treatment plant to consumers. In Uzbekistan and Kazakhstan, the chlorinators and pumps installed by the project will have minimal impact on water supply or water quality unless leaking pipes are repaired or replaced.

The contractor has been selective about the priorities it assigned to the tasks in its delivery orders. As is generally true in the other regions, the contractor has neglected or postponed the policy- and institutional-related activities required by the country specific delivery orders in favor of engineering-related tasks. In Turkmenistan and Kazakhstan, the DOs called for studies aimed at determining the true cost of water produced by the facilities the projects had constructed or rehabilitated. In both countries the study was to be followed up by the installation of meters or other "water charging" mechanisms aimed at recovering from consumers at least some of the water systems' O&M costs. HIID has completed a water pricing study for Turkmenistan, but the study's data are not based on actual O&M or distribution costs. No plans have been formulated for the preparation of a water pricing study for Kazakhstan or for the installation of water pricing mechanisms in either country. Without the water pricing studies, it will not be possible to make judgements about project sustainability or make recommendations about what is needed to recover O&M costs.

Even some engineering-related requirements of the DOs have been ignored to date. The most serious of these lapses is in Kazakhstan and Uzbekistan where the contractor has made no plans to carry out the thorough analysis of the condition of the pipes in the water distribution system that is called for in the DOs. In addition, the contractor has made no plans to install demineralization units

in Uzbekistan or to build privies in Turkmenistan, both of which activities were called for in the DOs for those countries.

The contractor has explained that in many cases where there are disparities between DO requirements and actual or planned activities, USAID/Almaty provided verbal approval for these changes in priorities and that there are now plans to amend the DOs to formally reflect these changes. The contractor has also explained that the installation of water meters at pump stations in Kazakhstan is planned for “next spring.” However, there is no mention of this activity in the DO 7 work plan submitted to USAID in October 1995.

A related problem is that, at the time of the evaluation, CH had not submitted to USAID work plans for DOs 2, 6 and 7. Although work plans were not formally required by these DOs, USAID/Washington had made repeated requests for the work plans because, without them, there were no schedules by which USAID could monitor the contractor’s implementation. After the evaluation field team returned to the United States, work plans for these DOs were submitted.

Because many tasks either have not, as indicated above, been started or have been started late, it will not be possible to complete them without an extension in DO expiration dates. DO 2 (Turkmenistan) and DO 6 (Uzbekistan) both expire on April 30, 1996, by which date it may not be possible to complete work on the water distribution system, on health and sanitation tasks, and on O&M training for DO 2; and on distribution systems improvements, installation of filter control panels, plant clarification and re-chlorination equipment, and health and sanitation tasks for DO 6. DO 7 (Kazakhstan) expires on April 16, 1996; remaining work includes hydrologic characterization in the well fields, pipe leaks analysis, a water pricing report, water meter installation, work related to water treatment plants in Novokazalinsk, the development of a wastewater treatment program, and health and sanitation tasks. DO 8 (regional cooperation) expires on September 25, 1996; tasks that still need to be initiated or completed include at least three additional workshops, applied research and partnerships to support the research, and the organization of an international forum for presenting the results of the applied research and partnerships.

Another problem is that USAID has not adequately exercised its responsibilities identified in the DOs to engage impartial experts to carry out quality control or quality assurance of completed CH engineering works. Although the quality is probably good, there has not been adequate quality control. The contractor has obtained “receipts” of completed work from local officials, but most of these officials do not have the expertise to make judgments about the quality of the engineering work. Despite these problems, the contractor’s activities in CAR have been, on balance, effective and can, with adequate follow-up, have a real impact on the region’s water problems.

Notwithstanding these achievements, EPT has not been accorded high priority by senior management in USAID/Almaty. Senior Mission staff in USAID/Almaty have not visited any of the project’s sites or participated in any of the policy seminars. They took no action to approve or disapprove an environmental action plan prepared by the contractor as a deliverable of DO 4, which the evaluation team found to be, potentially, a very useful document. They have had, moreover, very few discussions with the public officials who are working with CH on this project.

Senior mission management apparently feels that the project does not fit well into its strategic objectives of economic restructuring and democratization. Yet, the Mission’s strategy statement contains a third strategic objective — humanitarian assistance — which explicitly mentions the need to provide potable water to populations affected by the Aral Sea disaster. The Mission’s senior management also apparently does not like the project’s emphasis on engineering at the expense of

policy and institutional tasks. The evaluation team agrees, as mentioned above, that an imbalance exists between these two prongs of CH's EPT responsibilities. Yet it is precisely the project's engineering accomplishments that have given it the credibility to engage public officials in water pricing and water management policy discussions. If senior Mission staff were to discuss the EPT project with public officials in the region, they would obtain an appreciation of the extent to which the project could be used as a platform for policy dialogue.

C. PROJECT MANAGEMENT

CH2M Hill has two contracts under the overall EPT program. One is a "core" contract that provides for 426.5 person months largely of management and administrative services. These services are provided from an office in Washington, D.C. and from field offices in Moscow, Kiev, and Almaty. The second is a "requirements" contract that serves as a mechanism for the issuance of "delivery orders." To date, there have been 13 delivery orders issued to CH2M Hill under the "requirements" contract. Both the "core" and "requirements" contract were signed in September 1993 and, if both option years are exercised by USAID, will expire in September 1997.

The core contract is funded and managed by USAID/Washington although, beginning in October 1995, the first option year of the contract, a large portion of core contract funding will come from the Missions. The requirements contract is also managed by USAID/Washington, but funding for the delivery orders issued through the requirements contract is provided by the USAID missions in the three regions. Since July 1995, the contracting officer for the Russia delivery orders as well as the "contracting officer's technical representative" (COTR) for those delivery orders have been USAID personnel located in USAID/Moscow. For the DOs in the other two regions — West NIS and CAR — the contracting officer and the COTR remain in USAID/Washington. Because the West NIS and CAR delivery orders are specific to the two regions, however, they require a certain amount of management by the USAID missions in those regions.

The evaluation scope of work (SOW) requested that the evaluation team analyze the effectiveness and efficiency of project management — both by the contractor and by USAID.

1. USAID Responsibilities and Lines of Authority

USAID's project management system is complicated, with authority divided between USAID/Washington and three USAID missions. As noted above, the contracting officer and the COTR for the core contract, the requirements umbrella contract, and all the delivery orders for West NIS and CAR are located in USAID/Washington. The contracting officer and the COTR for Russia delivery orders are located in USAID/Moscow.

In Washington and in some of the Missions, USAID's project management has suffered from lack of continuity in staffing. There have been three Washington-based contracting officers and three Washington-based COTRs in the first two years of the project. There has also been a great deal of turnover in direct hire, personal services contractor (PSC) and foreign service national (FSN) staff in some Missions, especially West NIS. At present, the Washington-based COTR, who is located in the Environment and Natural Resources Division of the Office of Energy, Environment and Urban Development, Bureau for Europe and Newly Independent States of USAID (USAID/ENI/EEUD/ENR), has five USAID/Washington staff who work with him and with the contractor on country-specific and technical issues. These staff visit project sites in the NIS infrequently.

Each of the USAID Missions has an environment office that has some responsibility for the management of the CH2M Hill delivery orders. As mentioned, USAID/Moscow has full COTR authority over DOs. In addition to the COTR, who is an American direct hire, the USAID/Moscow environment office has two U.S. national personal service contractors and four full-time professional foreign service nationals. In USAID/Kiev, responsibility for the EPT program resides with the Environmental Division of the Office of Democratic and Social Transition. At the time of the evaluation, there were two staff in the Environmental Office, neither of whom was a direct hire USAID employee, and there were plans to hire one or two others. In Almaty, responsibility for EPT is lodged in the Division of Environment and Energy of the Office of Social Transition. This office has responsibility for the Mission's environment, health, and energy projects. The chief of the Environment Division, who is the contractor's main contact in USAID/Almaty, has a staff consisting of one American personal services contractor and one foreign service national.

The principal problem that has arisen with respect to USAID management is that the division of authority between USAID/W and the Missions is, at times, not clear. Delivery Orders provide that "technical direction" during the performance of the delivery orders be provided both by the COTR in USAID/Washington as well as by a staff person in the USAID Missions. As a result, the contractor does not, at times, know to which office it must turn to obtain approvals for its activities. Except in Russia, delivery orders are written or cleared by USAID staff both in the Missions and in Washington and are approved by the contracting officer in Washington. Most delivery orders contain, however, only general descriptions of activities and deliverables. When the contractor proposes a specific activity — a workshop, a study, a trip — or wishes to procure a commodity, it is not always clear to whom the contractor should turn for approval of the activity or the procurement.

Another problem is that most delivery orders state that the COTR in USAID/Washington is responsible for "inspection and acceptance" of DO services and deliverables. With the COTR for two of the three regions located in Washington and with most services and deliverables completed in the field, it has been difficult for the COTR to carry out this responsibility effectively.

In Kiev and in Almaty the USAID Missions lack the staff to handle the project's financial management, so these Missions are not anxious to take on contracting or COTR responsibility. The Missions do, nevertheless, feel a responsibility for USAID-financed activities that are taking place in their countries. They need a clear delegation of authority to take a certain number of technical decisions affecting project implementation.

A related issue is that, with much of the design and engineering work in the project completed, it is not clear what role the technical staff in the USAID/Washington office of ENI/EEUD/ENR still have to play in project management. Most USAID technical oversight and direction can be exercised by USAID Mission staff. Also, because the nature of the work in the remaining months of the contract should, consistent with a principal recommendation of this evaluation, lean more heavily toward policy and institutional development, technical oversight, whether from USAID/Washington or the USAID Missions, should be provided more by policy and institutional specialists than by engineers. One exception to this is in CAR where, because USAID/Almaty has no engineers on-staff and because some engineering work remains to be done, engineering oversight from USAID/Washington will still be required.

2. USAID Mission Support for EPT

The Mission staff in Moscow, Kiev and Almaty directly responsible for EPT are, in general, strong supporters of the project. This is not, however, the case with senior Mission management. In all three regions, senior Mission managers told the evaluation team that they did not accord the EPT project high priority within their portfolio of projects. In Moscow and Kiev, senior management ranked EPT toward the bottom of their list of priorities. In Almaty, senior USAID management told the evaluation team that the Mission would not have accepted EPT into its portfolio if it had not been an initiative of the Office of the Vice-President.

One reason for this, as explained by the Missions' senior managers, is that the EPT project is not perceived as fitting well into the Missions' strategic objectives. In Almaty, for example, the Mission explained that it had two strategic objectives: (1) a economic restructuring and (2) democratization.¹² The other Missions' had similar strategic objectives and EPT was not perceived as fitting well into any of them.

Senior management in the Moscow and Almaty Missions also expressed misgivings about EPT design and implementation. In Moscow, the main concern was that the project was too diffuse. By trying to do too many things about the enormous environmental problems of Russia, it was not doing any one thing well. In Almaty, the main concern was that the project was concentrating too much on engineering, not enough on policy and institutional questions. The Mission in Almaty was particularly concerned that CH was not assigning high enough priority to the regional cooperation delivery order which deals largely with water pricing policies. At least partially because of the Mission's urging, the CAR regional cooperation delivery order (DO 8) has now assumed a higher profile among the several EPT delivery orders in CAR.

Another possible reason for the lack of support of senior Mission management is that EPT, as a centrally funded project, is not "owned" by the Missions. EPT was not the Missions' idea. They did not design it. And, as indicated above, they do not have the authority to manage it, except in Russia.

Whatever may be the actual reasons for the Missions' luke-warm attitude toward EPT, the attitude cannot help but have a negative effect on the incentives and morale of contractor staff and of the USAID Mission staff who are responsible for managing and monitoring the project.

On the other hand, the contractor could make more of an effort to fit the project into Mission priorities. In Central Asia, this would mean concentrating more on the policy and institutional issues affecting water management. In Moscow, it might mean, among other things, emphasizing how the project's use of NGOs for advocacy and the promotion of public awareness strengthens Russian civil society, thus contributing to the achievement of the Mission's strategic objective in the democracy area.

Actually, USAID/Almaty has, according to its own programming document, a third strategic objective — "a strengthened capacity to manage the human dimension of transition to democracy and a market economy, and help the neediest sectors of the population during the transition period." EPT is listed in the programming documents as fitting into this objective. (See United States Assistance and Economic Cooperation Strategy for Central Asia, July 1994.)

3. Contractor's Lines of Authority and Management Methods

The contractor needs to remedy two related problems that are affecting its management effectiveness. The first is that CH's management system is too Washington-centered, with insufficient authority delegated to the field. The second is that CH tends to manage EPT by task rather than by delivery order or strategic objective.

a. Lines of Authority

CH has regional EPT field offices in Moscow, Kiev and Almaty. It also has a "project manager" in Vladivostok and "site managers" in Novokuznetsk, Khabarovsk, Lviv, Donetsk, and Chisinau. CH has devolved project management authority for some of its DOs to field-based project or site managers. However, responsibility for the work planning and implementation of several delivery orders is still invested in "country managers" or "task leaders" — sometimes also called "project coordinators" — who are located in the United States rather than in the NIS regional offices or the NIS sites where project activities are taking place.

In CAR work plans reveal that the management of country-specific projects (in Turkmenistan, Uzbekistan, and Kazakhstan) is still the responsibility of U.S.-based task leaders. For DO 7, Kazakhstan, for example, only one of the four task leaders is located in Almaty; the other three task leaders and all of the sub-task leaders are based in the United States.

For Novokuznetsk, Russia, the evaluation team has been informed that project management responsibility has been devolved to the field. However, in what appears to be a contradiction, the U.S.-based project coordinator will serve until the end of the project in September 1997 and will continue to be responsible for work planning while the project management office in Novokuznetsk will be closed in 1996.

In other regions or for other delivery orders, by contrast, there has already occurred a substantial delegation of authority to the field. In West NIS, the CH regional director is in charge of the work planning as well as the implementation of all the DO 9 tasks. For the RFE, work planning is done in the Moscow regional office while the Vladivostok-based project manager has been delegated full authority to manage RFE tasks. In CAR, the regional cooperation delivery order (DO 8) has a full-time manager located in Almaty.

Within the CH management structure, it is the role of the U.S.-based "country manager" or "project coordinator" that is the most unclear. At the beginning of the project, before regional or site offices were established, it was normal that these individuals were in full charge of the planning and implementation of project activities. With field offices now established, some "coordinators" have begun to function more as technical backstoppers while others, especially in CAR, continue to function as de facto project managers. CH's project organization charts indicate that these coordinators all report to the directors of the regional offices. However, some coordinators told the evaluation team that they reported to the CH project director, who is located in Washington, D.C. In one interview, the team was told that the Washington-based task leaders for several CAR engineering activities reported to the Almaty-based engineering coordinator while the Almaty-based

manager of the regional coordination DO reported not to the CH regional director but to the Washington, D.C.-based project director.¹³

The role of CH's three regional offices within this management structure differs to some extent from region to region. In all three regions, the regional offices serve to maintain liaison with the USAID Missions and with cooperating country government officials. In all three regions they also provide technical and logistic support for project activities. What differs is the extent of their project management authority. The regional office in West NIS appears to have the most authority, while the regional office in Almaty has the least. In Russia, the Moscow regional office is located a long distance from the sites of CH's two subprojects, Novokuznetsk and the Russian Far East; as such the regional office is not able to provide day-to-day management of project activities at these sites. To this end, CH has delegated to the Vladivostok manager full authority to implement the RFE work plan with the regional office providing logistical, administrative, and technical support. For Novokuznetsk the organization chart included in the 1996 work plan, which is a revision of the chart provided to the team at the time of the evaluation, shows that the U.S.-based project coordinator and the Novokuznetsk project manager both report directly to the Regional Director in Moscow; however, as indicated above, it would appear that the U.S.-based project coordinator still exercises considerable authority over work planning as well as the scheduling of tasks for implementation.

The movement that CH has already undertaken toward delegation of project management authority to the field is positive and should be continued. This does not mean that the CH/Washington office should not continue to play an important function. Financial management, procurement, recruitment, and general administration should remain in Washington. Contrary to the impression that we may have left in the draft report, we are not, moreover, recommending the elimination of the project coordinator positions in the United States. We are, however, recommending that their responsibilities be changed. U.S.-based project coordinators should serve as technical backstoppers who respond to requests for assistance from field-based delivery order managers. Authority and responsibility for the management of delivery orders and delivery order tasks should be transferred from Washington to the field.

The need for this transfer of authority varies among the three regional offices. The West NIS regional office already has a good deal of authority. At the time of the evaluation, the Novokuznetsk DO and most CAR DOs, however, were still managed from the United States. In 1995, the CAR regional office added several new professional staff who, in the estimation of the evaluation team, are fully capable of assuming responsibility for the management of delivery orders and delivery order tasks. In Novokuznetsk, the situation is less clear because of the decision to close the CH office in that city in 1996.

b. Management Methods

A closely related problem is that, functionally, CH manages EPT by task and sub-task rather than by delivery order. CH work plans break down DOs into discrete tasks and sub-tasks and assign responsibility to individuals — mainly U.S.-based individuals — to carry out these tasks. Task-based management may work well for delivery orders for which precise plans or blueprints can be established in advance. Some CH DOs, such as DO 2 in Turkmenistan, may lend themselves well to task-based management. Task-based management works less well, however, for projects that

Subsequently, the team was told that the reporting relationship of the regional coordination DO manager was an anomaly and transitory.

have a heavier focus on institutional or policy development. Projects of this nature require more flexibility and more of a strategic focus.

As noted in Annex 2B, one DO which would benefit from strategic management is DO 11 in the RFE. For DO 11, CH has prepared a work plan breaking down the DO into 22 tasks and some 250 sub-tasks. However, the RFE subproject leans heavily toward institutional development in the largest sense of this term; for RFE institutional development includes the promotion of community participation, the establishment of planning, policy and legal frameworks, and the development of new approaches to forestry and biodiversity management.

One advantage enjoyed by DO 11 is that it already has strong field-based management. What is needed for the RFE DO is a management approach that more clearly conceptualizes and operationalizes the linkages between tasks. This means managing the DO to ensure a linkage between, for example, community development tasks and biodiversity management tasks, or between sustainable forest management tasks and the small enterprise fund. As circumstances dictate, this might mean eliminating some tasks while adding or strengthening others.

CH should follow the example set by the RFE DO by assigning a field-based manager for each delivery order. The DO manager should have full authority to manage the DO in a manner best suited to accomplish the DO's objectives.

In the comments received on the draft evaluation, questions were raised concerning what we meant by DO management. A DO is a mini-project. It has objectives, a list of deliverables, a starting and ending date, and a budget. Someone needs to be responsible for managing this mini-project. DO management responsibilities should include preparation of work plans, scopes of work, and equipment specifications. It should involve making decisions about the scheduling and re-scheduling of tasks and sub-tasks and the use of resources in the budget. It should include supervision of all project-related activities.

Above all, DO management should mean assuming responsibility for accomplishing project objectives. This is quite different from task management in which tasks may be accomplished while losing sight of overall objectives. The need to manage delivery orders by objectives, rather than by task, is the primary reason why each DO needs a manager.

Some DOs do not neatly fit the description of mini-projects; as such, they do not need to be managed separately. The country specific tasks of DO 12 can be managed as extensions of DOs 2, 6, and 7, while the non-country specific tasks can be managed as extensions of DO 8. DO 13 expands on the tasks in Task U1 of DO 9 and should be managed by the individual assigned to the Donetsk industrial pollution control project.

The management of DO 9 poses a somewhat different problem because DO 9 is really a conglomeration of projects in Ukraine and Moldova that are physically separated and have little in common. For purposes of management, DO 9 should be disaggregated into nine discrete projects: in Ukraine-Lviv water, Donetsk industrial waste, Kaniv reservoir, Crimea health improvements, biodiversity, and Ukraine-American work groups; in Moldova-risk assessments, farm demonstrations, and environmental education outreach. For purposes of project management, some concentration could occur by, say, managing all the Moldovan activities as one project and combining two or three of the smaller Ukraine tasks into one project. It should be noted that this management scheme is essentially already in place because field-based task leaders already exist for almost all DO 9 tasks.

DO managers should be based in the field. The reason for this is that only a field-based person has access to the information and to the NIS personnel needed to make the day-to-day decisions required of effective DO management.

The devolution of DO management authority to the field does not obviate the need for technical backstopping by CH in the United States. CH should assign a technical backstopper for each DO. (One person could backstop more than one DO, especially when they are in related fields, such as water management.) The technical backstopper’s principal responsibility should be to respond to requests for assistance by the field-based DO manager. The backstopper might, for example, help the DO manager prepare work plans, identify commodity sources, or recruit expatriate technical personnel against scopes of work prepared by the DO manager. The backstopper might also advise the DO manager on technical approaches for implementing the DO.

4. Contractor’s Use of Subcontractors

For purposes of this contract CH2M Hill assembled a consortium consisting of itself, as prime contractor, and 13 subcontractors. The following table shows how the level of effort (LOE) for work authorized (but not yet necessarily performed) has been divided among members of the consortium since the inception of the project.

The table indicates that CH has provided 73 percent of the LOE itself. Several long-term staff, including the deputy director of the Moscow regional office and the DO 8 manager in Almaty, are employees of International Resources Group, Ltd. (IRG). Together, CH and IRG account for 87 percent of the LOE to date. The services of the other subcontractors have been used sparingly or not at all. HIID, for example, has provided only 17 person-days of service under the CH subcontract. One reason for CH’s high percentage of LOE to date is that CH is the employer of all cooperating country nationals (CCNs) in the project.

Another way to look at the use of subcontractors is in terms of labor dollars. In this regard, CH has, to date, billed for 57 percent of the labor dollars (of which 10 percent comes from CCNs). IRG’s share of labor dollars billed to date is 14 percent. Gray amendment subcontractors account for 10 percent and all other subcontractors 19 percent.

It is not clear to the evaluation team to what extent CH has a plan for the use of its subcontractors based on the subcontractors’ technical expertise.

Table 1
CH2M Hill’s Use of Subcontractors for EPT
Level of Effort (person-days)

ORGANIZATIONS	LONG TERM		SHORT TERM		COMBINED	
CH2M Hill	19253	77.01 %	5825	63.40 %	25078	73.38 %
Environmental Compliance, Inc.	260	1.04%	131	1.42%	391	1.10%
International Resources Group, Ltd.	3068	12.27 %	1530	16.67 %	4598	13.45 %
International Programs Consortium	520	2.08%	355	3.86%	875	2.56%

K&M Engineering	1477	5.90%	424	4.62%	1901	5.56%
Consortium for International Development	421	1.68%	232	2.50%	653	1.90%
Center for International Environmental Law	0	0.00%	25	0.20%	25	0.07%
Clark Atlanta University/HBCUMI Environmental Consortium	0	0.00%	469	5.00%	469	1.37%
Ogden Environmental and Energy Services	0	0.00%	39	0.40%	39	0.10%
World Wildlife Fund (US)	0	0.00%	129	1.40%	129	0.37%
Harvard Institute For International Development	0	0.00%	17	0.10%	17	0.05%
Ecojuris	0	0.00%	0	0.00%	0	0.00%
Hughes Technical Services Company	0	0.00%	0	0.00%	0	0.00%
Price Waterhouse	0	0.00%	0	0.00%	0	0.00%
Total	24,999	99.98%	9,176	99.57%	34,157	99.91%

5. Contractor's Relation with Other Contractors

CH has had reason in the implementation of EPT to work closely with several other contractors as well as with other U.S. government agencies and non-governmental organizations. In most cases, the collaboration between CH and other EPT contractors has been effective. The relationship between CH2M Hill and PADCO in Lviv seems to be working well, for example.

In other cases, collaboration has posed some difficulties. A primary reason for this is that many of the other contractors have independent sources of financing. In some cases, such as with HIID, these same contractors are subcontractors to CH under EPT and it is not always clear whether the other contractor should be using its own sources of funding or working under the CH contract to carry out a particular activity.¹⁴ In Russia, for example, an early attempt was made to use project money to fund EPA activities, but this was soon abandoned. Also in Russia, a legal adviser is working on the EPT project but is not sure whether her funding comes from EPA or from CH2M Hill. USAID/Moscow is aware of this problem, and has addressed the problem on a case-by-case basis.

This evaluation was not asked to comment on the effectiveness of other EPT contractors. Our impression is, however, that the lack of clarity concerning CH's relations with its subcontractors and with other EPT contractors has adversely affected EPT institutional and policy-related activities. USAID needs to take the lead in redefining the responsibilities of the various EPT contractors, especially with respect to institutional and policy-related activities. CH has within its consortium several institutions that have strong capabilities in institutional and policy analysis. USAID should give clear guidance to CH on the extent to which CH, through its subcontractors, should be proactively engaged in institutional and policy analysis or whether USAID would prefer that most of these analyses be carried out by other EPT contractors.

The evaluation team has recently been informed that for at least one organization it is more advantageous financially to carry out EPT activities under its own cooperative agreement than under its subcontract with CH2M Hill.

In the RFE, CH has been asked to coordinate the activities of all organizations that receive funding from USAID through EPT. These organizations include, in addition to CH itself, HIID, the U.S. Forest Service, ISAR, and the World Wildlife Fund. As mentioned previously, much of the CH component of the RFE subproject involves institutional development which is necessary but not sufficient to bring about concrete changes in environmental quality. The more concrete improvements in environmental quality will depend on complementary actions that will need to be carried out by other EPT implementors, such as the U.S. Forest Service, or by Russian institutions.

With its small RFE staff and the large number of tasks for which it is responsible under its own component, it is asking too much for CH also to coordinate the activities of other EPT contractors. Beyond the added management burden, coordination can only be effective when there are built-in incentives to cooperate or when the coordinator has the authority to compel cooperation. One problem is that all the other EPT organizations have independent sources of funding and have governing bodies to which they are responsible that are separate not just from CH but also from USAID. HIID is a CH subcontractor but also has independent USAID funding through a cooperative agreement. The U.S. Forest Service, which is primarily responsible for the implementation of forest management activities in RFE is, of course, a government agency under a different U.S. government department. It does, not, moreover, have an in-country presence in the RFE. An attempt to involve the Peace Corps in EPT activities was stillborn.

For these reasons, the team believes that USAID should explore alternative arrangements, to be discussed later, for the coordination of EPT activities in the region.

6. Work Scheduling

The contractor's use of work scheduling tools varies from region to region. The West NIS field office has prepared effective work plans that have permitted the office to implement activities on a systematic basis. The Russia field office had work plans for 1995, which it has recently updated to cover 1996. The CAR field office did not have work plans for most DOs at the time of the evaluation although it now does.

CH does not employ critical path methods of work planning. However, the work plans that have been prepared do provide for a clear sequencing of the tasks needed to implement project activities. As indicated in a previous section, one problem is that detailed work planning, while necessary, can sometimes lead to task-based management, which needs to be supplemented and, in some cases, supplanted by strategic management.

7. Reporting

The contractor is doing a good job of keeping USAID advised of its activities. Field offices prepare weekly progress reports for the CH Washington office. The CH Washington office uses these reports to discuss the project on a weekly basis with the EPT COTR. The CH field offices use the same report to meet weekly with the cognizant technical officer in the USAID missions. They also prepare monthly and quarterly reports.

One problem that both USAID and the contractor are having, however, is reporting on project progress against a consistent and meaningful set of impact indicators and targets. Several DOs required the contractor to propose its own indicators; yet indicators are normally established, according to the MRS system, by USAID. The Russian CH field office was providing a rather

detailed list of activities indicating progress toward the achievement of targets. The MRS report in CAR, in contrast, listed only the names and contract numbers of projects in the activities column.

Management information systems should serve mainly as tools for project managers. To date, the USAID MRS system has not passed this test. The USAID and CH managers of EPT viewed the MRS system as a burden, rather than as a useful management tool. In addition, many of the indicators are static, aimed at reporting on the results of change rather than movement toward change. Much of what is positive about EPT is that it is generating new thinking about environmental problems on the part of collaborating country populations and officials. The MRS system is too mechanical to capture this process well.

8. Staffing

After some delays, the contractor has now succeeded in providing adequate staffing for its Washington office and for its field offices. However, as indicated previously, DO management functions need to be transferred from Washington to the field. This would not necessarily entail an increase in staff numbers or an increase in budget. The contractor can and should make more use of local hires in the field. The evaluation team was generally impressed with the knowledge and competence of the local professional staff the Contractor (and USAID) had already hired. These staff do need to be supervised in terms of the procedures that USAID requires in project management, but there is no lack of technical and general management competence that can be hired locally.

An increased use of cooperating country nationals has several advantages. One is their knowledge of how to get things done in their own country. Another is financial: whereas their salaries are not always a great deal lower than those of Americans, the use of cooperating country nationals would not involve outlays for relocation and housing. Finally, the use of cooperating country nationals builds in the opportunity for sustainability.

Another staffing issue involves the fact that CH has filled many of its staff positions in the field with engineers. This is consistent with the heavy emphasis CH has so far placed on technology transfer. Most DOs, however, also require attention to policy formulation and institutional development. Implementing these activities will require that the contractor obtain the services of professionals in other disciplines, such as urban planning, economics, and the social sciences.

The contractor has already begun to diversify its staff to some extent. In CAR, for example, CH has hired an American urban planner to manage the regional cooperation DO and has engaged the services of a local hire physician to develop and manage the sanitary health activities of three DOs in CAR. In Russia, the contractor has also attempted to diversify its staff with lawyers, foresters, and NGO specialists. One advantage of hiring more non-engineers is that it will present an opportunity for CH to draw on its subcontractors, many of whose specializations are in non-engineering fields.

9. Communications

The contractor has established effective communication with Washington and its field offices. In CAR the field offices rely on satellite phones. There were some earlier problems with communication which appear for the most part to have been overcome, at least in Moldova. In Russia there was also a problem, mostly having to do with the geographic distance to the RFE, but this problem has been effectively addressed. Communications with Novokuznetsk are effective

because the phone system works well between Moscow and Novokuznetsk, which also permits the use of e-mail.

10. Public Relations

EPT has an extremely positive image in the countries where it is implemented: it is visible, welcomed, and well-known. One of the reasons for this is the success of its study tours and workshops. Participants in these tours and workshops are uniformly impressed with exposure to American technology and procedures.

One of the reasons that the project is so well received in CAR is that it is the only project that has actually accomplished something visible on the ground. Other donors have done feasibility studies and some other USAID projects are providing training and technical assistance. But the EPT project has left visible signs. As stated by Thomas Dine, USAID Assistant Administrator for the NIS, USAID is “the only donor to have actually been active and can now proudly show results shaping inter-governmental and intra-governmental water policies and cooperation, producing safe drinking water...I saw first-hand the professional and personal relationships between Uzbek and our engineers.”¹⁵

In the field the contractor is, however, somewhat constrained by USAID regulations in its ability proactively to seek additional publicity for EPT. For the most part, USAID Missions keep a tight rein on contractor attempts at public relations. The contractor’s activities have, nevertheless, drawn a good deal of publicity because local media — newspapers, radio, television — tend to cover such EPT activities as workshops and conferences. One major publicity event occurred when the President of Turkmenistan attended the opening of the project’s water treatment plant in that country.

11. Financial Management

a. Accounting and Billing

CH’s EPT project accounts are subject to annual, independent audits, the results of which are made available to USAID.

CH operates its financial management system from its headquarters in Denver. In 1993, the firm purchased a new financial management system. In 1994, it began to convert project records to the new system.

Technically, the new system is capable of providing USAID/Washington with prompt and accurate project financial data, organized by task for each DO. However, as recently as October 1995, the cumulative project disbursement records had not been fully reconciled to the project’s billings in the new system. Because the new system has not yet been able to generate reports with accurate, cumulative data, the billings and reports currently prepared for USAID by the CH project office in Washington rely on manual data input into automated spreadsheets. The office still uses the old accounting system.

E-mail report dated 20 July 1995.

CH has the financial management capabilities to support the EPT project effectively, but it needs to implement its new system. These billing and reporting problems will not be solved, however, without increased assistance from the Denver office.

b. Expenditures and the Pipeline

Expenditures for the EPT core contract exceeded budget estimates early in the first contract years as core money was used to fund delivery orders that were behind schedule. Core expenditures converged with budget estimates in September 1995, and future costs are projected to correspond to obligated budget figures through September 1996.

With respect to DOs, as of November 1995, expenditures totaled 30 percent of total DO obligations. The percentage of obligated, expended DO funds varied from 18 percent for DO 8 to 82 percent for DO 1. Two of the DOs have been completed and two DOs have had little or no expenditures as they have only recently begun.

Some of the reasons for the large disparity between obligated funds and expenditures can be attributed to normal delays in project start-up activities. The contractor needed to establish regional and site offices, many of which are located long distances from USAID Missions. Other factors contributing to slow expenditures included USAID's and the contractor's relative lack of experience in the NIS and the region's extremely difficult working conditions, including lack of effective communications and telephone services. The contractor and USAID also encountered a number of language and cultural issues that had to be addressed and resolved before agreements could be reached with host country counterparts.

The pace of implementation accelerated once these factors were addressed. As projects have matured, the rate of expenditures has increased accordingly.

Initially, there was a larger expenditure from the core contract than from the requirements contract, as the development of DOs proceeded slowly for reasons mentioned above. This has been reversed and now DO expenditures exceed core spending. In the quarter ending November 30, 1995, DO disbursements for the requirements contract totaled \$17,323,569 while disbursements from the core contract totaled \$8,660,668 of which \$ 980,572 was expended by CH2M Hill subcontractors.

For most DOs the pace of implementation is accelerating and expenditure rates should increase accordingly, in some cases dramatically. For some DOs, the slow pace of expenditures must pick up in order to meet projected schedules. Whether the contractor will be able to meet all the projected expenditures will depend on a number of factors, all of which must fall into place without further delays or interruptions in the implementation activities.

The contractor has developed graphs (Exhibits 1-7) comparing DO expenditures to prorated budgets. These graphs show that virtually all of the remaining \$43,736,524 out of the total obligated sum of \$61,060,092 will be drawn down by the end of the contract in September 1997, assuming there are no obstructions which delay projected schedules. In some cases, the projected expenditures for DOs appear to be somewhat ambitious. However, it should be noted that the EPT project is not completed until September 1999, two years after the end of the CH contract. Thus, any unforeseen delays due to uncontrollable factors will allow enough time to make any necessary adjustments or modifications to complete the sub-projects and ensure that all DOs can be fully expended. The contractor did not have access to information on the commodity and equipment costs of the DOs.

Some of the steep climbs in projected expenditures may be explained to the extent that they reflect such purchases.

Following is a brief analysis, for each of the DOs, of expenditures and projected expenditures compared to prorated budgets. (See exhibits 1-7 attached at the end of this subsection of the report.)

DO 1 — Russia Activities

This DO experienced a comparatively rapid rate of expenditure early in the project when over \$1 million was expended between the months of May and September 1994. Spending continued at this rate, climbing to over \$2 million by December 1994 when it began to level off, increasing at a reduced rate of expenditure, to just below \$3 million by September 1995.

Expenditures will continue to rise, but at a reduced rate, until September 1996 when funding levels off horizontally, reaching the full \$3.6 million by September 1997, the DO end date. Over 80 percent of the obligated funding had been expended as of September 1995.

DO 2 — Turkmenistan Water Treatment Plant

DO 2, expended less funds than was budgeted in the first two months. In the third month there was a sharp increase resulting in over \$500,000 in expenditures by August 1994. As of November 1995, 65 percent of the obligated funds were expended (\$2,542,413). DO 2 was scheduled to end on September 30, 1995, but a no cost extension was granted through June 30, 1996. Current projections show an almost straight line correlation to the budget, with all funds spent by June 30, 1996. Currently, expenditures are on schedule with projections.

DO 3 — Farmer To Farmer

This project was completed in June 1994.

DO 4 — CAR INTERIM

This project was completed under budget by 19 percent in August 1995.

DO 5 — WNIS Start Up

Expenditures correlated with the budget from August 1994 until February 1995 when spending dropped below the budget line through September 1995. However, starting in September 1995 spending is projected to increase sharply correlating with the budget line in November 1995. According to this projection, funds will continue to be expended at the budgeted rate through September 1996, the DO end date. As of November 1995, 43 percent of obligated amounts were expended.

DO 6 — Uzbekistan Water

As of September 1995, DO 6 was below the budget line. Funds were expended in a straight line from August 1994 to November 1994 after which expenditures increased through November 1995, but remained well below the budget line. Beginning in December 1995, projections will accelerate sharply each month until they correlate with the budget in August 1996, and continue in a straight

line projection through the proposed end of the DO in October 1996. Spending of obligated funds totaled 20 percent as of November 1995. The project is currently scheduled to end in April 1996; however, a no-cost extension through October 1996 will be requested. Expenditures will need to increase rapidly as current projections show that, unless expenditure schedules are met between December 1995 and June 1996, it will be very difficult to expend all of the funds by the DO end date. Expenditures are already behind for the months of October and November 1995.

DO 7 — Kazakhstan Water

Analysis of water pipe leaks, and well rehabilitation, in addition to technical reports on water pricing and water meter installation, have not been completed. This DO, like DO 6, experienced delays after startup. Spending gradually increased until recently when a sharp upturn resulted in expenditures of over \$1.5 million by November 1995. This increase was attributed to the recent procurement of equipment based on the completed workplan and the assignment of a long-term consultant for on-site engineering oversight.

The project is presently scheduled to end in April 1996, but a no-cost extension will be requested through December 1996. Expenditure projections from October through April 1996, will correlate expenditures with the budget line and proceed in a straight line from April 1996 through December 1996.

As with DO 6, expenditures must accelerate rapidly, particularly between December and April 1996, to correlate with the budget line. Since much of the remaining funding is for conferences, seminars and workshops, it is unlikely that all of the funds can be expended even with the no-cost extension. Therefore, close monitoring of expenditures is essential to determine whether adjustments are necessary in the funding levels or in the projections.

DO 8 — CAR Regional Water

As in the other water projects, this DO started slowly with minor increases in expenditures until July 1995 when expenditures rose from below a quarter of a million dollars to a little over \$500,000 by November 1995. Starting in December 1995, expenditures are projected to rise sharply to a little below \$2 million by February 1996. Projected expenditures, although accelerating sharply, will not correlate with the budgeted line until August, one month before the DO ends in September 1996. This is an extremely ambitious projection. Between December 1995 and February 1996, over \$1 million needs to be expended leaving approximately \$1.25 million to expend from February until May 1996. Since it is not known whether the steep climb in expenditures are due to large-scale commodity or equipment purchases, this DO needs to be monitored closely.

DO 9 — WNIS

This DO experienced a slow start and expended funds at a gradual, but steady, rate from April 1995 through September 1995. Expenditures are projected to increase through August 1996 when they will correlate with the budget and then increase marginally over budget until full expenditure of funds in December 1996, the DO end date. As of November 1995, approximately 27 percent of obligated funds has been expended. This DO needs to be monitored closely since projections are continually below the budget line until convergence at the DO end date.

DO 10 — Russia Federation

This DO is split into two parts. One is the Russia Federation, the other part is Novokuznetsk.

For the Russia Federation, by September 1995 almost 30 percent of the obligated funds had been spent, although expenditures continued below the budgeted rate. Projections through September 1997, the DO end date, do not correlate with the budget line. Remaining unspent funds will total approximately \$600,000.

The second part of DO 10, Novokuznetsk, has spent \$1,706,397, through September 1995, although, as in the first part of Delivery Order 10, expenditures were below the budgeted rate. Projections accelerate spending which will correlate with the budget line in December 1995 and will continue to exceed the budget by a considerable margin through January 1997. Expenditures will again correlate with the budget at the end of March 1997, six months before the DO end date. Projections include additional funding of \$1,287,717 which was awarded on September 27, 1995. This additional funding is for the Business Center and sustainable efforts. There will be strong emphasis in 1996 on activities related to promoting the replicability and assuring the sustainability of project funded technical assistance and technology transfer activities. This includes heavy expenditures to intensify Business Center activities to put the Center on a self-sustaining basis.

DO 11 — Russia Far East

Expenditures for the Russia Far East were below the budget line as of September 1995. Projections are scheduled to correlate with the budget in August 1996, and then continue at or slightly above the budget line until expenditures and budget match at the end of the DO in September 1997. The relatively slow pace of institution building efforts has picked up recently and the latest workplan reveals an increase in these efforts, which will consume expenditures at a faster rate in 1996 and 1997. This DO is obligated at \$9,350,720, of which \$1,901,744 was expended as of November 1995. This is on schedule with projected expenditures. If spending rates continue on schedule, they will merge with the budget line in September 1996 at approximately \$6 million; however, it is not known if any of the projected increases are due to commodity or equipment purchases which can account for the relatively steep climbs. Expenditures and budget will correlate closely from September 1996 to September 1997, the DO end date.

DO 12 — Sustainable Water Management in the Aral Sea Basin

This DO expands on activities in DOs 2, 6 and 7. The effective date of this DO was July 14, 1995. The only expenditures to date (\$116,165) have been to support the development and related activities of the draft workplan. Therefore, it is difficult to chart projected expenditures precisely. The draft workplan is expected to be finalized soon, providing specific data on which to base projections. The total obligated amount of this DO is \$9,799,736. Current projections show that all funds will be spent by January 13, 1997, the DO end date. As of November 1995, \$116,165 had been expended, which is consistent with projected expenditures. Projections indicate a steep climb beginning in December 1995, but remaining below the budget line until the two lines converge in January 1997 when the DO is concluded. This DO needs to be monitored closely since projections do not converge on the budget line until the DO end date.

DO 13 — Industrial Pollution Control Assessment/Audits, Donetsk Region

DO 13, which is just getting started, provides funds for additional activities related to DO 9. Therefore, expenditures are not expected until later in 1996.

As indicated earlier, project implementation has intensified in all current DO activities including the completion of draft workplans for those DOs not yet started or only just beginning. As these activities accelerate, expenditure rates will continue to increase and contractor projections of expenditures show that virtually all of the remaining \$43,736,524 will be drawn down. The graphs indicating DO status of expenditures and projections, compared to the budget, will be a useful financial management tool to monitor and assess expenditure rates through the end of the contract.

Core contract expenditures in October and November increased by almost 33 percent over September 1995. While there may have been reasons to explain the increase, core projections also need to be monitored to ensure that funds are not prematurely exhausted.

c. Core Administrative Responsibilities and Costs

The EPT core and requirements contracts impose demanding management and administrative responsibilities on the contractor. Unlike many similar core and requirements type contracts, there are multiple administrative layers and linkages which place more demands on the oversight and administrative roles the contractor must assume.

As explained earlier, the contractor must work with an unusually high number of persons and offices both in Washington and the field. Overall agency responsibility for EPT rests with ENI/EEUD/ENR. In addition, there are three regional Missions with responsibilities for various NIS countries. Regional USAID Missions are: USAID/ Moscow for Russia; USAID/Kiev for Ukraine, Belarus and Moldova; and USAID/Almaty for Kazakhstan, the Kyrgyz Republic, Uzbekistan, Turkmenistan and Tajikistan. The COTR for the CH component of EPT is located in Washington and receives management and technical oversight assistance from specialists in the same office. The COTR for CH's Russia delivery orders is located in USAID/Moscow.

There are other related activities for which the contractor is responsible. USAID has contracts or agreements with commercial, non-profit, and U.S. government organizations to provide other technical support services through EPT. The contractor interacts with those entities, as appropriate, in the performance of its work. Finally, the contractor has responsibility for assisting ENI/EEUD/ENR with the coordination of all activities funded through the parent contract, including those carried out by other EPT implementors.

As originally designed the core contract envisaged a broad role for the contractor through its Washington office. This included interactions with numerous USAID offices, other contractors, U.S. agencies (U.S. Forest Service and Environmental Protection Agency) and other organizations. Recently certain design, implementation and evaluation responsibilities have been shifted to Regional USAID Missions. However, even with these shifts, there has been no corresponding change mandated in the core responsibility for management, oversight and administration of delivery orders.

Administrative costs may be analyzed in relation to functional responsibilities. Through the core contract, CH is responsible for (1) technical support and direction, (2) administrative oversight of core and requirements activities, including recruitment and selection of all Washington and field staff, and (3) financial management and oversight of all core and requirements expenditures. It should be noted that, while procurement is a function which resides at the Washington office, the staff effort is charged to the relevant Delivery Order. This mix of technical and administrative staff is important to the functioning of the project.

A review of the EPT core and field staffing patterns indicate that, in our opinion, the Washington EPT office is not over staffed. Given its range of administrative responsibility, its staffing appears consistent with the workload. Moreover, support and replacement of field staff, which has normal turnover in the best of circumstances, requires particular attention in certain regions of the NIS. Personnel support and other necessary support services, including procurement, requires appropriate core backstopping.

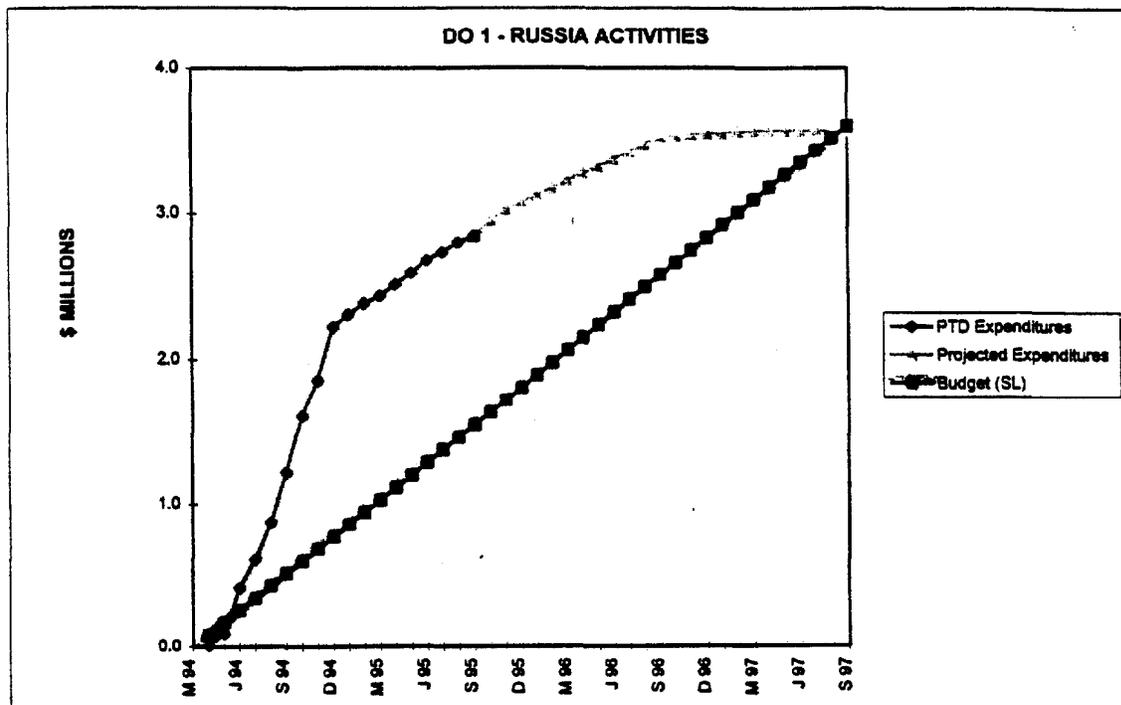
The ratio of core staffing to the total EPT core and requirements staff is 23 percent, which is reasonable for this type of contract. Total EPT staff employed under the CH contract includes 124 persons in both Washington and the various field offices. Of this number, the contractor's Washington office employs 29 persons; some of the Washington staff is part-time. For this reason, numbers of staff do not reflect the actual relationship between core and requirements contracts. A more effective ratio is the administrative cost measured by actual core expenditures balanced against total contract funding. For example, by the end of the third quarter, 1995, core expenditures totaled just over \$8,000,000 out of a total EPT funded amount of \$61,060,092, which is below 12 percent for core administrative costs.

The rule of thumb for a standard administrative ratio is 15 percent of total costs, although in many cases administrative costs range from 20 to 25 percent depending on the nature of the project and location. The EPT core contract is well below the 15 percent standard level, and considerably below the range that can be considered cost-efficient compared to similar contracts. Projected administrative costs are expected to reach a 15 percent ratio in the third contract year assuming that funds will be expended as projected, which is anticipated. Currently, EPT administrative costs are projected to increase to \$11,000,976 for the first option year measured against a total contract cost of \$72,061,068 for a 15 percent standard ratio. For the second option year, if administrative funding is increased by another \$3,000,000, total administrative costs will be approximately 18 percent of total contract costs (\$75,061,068). This is a very respectable ratio and below the 20-25 percent range. Original estimated administrative costs totaled \$15,000,000 for the base period and the two option years, which was subsequently reduced by USAID. Further cuts to the core contract would, in the opinion of the evaluators, seriously compromise the effectiveness and efficiency of the contractor.

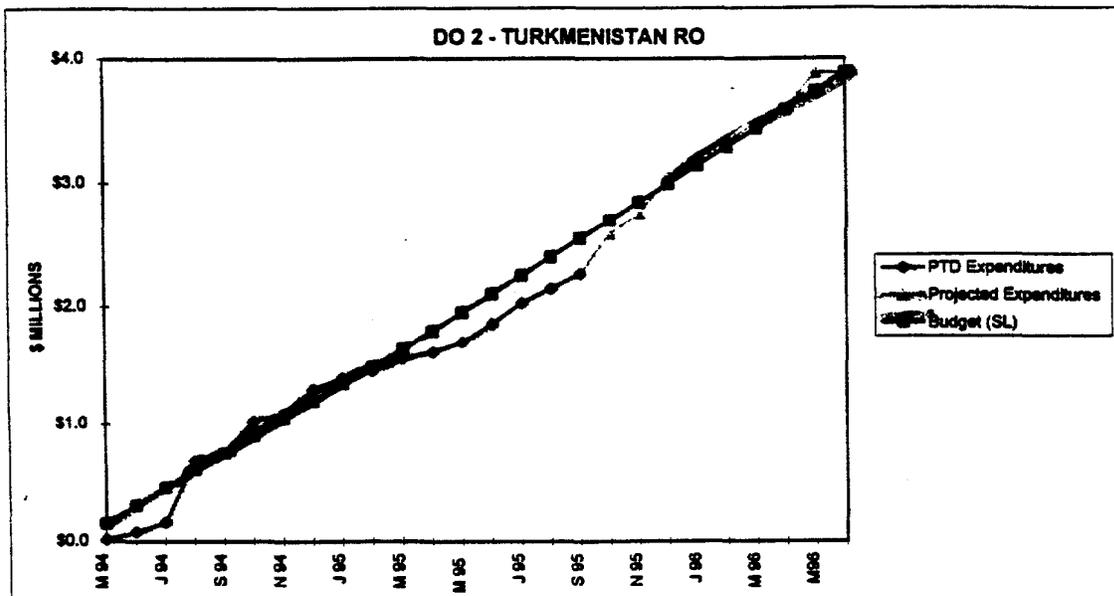
DO STATUS GRAPHIC AS OF SEPTEMBER 1995

Exhibit 1

EPT DELIVERY ORDERS COMPARISON OF EXPENDITURES TO PRORATED BUDGET



Note: DO was initially scheduled to end at 9/30/95. A no cost extension through 9/27/97 was signed on 9/27/95.

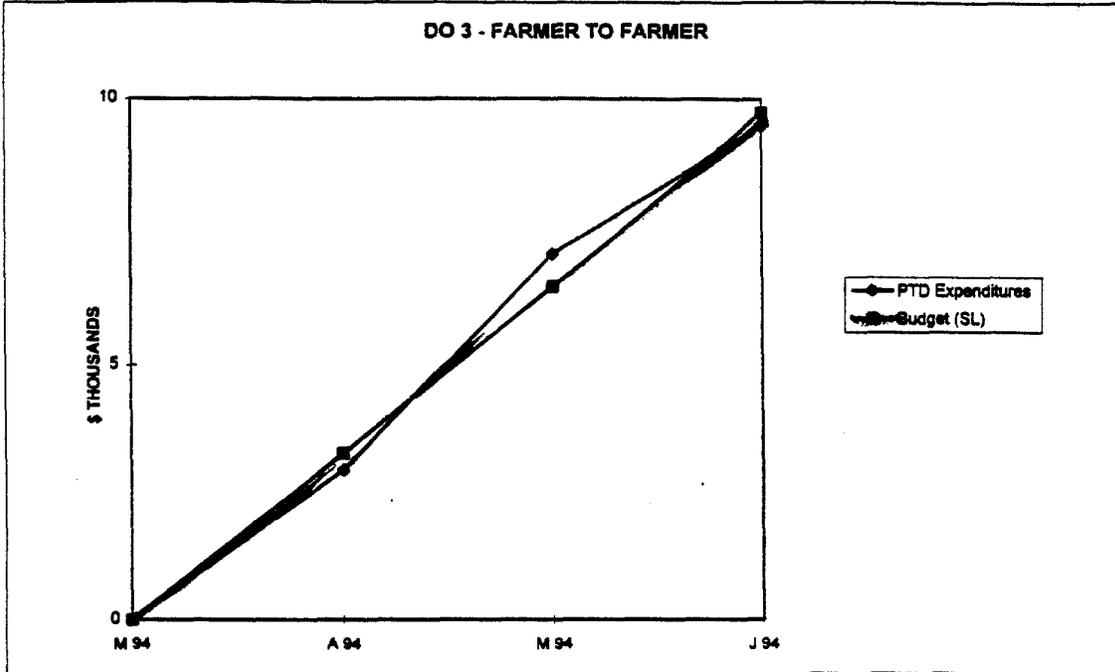


Note: DO was initially scheduled to end on 9/30/95. A no cost extension through 6/30/96 was signed on 9/27/95.

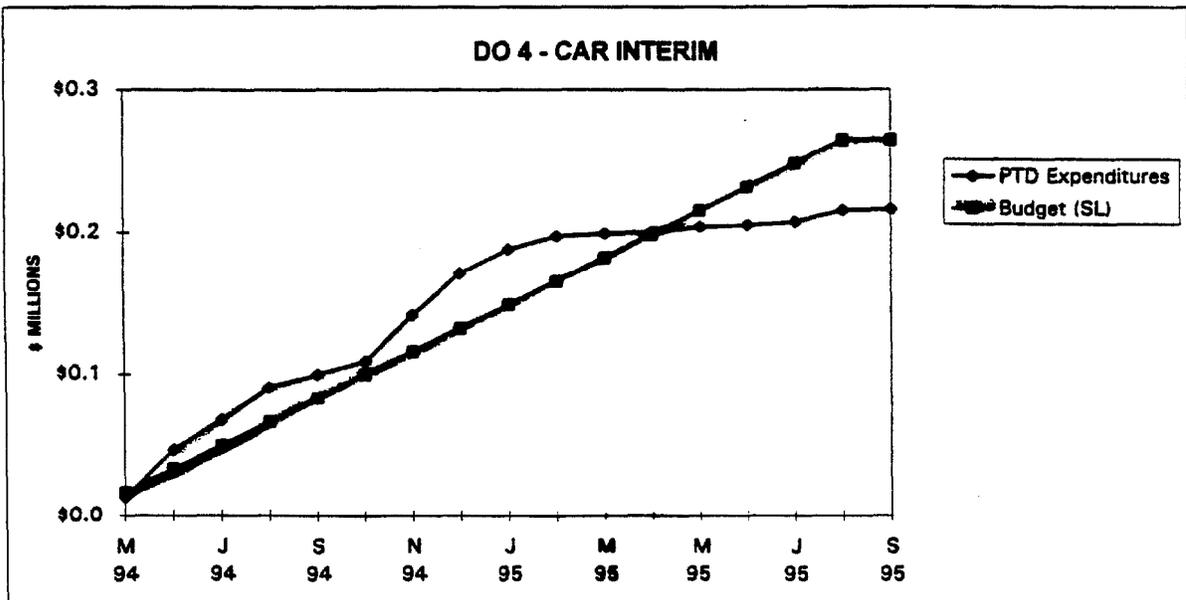
DO STATUS GRAPHIC AS OF SEPTEMBER 1995

Exhibit 2

EPT DELIVERY ORDERS COMPARISON OF EXPENDITURES TO PRORATED BUDGET



Note: Project completed in June 1994.

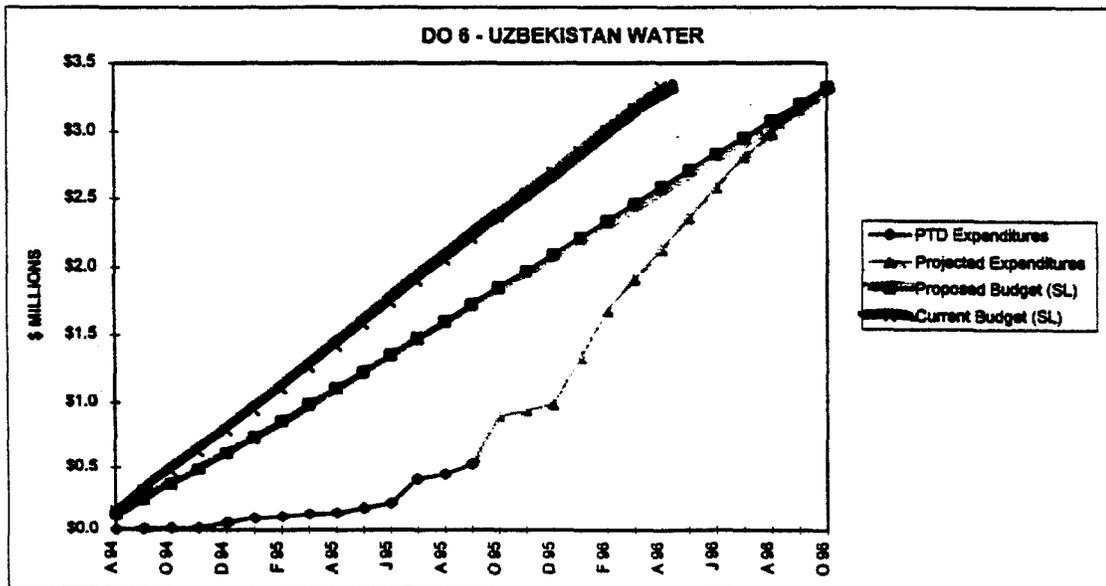
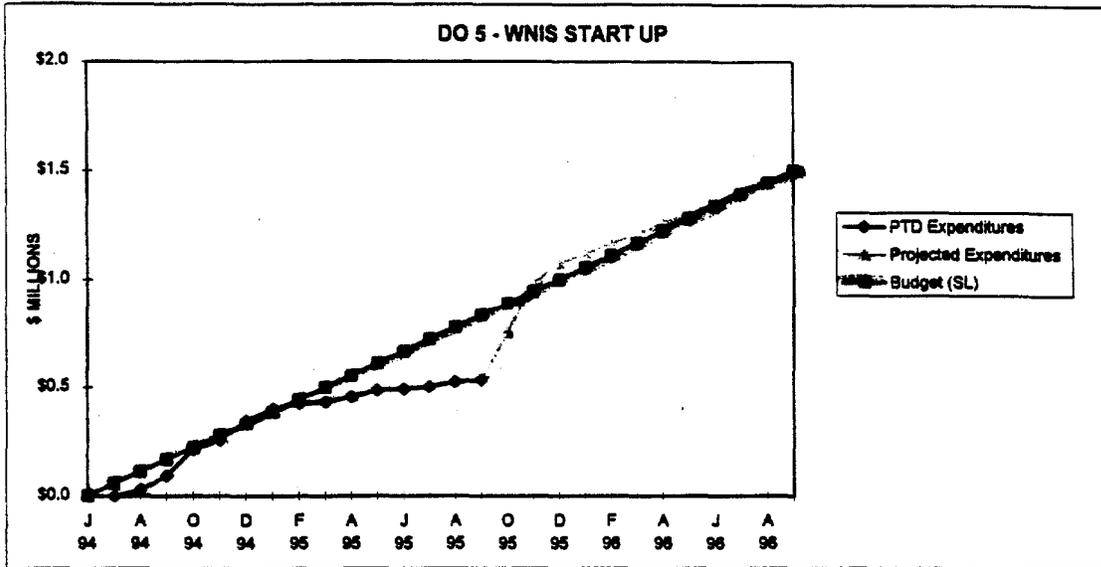


Note: Project completed in August 95.

DO STATUS GRAPHIC AS OF SEPTEMBER 1995

Exhibit 3

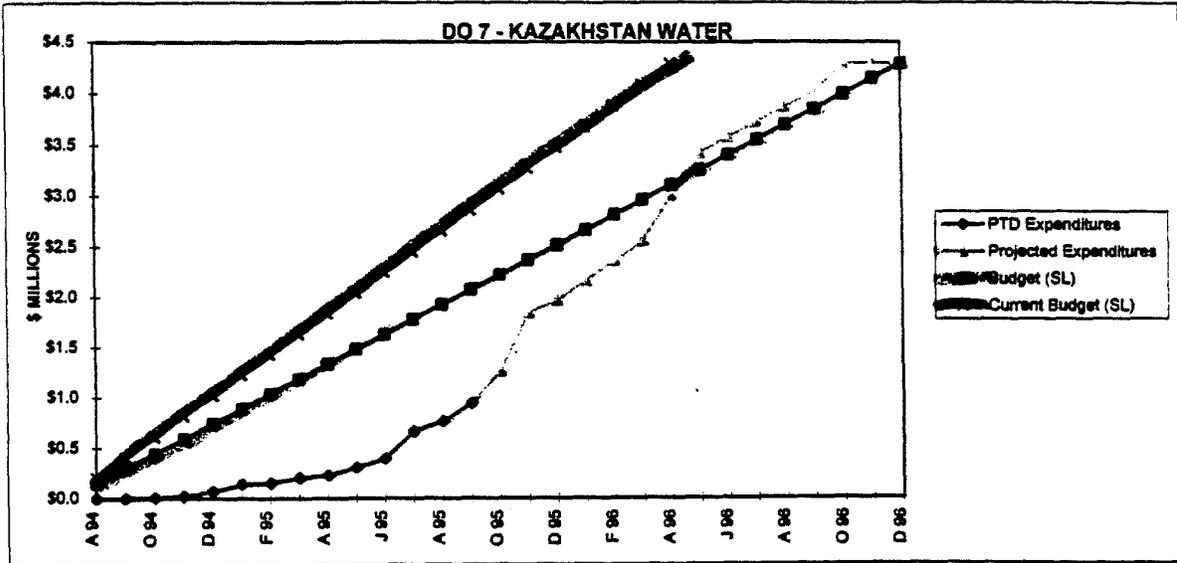
EPT DELIVERY ORDERS COMPARISON OF EXPENDITURES TO PRORATED BUDGET



Note: A no cost extension through October 96 will be requested.
 Delivery Order is currently scheduled to end in April 1996.

Exhibit 4

EPT DELIVERY ORDERS COMPARISON OF EXPENDITURES TO PRORATED BUDGET



Note: A no cost extension through December 96 will be requested.
 Delivery Order is presently scheduled to end in April 1996.

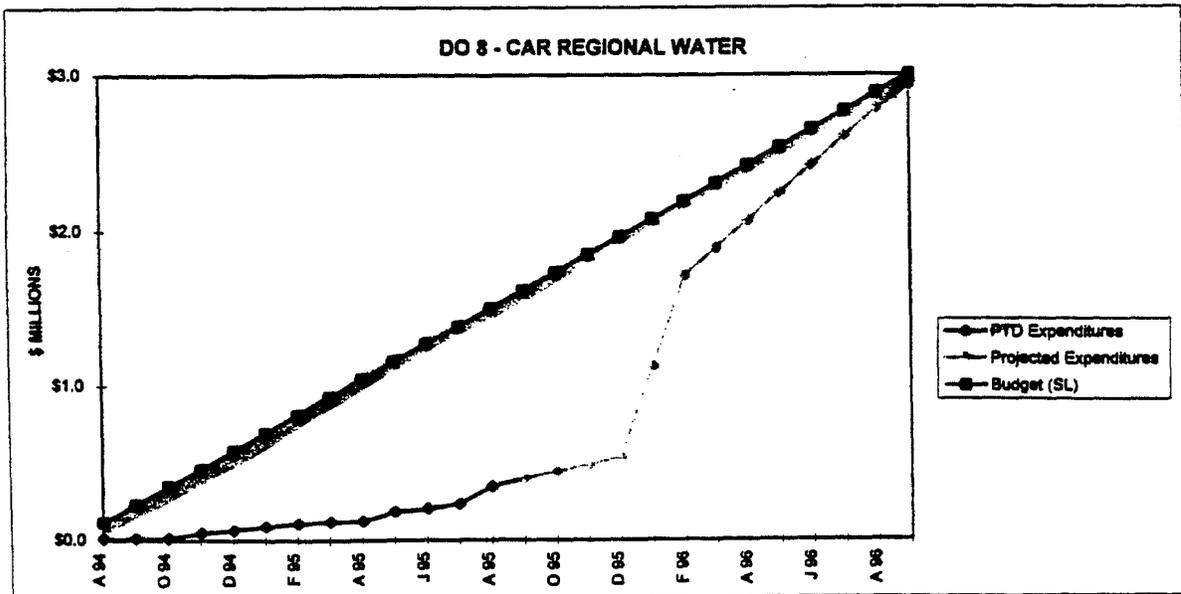
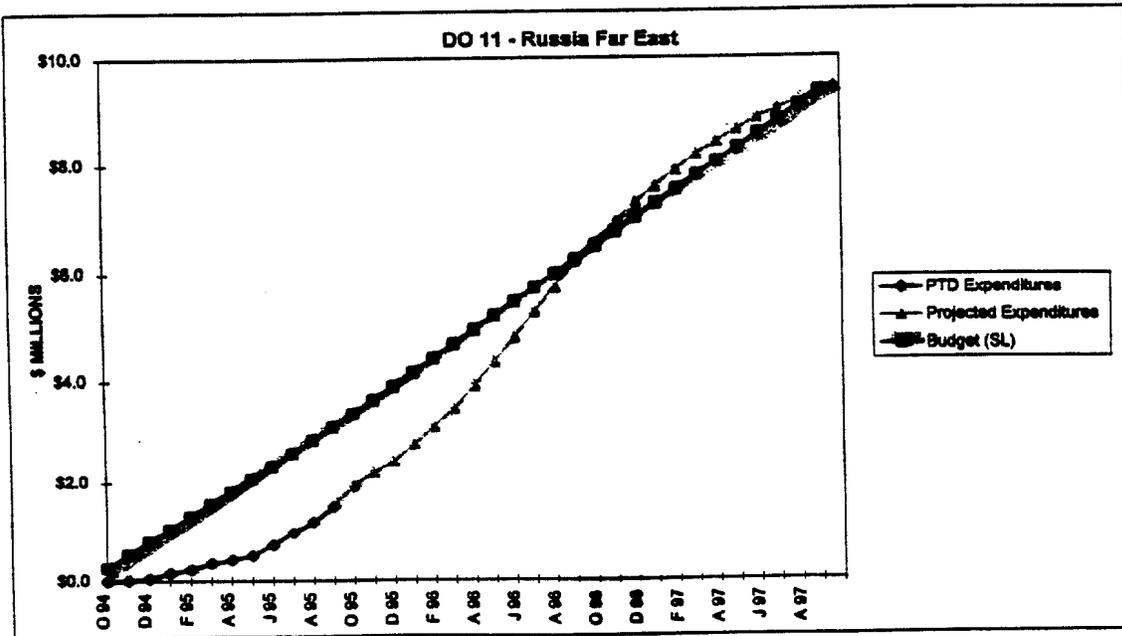
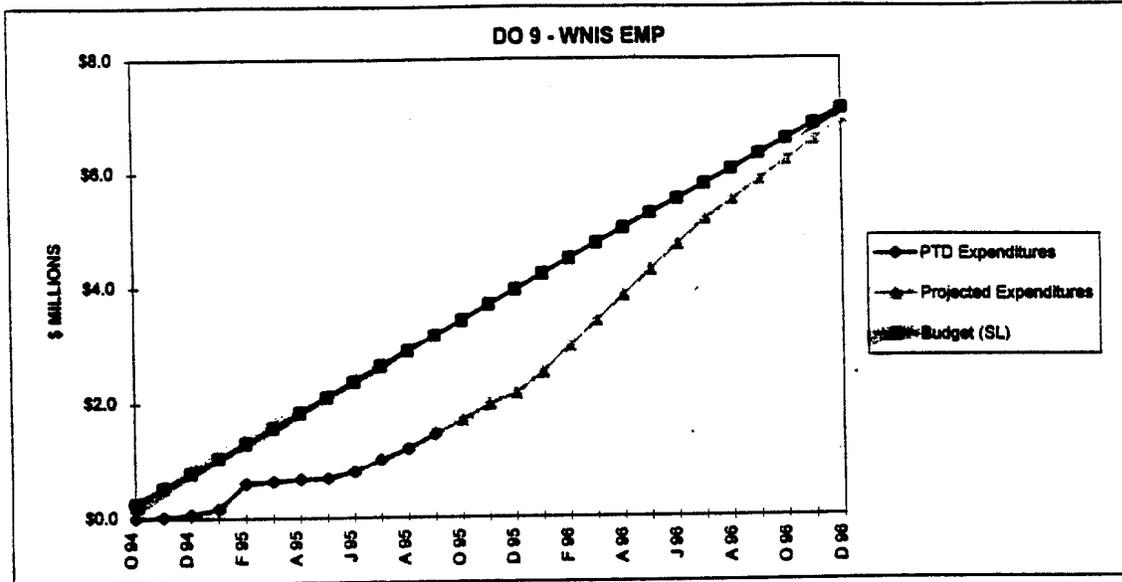


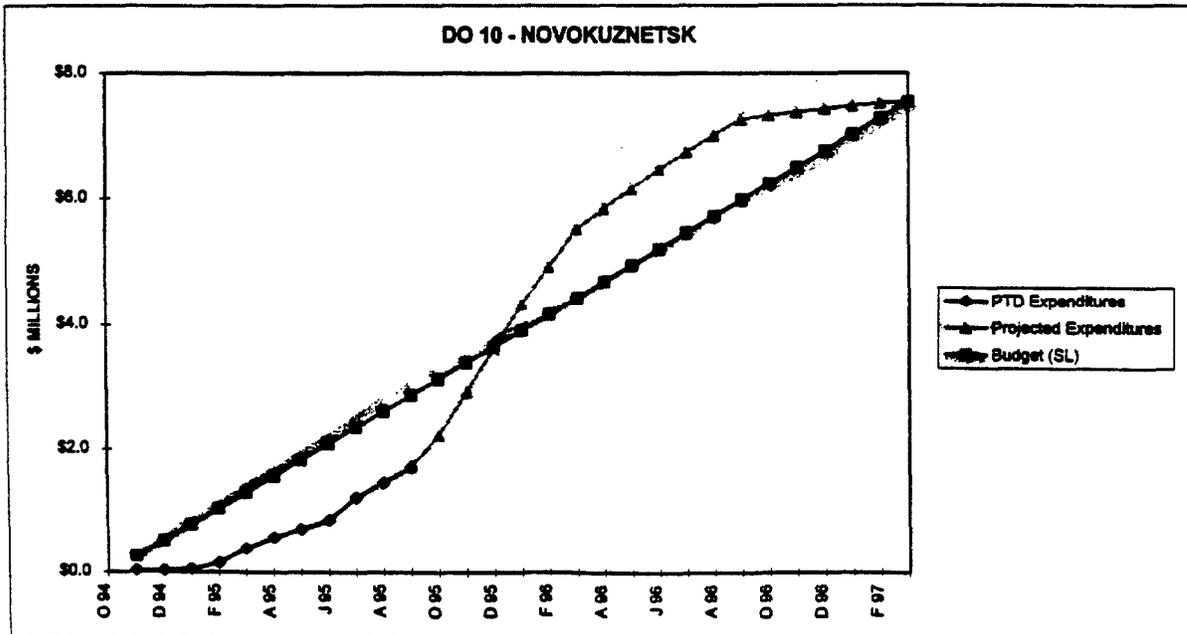
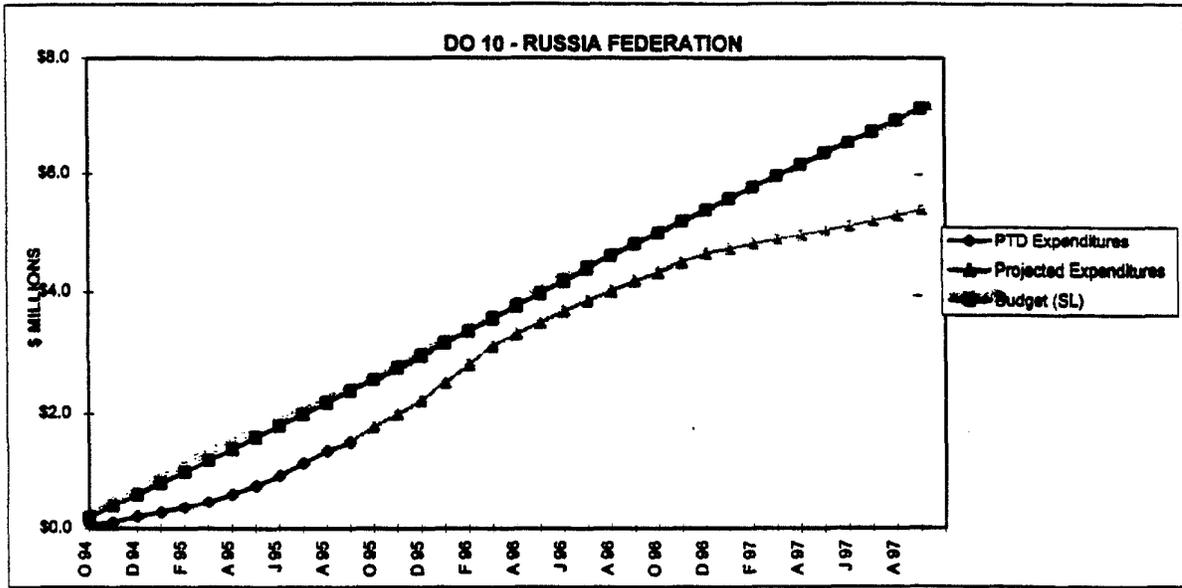
Exhibit 5
EPT DELIVERY ORDERS COMPARISON OF EXPENDITURES TO PRORATED BUDGET



DO STATUS GRAPHIC AS OF SEPTEMBER 1995

Exhibit 6

EPT DELIVERY ORDERS COMPARISON OF EXPENDITURES TO PRORATED BUDGET

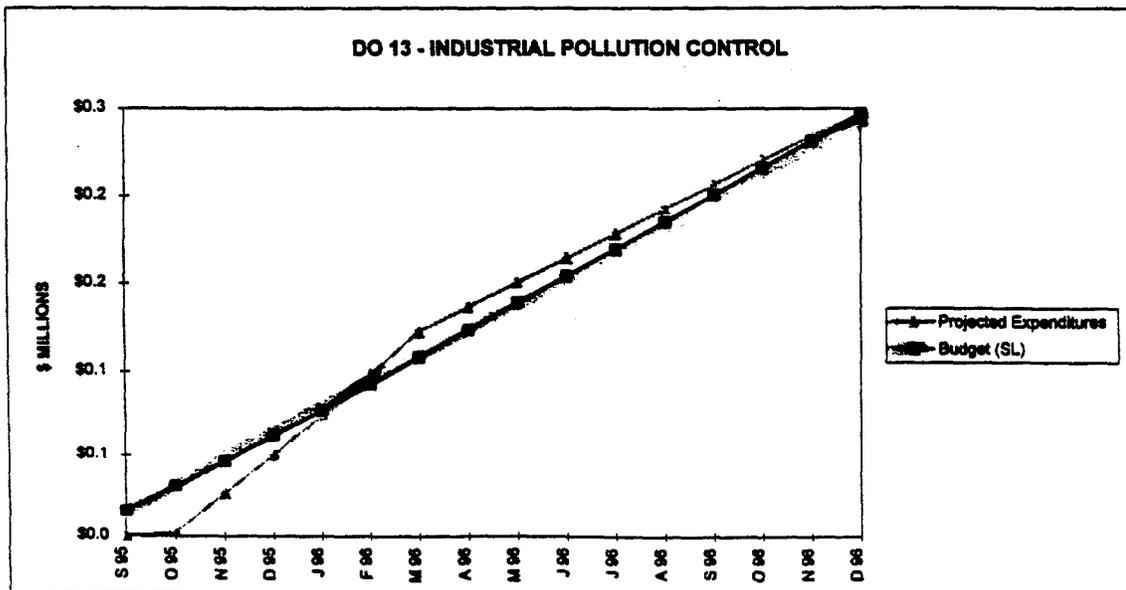
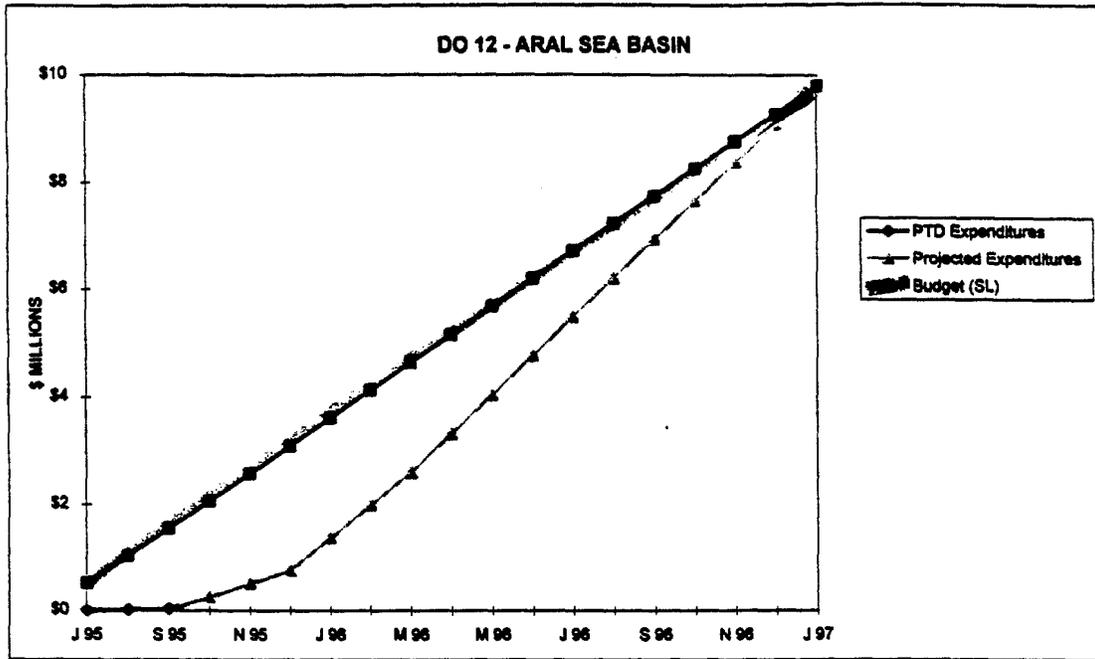


Note: Projection includes additional funding of \$ 1,287,717 which was awarded on 9/27/95.

DO STATUS GRAPHIC AS OF SEPTEMBER 1995

Exhibit 7

EPT DELIVERY ORDERS COMPARISON OF EXPENDITURES TO PRORATED BUDGET



III. CONCLUSIONS AND RECOMMENDATIONS

A. CONCLUSIONS

The overall conclusion of this report is that the CH2M Hill component of EPT is an important project that merits the full policy and financial support of USAID. The project has taken pioneering, even heroic, initiatives to address the extremely serious environmental problems that are the legacy of the Soviet regime in the NIS.

After a slow start, the project has, at the mid-way point in its projected four-year life, picked up its pace and has already produced results that could, with appropriate complementary actions, contribute to improved environmental conditions in the NIS. To date, most of the project's energies have been used on technology transfer. The contractor has, for example, introduced improved water systems technologies in CAR, demonstrated methods to reduce air pollution in Novokuznetsk, developed a training module for fighting forest fires in the Russian Far East, and prepared a demonstration of improved tilling methods aimed at reducing soil erosion in Moldova. Most of the project's technology transfer actions, however, consist of studies and demonstrations. Tangible improvements in environmental conditions will depend on complementary follow-on actions that will have to be financed by the cooperating country governments, the private sector, or other donors.

One of the areas in which complementary actions will be needed is in policy and institutional development. With some notable exceptions, the contractor has been less active in these areas than it has in the area of technology transfer. The exceptions include most of the RFE work, which is largely oriented to institutional development; DO 8, which is aimed at regional cooperation on water policy in CAR; and the Ukrainian-American Work Groups in the Western NIS, which are aimed partially at policy development but which have just recently been established. Many CH DOs have policy or institutional tasks that have not been initiated. These tasks need to be carried out not only for their own sake but also to establish policy and institutional support for the sustainability of the environmental technologies that the project has introduced. Cost and revenue studies need to be carried out, for example, in Lviv, Ukraine and in Kazakhstan to determine how utilities will be able to operate and maintain the improved water technologies introduced by the project. To cite another example, studies are needed in Novokuznetsk to identify reforms in tax or other policies that will induce industries to invest in technology that would reduce air pollution in that city.

With much, although not all, of the project's engineering work completed, CH should, in the last two years of the project, devote a relatively greater share of its energies to policy and institutional development tasks. We understand that other EPT contractors (whose activities we were not asked to evaluate), particularly HIID, have responsibilities for policy and institutional development as well. USAID needs to take an active role in sorting out the division of responsibilities among EPT contractors with respect to policy and institutional development.

Two management problems need to be addressed. One involves the overcentralization of CH project management in Washington for certain regions. Except for delivery orders in Russia, the CH component of EPT is centrally funded and covers a wide geographic area; accordingly, it is appropriate that certain functions, such as contract oversight, technical backstopping, and financial control remain in Washington. But the authority, responsibility, and resources for project and task management should be transferred to the field. This is as true for USAID as it is for the prime contractor, CH2M Hill.

CH has already taken certain steps toward devolution of authority to the field. The RFE DOs, one CAR DO, and most NIS tasks are already managed from the field.

A closely related problem involves the task-oriented approach CH uses for project management. CH needs to manage more strategically with a focus on accomplishing DO and overall contract objectives. This will entail, as a first step, appointing managers for most DOs which should be treated as mini-projects. As explained in the project management section of this report, this will require consolidation, for management purposes, of tasks from some DOs, notably DO 12 and DO 13 into other DOs (this should not require DO amendments) and treating tasks in DO 9 as mini-projects.

The contractor's RFE activities pose special problems. One problem is that the large number of tasks and sub-tasks in the immense territory of the RFE suffer from lack of focus and coherence. This is partly a function of the project's design, but is also due, in part, to the task-oriented approach the contractor uses to manage RFE (and other EPT) activities. The evaluation team was not able to understand, in many cases, how the tasks and sub-tasks, taken individually or by cluster, contributed to the accomplishment of DO objectives. A second problem is that the contractor is saddled with the responsibility not just to manage its own tasks, but to coordinate the activities of other EPT contractors. We believe that the contractor cannot carry out this responsibility adequately without a great deal more assistance from USAID/Moscow.

Following are general recommendations for USAID/Washington and CH2M Hill. Detailed recommendations for the USAID missions and the CH regional offices in Moscow, Kiev, and Almaty are contained in the annexes. Recommendations for Russia are contained in Volume Two, for West NIS in Volume Three, and for CAR in Volume Four.

B. RECOMMENDATIONS FOR USAID/WASHINGTON

1. USAID/Washington should work with CH2M Hill and the USAID Missions to place more emphasis on policy and institutional development tasks for the remaining life of the project. This means, for example, making sure that CH carries out the institutional analysis of Vodokanal in Lviv and that it conducts a water pricing study in Kazakhstan. In some cases, these tasks might be carried out by other EPT contractors, such as HIID. When this is the case, USAID/Washington should make explicit which EPT organization is responsible for which policy or institutional activity.
2. USAID/Washington should encourage CH2M Hill to complete the process already underway to transfer project and task management authority to CH regional offices and CH site managers, particularly in Novokuznetsk and the CAR.
3. USAID/Washington should engage the Missions in a discussion of how USAID authority over particular EPT management functions can be transferred to USAID Missions in the field. The contractor needs to know, for example, whether it is the Mission or USAID/Washington that has the authority to approve work plans or procurement specifications. The contractor also needs to know what approvals it needs, and from whom, to change the sequence of tasks in approved work plans or to transfer money from one line item to another in DO budgets.
4. USAID/Washington should explore with the USAID Missions in Moscow, Kiev, and Almaty ways in which they can demonstrate greater support for the EPT project.

5. USAID/Washington should streamline reporting requirements to relieve burdens on the project and the Missions, especially with respect to the MRS system.
6. USAID/Washington should review the pipelines and work plans to determine whether no-cost extensions of expiration dates are needed for DOs in which work cannot be completed by current expiration dates.

C. RECOMMENDATIONS FOR CH2M HILL

1. CH should invest field staff with full responsibility and authority for the management of DOs and DO tasks. This means naming a field-based manager for each DO and transferring to that person the responsibility for formulating and implementing work plans, for making decisions about the sequencing of tasks and sub-tasks, and the deployment of DO resources.
2. CH should retain in Washington the functions of policy direction, contract oversight, technical backstopping, procurement, recruitment, and financial control. The staff who are now designated as country managers or project coordinators should act primarily as technical advisors and technical backstoppers for the field-based DO managers.
3. CH should revise its work plans to place a greater emphasis on policy and institutional work in the last two years of the project. The inclusion and sequencing of work plan tasks should be done on the basis of the extent to which they contribute to DO objectives. Work plans should also project expenditures to the expiration dates of delivery orders.
4. CH should draw up a plan for greater use of subcontractors, especially for policy and institutional work.
5. CH should draw up a plan for greater use of cooperating country national staff in regional and site offices, especially as DO managers and task leaders. The West NIS work plan provides a good model for the use of CCN staff.
6. For RFE, CH should work with USAID/Moscow to determine which of its many tasks and sub-tasks are most important for achieving DO objectives and should consider eliminating tasks considered non-essential.

D. SPECIAL RECOMMENDATION REGARDING THE COORDINATION OF RFE ACTIVITIES

As mentioned earlier, a large number of detailed recommendations for the USAID Missions, for the CH regional offices, and for the implementation of particular DOs may be found in Volumes Two, Three, and Four. Recommendations are presented at the end of each of the two annexes for Russia in Volume Two, at the end of the Field Report and the annexes on West NIS in Volume Three, and at the end of the four annexes for CAR in Volume Three.

One region-specific issue deserves special mention, however, in this main report. This is the issue of the coordination of EPT contractors in the RFE. Other EPT organizations with responsibilities for RFE activities, such as the U.S. Forest Service, and HIID, have their own sources of funding, their own agendas, and their own implementation time frames. Given these constraints, the evaluation team does not believe that CH has the staff or the authority to ensure, by itself,

coordination among EPT's RFE organizations. In the draft report, we recommended that USAID assign a senior USAID manager to Vladivostok to assume hands-on management of all EPT activities in RFE. The USAID manager would, among other things, draw up a consolidated work schedule for the EPT implementors.

If the assignment of a full-time USAID manager to the RFE is not possible, an alternative would be for a senior manager in USAID/Moscow, preferably the Mission Director, to make frequent visits to the RFE and to convene regular meetings of the EPT contractors in Moscow. The feasibility of this option would depend, among other things, on the priority USAID/Moscow senior management assigns to EPT among the other projects in the Russia portfolio.

If neither of these options is feasible and if CH is to remain as the lead contractor — that is, the prime among primes — USAID should consider a reduction in the number of tasks and sub-tasks for which CH is itself responsible.

A more detailed discussion of these options for the coordination of RFE EPT tasks is presented in Annex 2B.