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PAPER

**TRANSITIONING FROM OPERATIONS TO ENVIRONMENTAL RESTORATION:
STARTUP OF THE FERNALD ENVIRONMENTAL RESTORATION MANAGEMENT
CONTRACT**

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TRANSITIONING FROM OPERATIONS TO ENVIRONMENTAL RESTORATION

START UP OF THE

FERNALD ENVIRONMENTAL RESTORATION MANAGEMENT CONTRACT

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ABSTRACT

This paper will present a description of the program undertaken by the Fernald Environmental Restoration Management Contractor (ERMC) to effect a transition from operation of the Fernald site by the past M&O contractor, WEMCO, to DOE's new mission and contractual approach focussed on site remediation. This transition, on a first of its kind contract, represented a significant, proactive approach on the part of DOE to pursue the clean up of its weapon's production facilities in a faster, more cost-effective manner. The paper will discuss the formal transition readiness review process and the lessons learned by DOE and the contractor during transition. The oral presentation will be shared by both authors with one half of the time allocated to the transition readiness demonstration process and one half to the lessons learned.

The objective of having a Department of Energy (DOE) Headquarters representative participate in the transition to the first ERMC was to develop a handbook to assist other sites proceeding with the ERMC concept, such as the Richland Operations Office, and to develop a lessons learned document. Because a lessons learned report is available separately, only those more significant lessons learned are highlighted in this paper.

BACKGROUND

The ERMC Concept – DOE'S New Proactive Approach to Environmental Restoration

DOE's approach to cleanup at Fernald under the ERMC concept contains four key innovations

- a focus on least cost remediation under an award fee structure,
- an intent to have a defined end to the project as opposed to a continuing mission,
- removal of the conflicting focus on operations, and
- full implementation of DOE's new accountability rules.

First, the FERMCO contract at Fernald places at risk to the contractor, more than 50 % of our fee for the successful, yet least cost, remediation of the site whereas past M&O contracts focussed on specific weapons production activities. Establishing cost effective remediation as the site mission and then linking contractor profitability to successfully implementing this mission is the major distinction between the traditional M&O and an ERMC. Because the

project is self financed by FERMCO, we are incentivized to expedite remediation while maintaining or reducing costs.

The second primary difference between an M&O and the ERMC is the focus on completing the site cleanup at Fernald in a defined period of time. There is no similar "end to a project" in the M&O concept. New production processes come and go but there is always a product to manufacture in the future – and a job. At the end of the Fernald ERMC only a caretaker function will remain.

The third and most significant difference at Fernald in particular is that there is not a combined operations role which will continue on the same remediated site. The Fernald approach allows for a much greater focus on cleanup since there is no longer a need to meet production quotas. It is inevitable that ERMCs at other sites may face tough decisions as to priority of action – cleanup or production. By choosing an example of each approach, entirely cleanup at Fernald and shared focus on cleanup and production at Hanford, DOE will receive early and continuous feedback on whether the two missions are incompatible.

Finally, DOE's new accountability rules in their fullest context are being applied to the ERMCs. At Fernald, these rules are applied and indeed, augmented by the strictest environmental liabilities to date. This accountability and liability empowers the Fernald ERMC to act as an equal participant in the site's cleanup with an incentive to challenge DOE on the most effective way to clean up the site. This last major difference has been the most difficult for all parties to understand and implement.

The Fernald ERMC

The Fernald Environmental Management Project (FEMP) became the site of DOE's first Environmental Restoration Management Contract or ERMC when the Fernald Environmental Restoration Corporation (FERMCO) moved on site September 1, 1992 and assumed responsibility for cleanup of the site on December 1, 1992. Our management approach is unique in the business: we are a fully integrated management team comprised of four key team members. This corporation operates much as a joint venture would but provides DOE with a single point of contact for all contractual interactions.

FERMCO is structured to operate around five CERCLA/RCRA Units or CRU's as we call them at Fernald. The CRU teams operate as five fully empowered project teams focussed on the timely and least cost environmental remediation of the site and its facilities. Staff are matrixed to the CRU's from other support organizations only as required and requested by the CRU Project Managers. All other organizational entities – the Office of the President, our technical and regulatory support functions and our administrative support groups exist solely to support the five CRU Directors. This management approach ensures that the focus of the five CRU directors is on restoration and not administrative functions. It also allows FERMCO to track administrative costs, compare them to the actual dollars going to site clean up and reduce unnecessary support system costs – thus maximizing the dollars available for clean up.

THE TRANSITION PROCESS

At first, one might think that the process to be followed in assuming operation at Fernald should not be significantly different than the process followed in the past when assuming responsibilities from the previous M&O. This was not the case at Fernald for many reasons.

It is significant that many new contractual incentives for the ERMC make it necessary to effect a cultural change among the existing work force. Whereas past workers were taught the

customer is always right, the new ERM's workers are empowered to act, be critical, ask questions and challenge the customer in an attempt to find a faster or more cost effective way to clean up the site. This kind of empowerment is not readily accepted by a work force with 30 years of M&O background. Convincing the worker that failing forward can be healthy takes time. Yet, equally challenging is also the need to develop an environment within the DOE culture which encourages it to support the more aggressive and proactive approach of the ERM.

The primary focus of the Transition Readiness Program was 1) to demonstrate the readiness of the new management team to assume responsibility for site activities and 2) to implement the change in contractors in spite of the above challenge to change the culture. Against the backdrop of issues and contractual differences discussed above and with the high expectations of the public and DOE that the ERM would solve all problems, the Fernald Environmental Restoration Management Corporation (FERMCO) moved on site September 1, 1992.

We believed our first challenge was to define a process and set of deliverables which could be reviewed by DOE and used as a basis for formally transferring responsibility for the site to the ERM. As it turned out, contractually there were no such requirements. On December 1, 1992 we became responsible and liable. There was to be no formal transfer of authority under the ERM contract.

Because there was no precedence, our initial challenge became one of defining a process to be shared with DOE while focussed on meeting non-government, commercial industrial standards for assuming the operation of a large, complex program. The decision as to adequacy of the program was as much a FERMCO decision as DOE's.

We decided to pattern our decision making process after DOE's highly visible and structured operational readiness review process. We used as guidance

DOE's ORR Process
DOE Order 4700.1, Project Management (Part H)
DOE 5480.19 - Conduct of Operations

as well as numerous other DOE Orders and Directives.

At the start of our process, we conducted a rigorous systems level review of each of the areas of responsibility to be addressed. This process eventually developed into the performance of a Management Oversight and Risk Tree or "MORT" type evaluation focussed on identifying and addressing all issues relating to

People -- Plant -- Process

To these standard MORT areas of evaluation we added evaluation relating to

Work Force Culture

A summary chart for these areas of evaluation is presented in Figure 1. From these high level issues, a set of questions were identified and necessary documents produced to address these questions. The conclusions of the documents were shared with DOE.

Shortly after assuming responsibility on December 1, 1992, FERMCO received its first set back as the Ohio EPA rejected the CRU 2 RI report which had been submitted by our predecessor. At that time we suddenly found ourselves, not on the schedule originally established by DOE,

the State and EPA for cleanup of the site as we originally expected, but at least 12-18 months behind. From this beginning point, we have begun the long up hill battle to get back on schedule while addressing the anticipated budget constraints of the new administration. To date, we have been able to expedite plans for the D&D of the site facilities by 2-3 years depending upon final budget limits.

The discussions which follow address the lessons learned from a DOE perspective as a result of the participation of the authors in the transition process. A formal report of this process and its conclusions has been prepared and is available separately from the DOE author.

LESSONS LEARNED

A New Operating Environment for DOE

The DOE Operations Office that entertains the use of an ERMC should anticipate a significant change in the operating environment for the project following the award. This can include implementation of innovative approaches by the ERMC to explore opportunities to expedite remediation at a lower cost. The culture change required within DOE is not readily accepted at first but can be extremely effective in attempting new and innovative solutions to the existing set of problems. Therefore patience must be exercised by all parties to allow the process to function most effectively. This effort could include the development of a set of expectations for the ERMC and crafting a strategy for employing these changes. This long term strategy document could then be used as the baseline for establishing the effectiveness of the ERMC once they assume responsibility for the project.

FERMCO submitted stated goals to reduce costs by 15 percent and accelerate legally driven milestones by one year. However, a comparable list of expectations by the Department of Energy was not developed for the first ERMC due to the dramatic departure and uncertainty surrounding this contracting method. A future user of this or similar contracting approaches should consider developing either a more aggressive set of goals, such as more dramatic cost savings or a more rigorous evaluation of the period of time available for legal milestone implementation. Alternatively, specific goals that would ultimately result in a cost savings to the Government could be considered, such as writing off the equipment value of the facilities to be remediated by the ERMC. Although these latter goals would not be legally enforceable under the terms of the contract unless they were negotiated, they will afford the Department with a more objective set of evaluation criteria and ensure that the overall goal of assessing the performance of this contractor in an objective manner is achieved.

Prior Review of Management and Operating Contractor Contracts

A thorough review of the existing M&O contract needs to be performed by DOE prior to the ERMC transition in order to minimize the effort required to transfer the M&O contract to the ERMC. In addition, contracts that cannot be assigned to an ERMC, such as Small Business Administration 8A contracts specifically excluded from ERMC activities, need to have separate assignment strategies. The smaller the number of contracts requiring reassignment, the more thorough review of the existing contracts can be performed by the ERMC. In the case of FERMCO, the large number of contracts transferred from the prior M&O (1,500) precluded detailed review and renegotiation during the 90 day transition period, except in the case of contracts with significant financial exposure to the government and FERMCO. In fact, this review of existing contracts may be one of the identified goals of the Department in selecting this contracting method.

Communications and Training

Regular meetings between DOE and the contractor must be held throughout the transition process at both the senior management and staff level to assist the smooth transition of activities. This includes the identification of issues and status of progress for activities. For the Fernald site, senior managers meetings were effective in identifying and resolving issues. Several activities associated with these meetings and development of common expectations could include an early senior management retreat following the transition process.

Coupled with communication, effective training of staff for responsibilities and authorities following the implementation of an ERMC is beneficial. For example, assignment of work is not similar to an M&O because the level of liability assumed by the ERMC is greater for actions they agree to implement. However, this liability is diminished based upon direction given by the Department. Thus, judicious use of this direction needs to be exercised in order to obtain the maximum benefit associated with an ERMC. Effective training of personnel prior to transitioning to an ERMC can result in significant improvement in the line of communication and the resolution of identified issues.

Property Issues

A strategy for nuclear material disposition and personnel property surplus actions should be developed as early in the environmental restoration process as feasible, and prior to the transition to an ERMC contract if possible. This could include identifying an approach for removal of nuclear material and property inventory, or elimination or significant reduction of the current listed nuclear material or property inventory within the DOE system. In the case of Fernald, there were over 24,000 pieces of physical property inventory contained within the former plant buildings that had an estimated value of over \$330 million. However, this equipment was either contaminated process equipment or specially sized equipment for the Fernald process that has no further value for production. The timely processing of physical inventory through the real property surplus system and disposition of nuclear material at the site will reduce the complexity of transition. In addition, at sites where the ERMC must rely on other contractors for these actions, the implementation of the ERMC approach will be challenged due to reliance on organizations, which may not have goals that are complimentary to those of the ERMC.

Transition Planning

Planning documentation developed prior to the ERMC transition has a number of beneficial results. In addition to identifying activities that need to be completed during the transition, the development of this transitional planning documentation also allow the affected employees to both participate in the development of the documentation and prepare for the change. In the case of Fernald, DOE made the development of transitional planning documentation a part of the award fee plan. In addition, the Department should allow flexibility in the recognition of alternative transition planning. For example, the use of the MORT type analysis by FERMCO afforded several advantages; however, this approach should not preclude the use of alternative transitional planning documentation by future ERMC type contracts.

CONCLUSIONS

Transition from an M&O contractor to a contractor focussed on the successful, least-cost remediation has been successfully accomplished at Fernald. DOE is to be credited for its vision and willingness to create and implement a significantly different approach. If the near term successes can be maintained and built upon over the life of the first ERMC contract, the taxpayers of the United States will save hundreds of millions of dollars and the environmental

degradation will be significantly decreased with a related reduction in risk to the citizens of southwestern Ohio.

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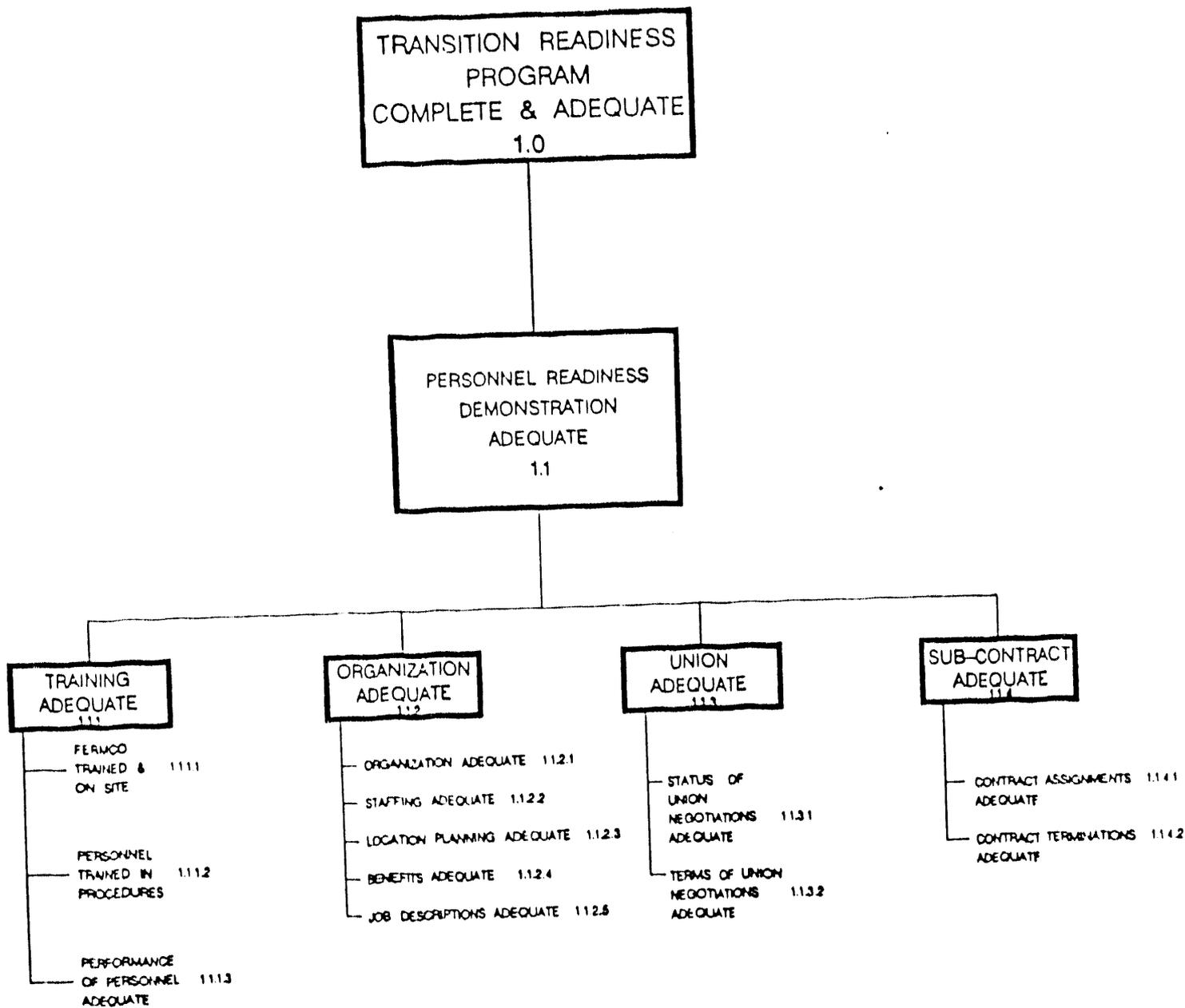


FIGURE 1A
PERSONNEL ISSUES

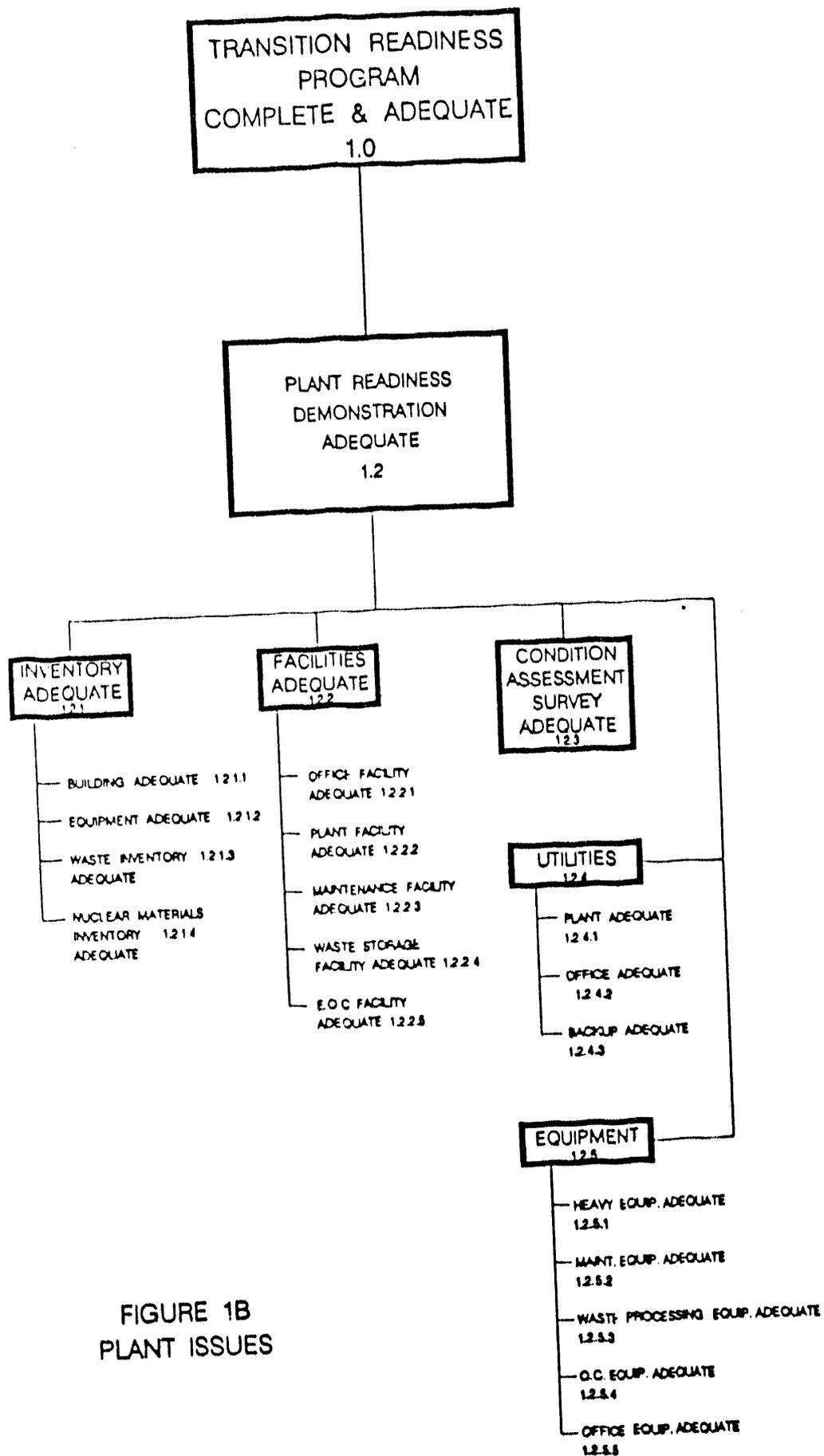


FIGURE 1B
PLANT ISSUES

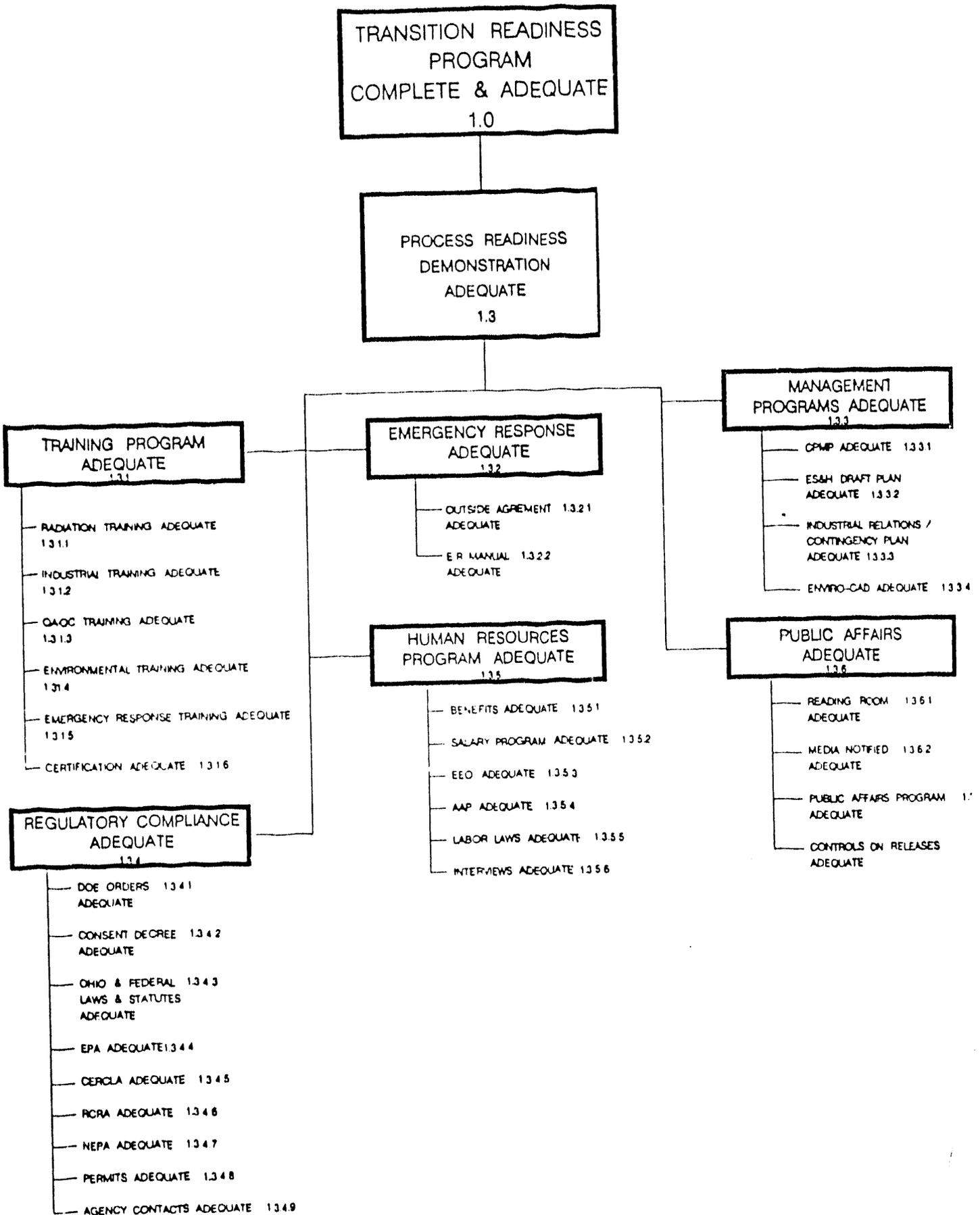


FIGURE 1C-1
PROCESS ISSUES

TRANSITION READINESS PROGRAM
COMPLETE & ADEQUATE
1.0

PROCESS READINESS DEMONSTRATION
ADEQUATE
1.3

ACCOUNTING SYSTEMS
ADEQUATE
1.3.7

- PEOPLE ADEQUATE 1.3.7.1
- BILLING - DISPERSEMENTS ADEQUATE 1.3.7.2
- GOVERNMENT PROPERTY ADEQUATE 1.3.7.3

QA PROGRAM
ADEQUATE
1.3.10

- QAPP - EPA ADEQUATE 1.3.10.1
- QAPP - DOE ADEQUATE 1.3.10.2
- INTERNAL AUDIT - QC ADEQUATE 1.3.10.3

PLANT OPERATIONS
ADEQUATE
1.3.11

- LAB SERVICES ADEQUATE 1.3.11.1
- QUALITY CONTROL ADEQUATE 1.3.11.2
- WORK CONTROL ADEQUATE 1.3.11.3
- MATERIALS CONTROL ADEQUATE 1.3.11.4
- TREATABILITY STUDIES CONTROL ADEQUATE 1.3.11.5
- ENGINEERING & MAINTENANCE ADEQUATE 1.3.11.6
- OPERATIONS SUPPORT ADEQUATE 1.3.11.7

PROJECT CONTROLS
ADEQUATE
1.3.12

- CHANGE CONTROLS ADEQUATE 1.3.12.1
- CONFIGURATION CONTROL ADEQUATE 1.3.12.2
- COST CONTROL ADEQUATE 1.3.12.3
- SCHEDULE CONTROL ADEQUATE 1.3.12.4
- SYSTEMS ENG MANAGEMENT PLAN ADEQUATE 1.3.12.5
- DOCUMENT CONTROL SYSTEMS ADEQUATE 1.3.12.6

TECHNOLOGY PROGRAMS
ADEQUATE
1.3.13

FIGURE 1C-2
PROCESS ISSUES

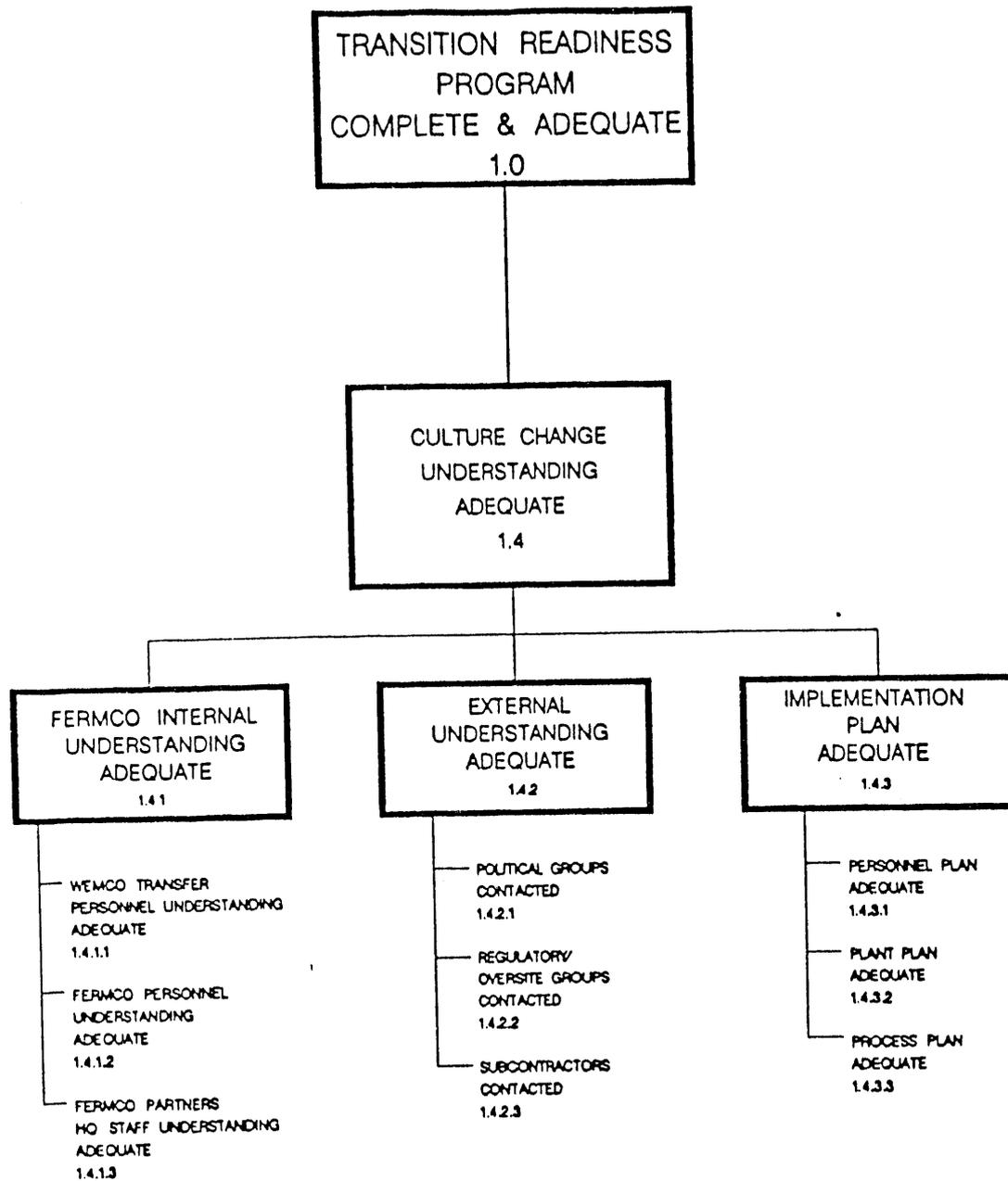


FIGURE 1D
CULTURAL ISSUES

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