



**Idaho
National
Engineering
Laboratory**

INEL-96/0454

December 1996

Indirect Comprehensive Review Board (ICRB)

Final Report

MASTER

LOCKHEED MARTIN



DISTRIBUTION OF THIS DOCUMENT IS UNLIMITED

Indirect Comprehensive Review Board (ICRB)

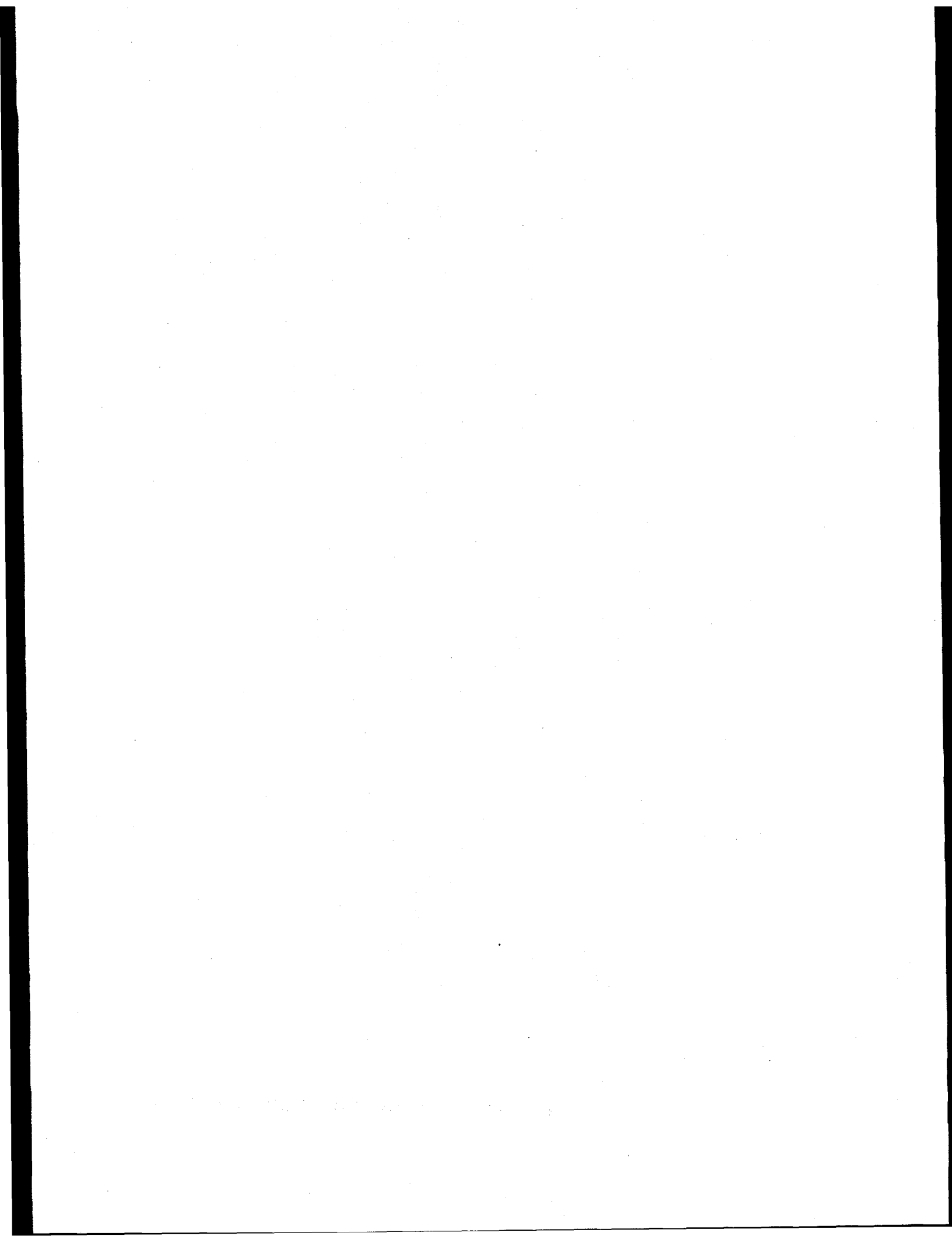
Final Report

Published December 1996

**Idaho National Engineering Laboratory
Lockheed Martin Idaho Technologies Company
Idaho Falls, Idaho 83415**

**Prepared for the U.S. Department of Energy
Under DOE Idaho Operations Office
Contract DE-AC07-94ID13223**

DISTRIBUTION OF THIS DOCUMENT IS UNLIMITED



DISCLAIMER

Portions of this document may be illegible in electronic image products. Images are produced from the best available original document.

ACKNOWLEDGMENTS

We gratefully acknowledge the many Lockheed Martin Idaho Technologies Company (LMITCO) and DOE-Idaho Operations Office (DOE-ID) personnel whose dedicated efforts and long hours made this project a success. We especially thank our customers who participated with us in this process, and all the presenters who work diligently to prepare for the board reviews. All of your contributions are greatly appreciated.

Harold S. Blackman
LMITCO Project Leader

Lori L. Fritz
DOE-ID Project Lead

CONTENTS

ACKNOWLEDGMENTS	iii
CONTENTS	iv
LIST OF FIGURES AND TABLES	v
EXECUTIVE SUMMARY	vi
1. Introduction	1
2. Problem	1
3. Objectives	2
4. Approach	5
4.1 Process Description	5
4.2 Board Review Process	7
4.3 Review Board Issue Identification, Tracking, & Resolution	7
5. Results	11
5.1 Reductions	11
5.2 Rate Information	12
5.3 Pre-Post ICRB Comparison	12
6. Lessons Learned	13
7. Conclusions	14
Appendix 1 Core Team Members	1-1
Appendix 2 Board Members	2-1
Appendix 3 Participant Training	3-1
Appendix 4 Board Member Training	4-1
Appendix 5 Decision Units	5-1
Appendix 6 Issues	6-1

LIST OF FIGURES AND TABLES

Figure 3-1. Project Schedule	3
Figure 4-1. ICRB Process	9
Figure 4-2 Indirect Review Board Issue Identification, Tracking, & Resolution	10
Figure 5-1. Total Reviewed Indirect Activities Plus Investment	11
Figure 5-2. Pre-Post ICRB	13
Table 5-1. Rate Information	12

EXECUTIVE SUMMARY

Lockheed Martin Idaho Technologies Company (LMITCO) used a systems engineering approach to take the first step toward defining a requirements baseline for all indirect work at the Idaho National Engineering Laboratory. The intent of this effort was to define the requirements for indirect work, identify the activities necessary to meet the requirements, and to produce defensible cost estimates for the work. The result of this effort is a scrubbed-down, defensible budget for all indirect work in FY 1997. Buying power for each dollar of direct work was increased by \$.02. Recommendations are identified for improvements to this process for FY 1998.

1. Introduction

The purpose of this report is twofold. First is to report the final results of the 1996 ICRB process, and second is to document the process used such that incremental improvements may be made in future years. Objectives, processes, and approaches are described to provide a trail for future boards. Appendices contain copies of board composition, documentation of the process, as well as the actual training materials.

2. Problem

The Idaho National Engineering Laboratory has undergone extensive consolidation and change over the past two years. These changes have been coincident with decreasing federal budgets. As the number and size of programs at the INEL have decreased the indirect side of the INEL business has contracted as well. During FY 1996 direct funding continued to decrease and the INEL experienced a need to further reduce indirect costs. Also during FY 1996, the Environmental Management Program (EM) had conducted a comprehensive review referred to as the EM Murder Boards. The results of this review are contained in the report Environmental Management Requirements/Defensible Costs Project (INEL-96/0101, February 1996). These reviews were intended to identify the requirements, scope, and associated funding necessary to ensure legal and regulatory compliance. The EM effort had three distinct objectives:

1. Develop an integrated INEL EM program requirements baseline with compliance with the Settlement Agreement and other legal and statutory requirements as the primary drivers.
2. Establish a defensible workscope tied to compliance milestones and requirements, eliminate all activities for which no firm requirements exist.
3. Develop defensible cost estimates for all EM activities.

The EM comprehensive review was extremely successful in meeting these goals. Based upon this success senior management at Lockheed Martin Idaho Technologies Company (LMITCO) and DOE Idaho Operations Office (DOE-ID) concluded that indirect work at the INEL could benefit from a similar review. This review would establish a baseline of requirements for indirect work; establish well-defined workscope, while eliminating lower value activities; and develop defensible cost estimates for all activities. This review would provide a basis from which to ensure that the indirect funding level for FY 1997 was equivalent to the FY 1997 budget formulation rates used for direct programmatic planning, which required a significant reduction in indirect cost. The process would also result in the ability to make informed decisions as to what indirect workscope must be performed to meet requirements, as well as an identification of the highest priority indirect funded work.

3. Objectives

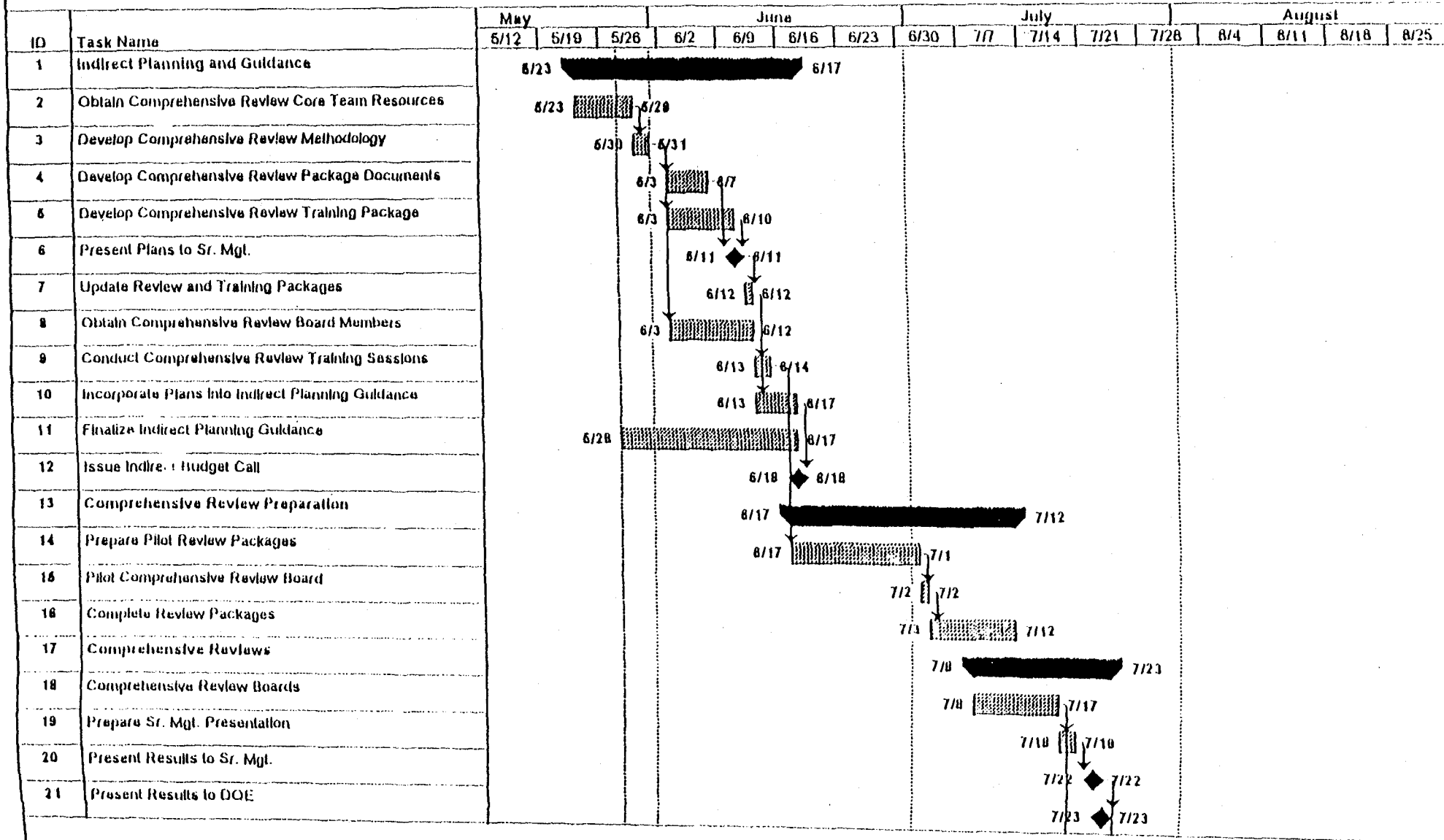
A core team was chartered to develop and implement the process to perform the indirect comprehensive review. The core team was chartered based upon lessons learned from the EM Integration effort. The core team was made up of LMITCO and DOE-ID personnel advised by a board of LMITCO and DOE-ID senior management. A list of the core team members is provided in Appendix 1. The core team began by defining the objectives for this review process. This was accomplished by a thorough review and subsequent modification of the EM Integration effort to fit indirect work at the INEL. The objectives of the Indirect Comprehensive Review Board (ICRB) were defined as follows:

- Develop a crystal clear understanding of the indirect products defined in terms of requirements
- Produce defensible cost estimates that represent a common understanding of the requirements, tasks, and costs
- Accomplish the maximum programmatic work possible for the lowest cost.

The core team was asked to resolve the fact that the current indirect funding level was too high to achieve the planned formulation rates. The core team modified the EM Integration process that was designed to scrub requirements, activity logic and scope, and basis of estimate. The process empowered boards of individuals to help the indirect programs achieve the lowest possible costs to support their requirements. The core team expected that the process would result in reduced costs as well as a change in the perceptions that indirect budgets are fat, cost estimates are poor, and there are no firm requirements. A constraint on the process design was the need to complete the Indirect Planning Process by August 23. The schedule developed and implemented for this effort is shown in Figure 3-1.

Figure 3-1 Schedule

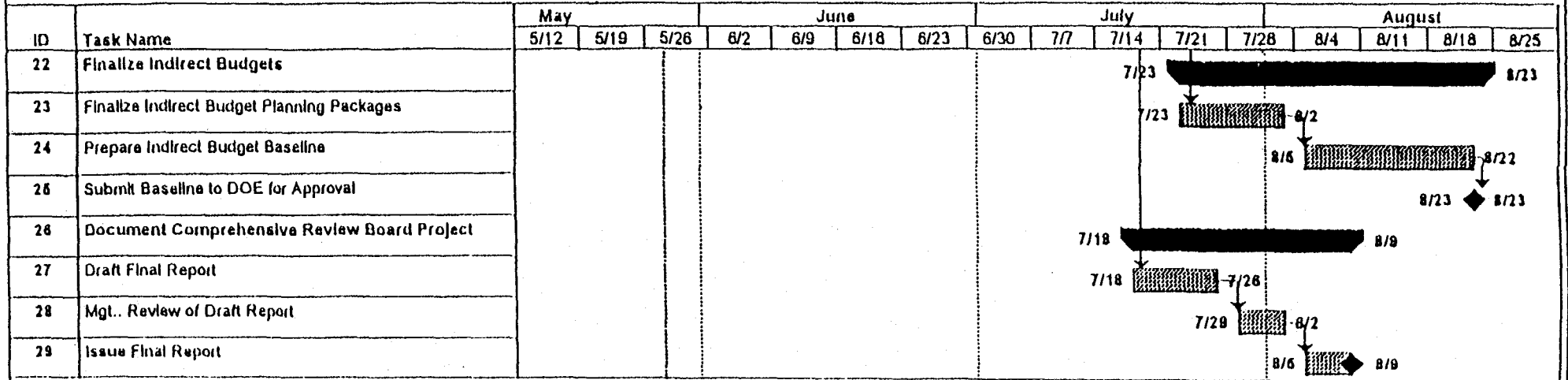
Indirect Budget Planning and Guidance
Master Schedule
May 28, 1998



3

Figure 3-1 Schedule continued

Indirect Budget Planning and Guidance
Master Schedule
May 28, 1998



▶

4. Approach

4.1 Process Description

The core team was required to develop a process that would enable indirect funding levels, for FY 1997, to be reduced to the required level. Initially the core team reviewed lessons learned from the EM Integration effort. One lesson learned was that the training conducted for the participants and the board members could have been improved. Therefore, the core team determined that more extensive training should be conducted for participants and board members. Two training packages were developed to meet this need. Appendix 3 is the training delivered to all participants, and Appendix 4 is the training given to the board members.

Another lesson learned was the importance of the composition of the review board. It was clear from the prior EM board that senior, experienced members were critical for success. The board members needed to be knowledgeable, fair-minded individuals capable of maintaining INEL's best interests in mind. In addition, it was determined that the boards should contain a mix of LMITCO, DOE, and other customer representatives. The purpose of this team approach was to ensure that a dialogue occurred and an understanding was reached regarding the requirements, scope and costs of indirect activities. Three boards were formed to allow all reviews to occur in a timely fashion. Appendix 2 lists the board members selected.

Figure 4-1 below shows the process identified for the Indirect Comprehensive Review Boards. The process steps were as follows:

Step 1: The first step in this process was the development of decision units. For the indirect work the core team determined that the appropriate level of analysis for this effort would be the WBS level 20. Appendix 5 contains a listing of the decision units. Owners of the WBS level 20 accounts were asked to review these accounts and, where appropriate, combine or break down into meaningful pieces of indirect work. The second step was the definition of requirements for each decision unit. This involved the identification of requirements, documentation of the source of the requirement, and the categorization of the requirements into one of four drivers. The driver categories were as follows:

1. All activities that are required for compliance to federal and state laws and regulations, compliance agreements, consent orders, court orders, LMITCO/DOE contractual requirements, and DOE orders that are legal mandates,
2. All activities that are required to meet requirements in DOE orders that are not legal mandates,

3. All activities that are required to meet requirements in Agreements in Principle,
4. All activities that are required for continued effective management and operations of the INEL.

At the conclusion of this step the owners of the work had identified the requirements which would form the baseline for that area of indirect work. In addition, they had identified the driver for the work. A major difference between the review conducted for the EM integration effort and the indirect work lies in this identification. The four ICRB driver categories listed above were a much shortened and modified version of the eight original driver categories used in the EM effort. Many of the activities performed by indirect organizations fall into the driver category 4, but are essential to the continuation of a viable laboratory. Unlike a stand alone program, there are considerations other than the required laws, orders, or legal mandates. Some indirect funded work activities are required to maintain the viability of a business.

Step 2: The second step was the identification of the functions, activities, and tasks that are necessary to meet the requirements. This step was meant to be an activity-based breakdown. We further requested that the contribution of the activity be classified as (1) absolutely essential to meet the requirement; (2) as insurance, in case one more activities failed; or (3) as investment: a dollar spent today saves brings in more dollars in the future.

Step 3: The third step was creation of a logic diagram, flow chart or other method to communicate the interrelationship of the functions, activities, and tasks.

Step 4: The fourth step was the development of the cost logic, and basis of estimate. This was accomplished through the identification of the resources, hours/activities/ non-labor pricing and rates. Forms were provided to assist in the development of these estimates.

Steps 5 and 6: The final steps involved the documentation of the entire package and development of a presentation to be communicated to, and reviewed by, the designated review board. Each package owner presented his/her package to the designated review board, and was given a set of recommendations by the board in terms of how they might reduce costs in the package. In addition, each package was given an overall quality score to indicate the board's confidence in the overall package. The products from this process are a requirements baseline established from the examination of the drivers for all indirect work, an activity based breakdown of our indirect work based upon those requirements, and defensible cost estimates. Furthermore, a board review of these requirements, activities, and cost estimates provided the opportunity to identify additional recommendations for cost savings. The review boards were given the following goals to meet this objective.

- Ensure that all work is driven by requirements
- Review scope of work to ensure that it is necessary to accomplish the requirements.

- Review resource estimates to determine the quality of the cost estimate
- Evaluate the thought process and data application process
- Look for ways to reduce costs in work packages
- Enhance efficiencies

4.2 Board Review Process

The review process itself consisted of three parts. The first part was an introductory presentation by the indirect work manager. This introduction served to acquaint the board with the background required to understand a particular package. The presentation also allowed the indirect work manager to highlight any particular areas that might require special consideration. The second part of the review process was a question and answer session where the board members asked questions to clarify requirements and understand the workscope and associated cost estimates. Opportunities for cost reduction and potential alternatives were discussed at this time. The third part was the delivery of specific recommendations from the indirect comprehensive review board to the indirect work managers. These recommendations were in a written form consisting of a verbal description and estimated related cost savings.

4.3 Review Board Issue Identification, Tracking, & Resolution

A process was developed to track the identified issues and implement a resolution process. That process, as originally designed, is illustrated in Figure 4-2 below. The process consisted of eight steps briefly described below.

Step 1: Board identifies issues based upon presentation and questioning of the presenter.

Step 2: Board makes recommendations for each issue, identifying those that can be implemented immediately and those that are of a long term nature and those that were company-level issues.

Step 3: Issues and recommendations are entered into a data base by the Tally team.

Step 4: The presenter evaluates the recommendations within a short timeframe to determine acceptability.

Step 5: Recommendations that can be immediately implemented are accepted and recorded in the data base. Remaining issues are referred to the Director for response.

Step 6: Director prepares a response accepting recommendations or rejecting each recommendation.

Step 7: Core Team and Indirect Review Board Chairpersons evaluate the response and either accept or refer to Senior Advisory Board for final resolution. Decision criteria for referral to Senior Advisory Board were:

- 7.1 Recommendation is cross cutting in nature
- 7.2 Recommendation involves an external agency
- 7.3 Recommendation involves a Corporate policy
- 7.4 Director is at an impasse, does not concur with or is unable to determine a way to implement
- 7.5 Recommendation requires a changes in law, or agreement
- 7.6 Recommendation jeopardizes a major milestone.

Step 8: Senior Advisory Board reviews recommendation and response and makes a decision to close issue.

This process was modified somewhat during the evolution of the boards. Steps 4, 5, and 6 essentially occurred simultaneously. Step 7 was reduced to a review by the Board chairs. The entire packages were then forwarded to the Senior Advisory Board (Step 8) for their review. This was done as it became clear that some decisions required a cross-prioritization that needed Senior Management consideration and final decision based on the overall INEL strategy and requirements.

Figure 4-1 ICRB Process Flow

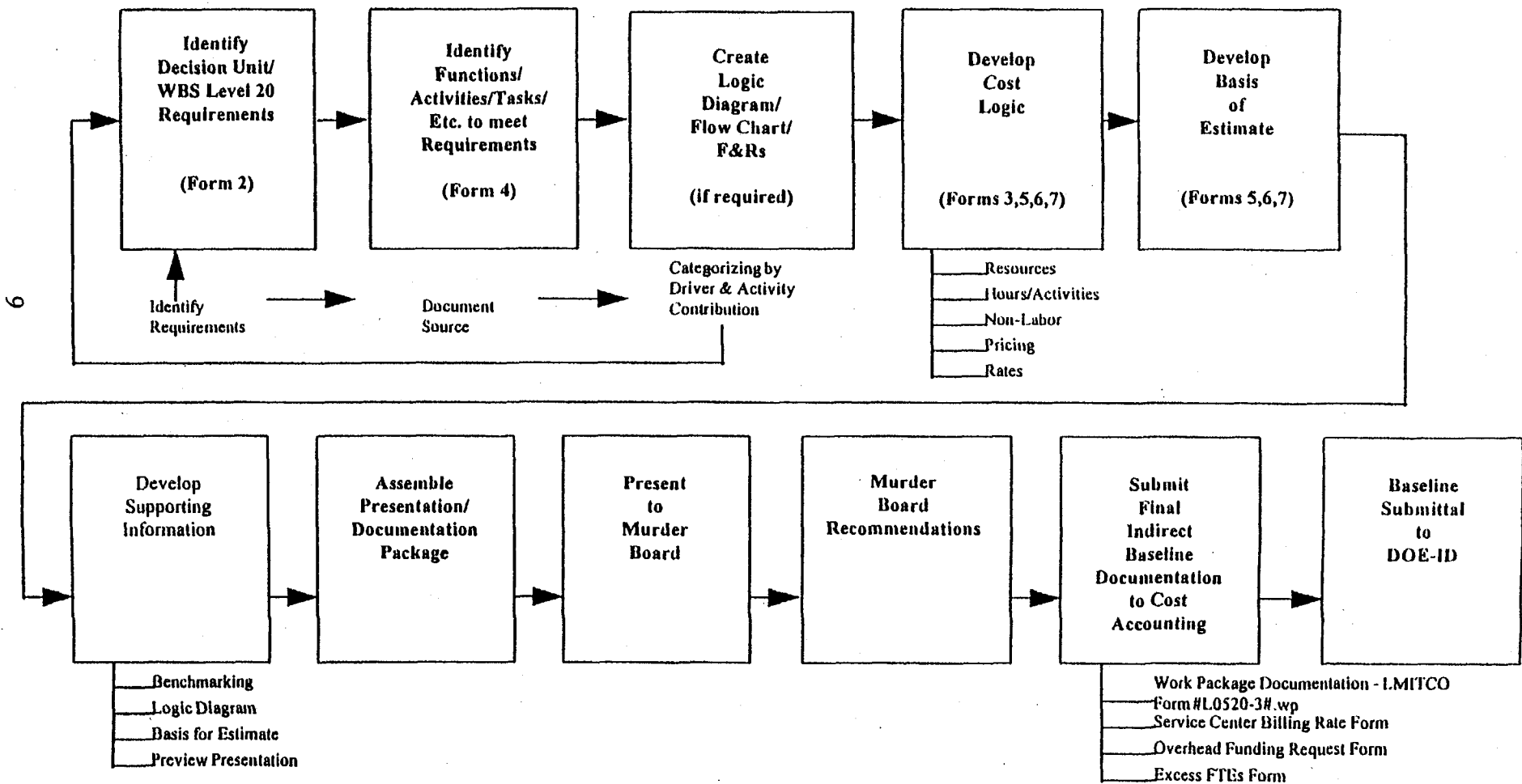
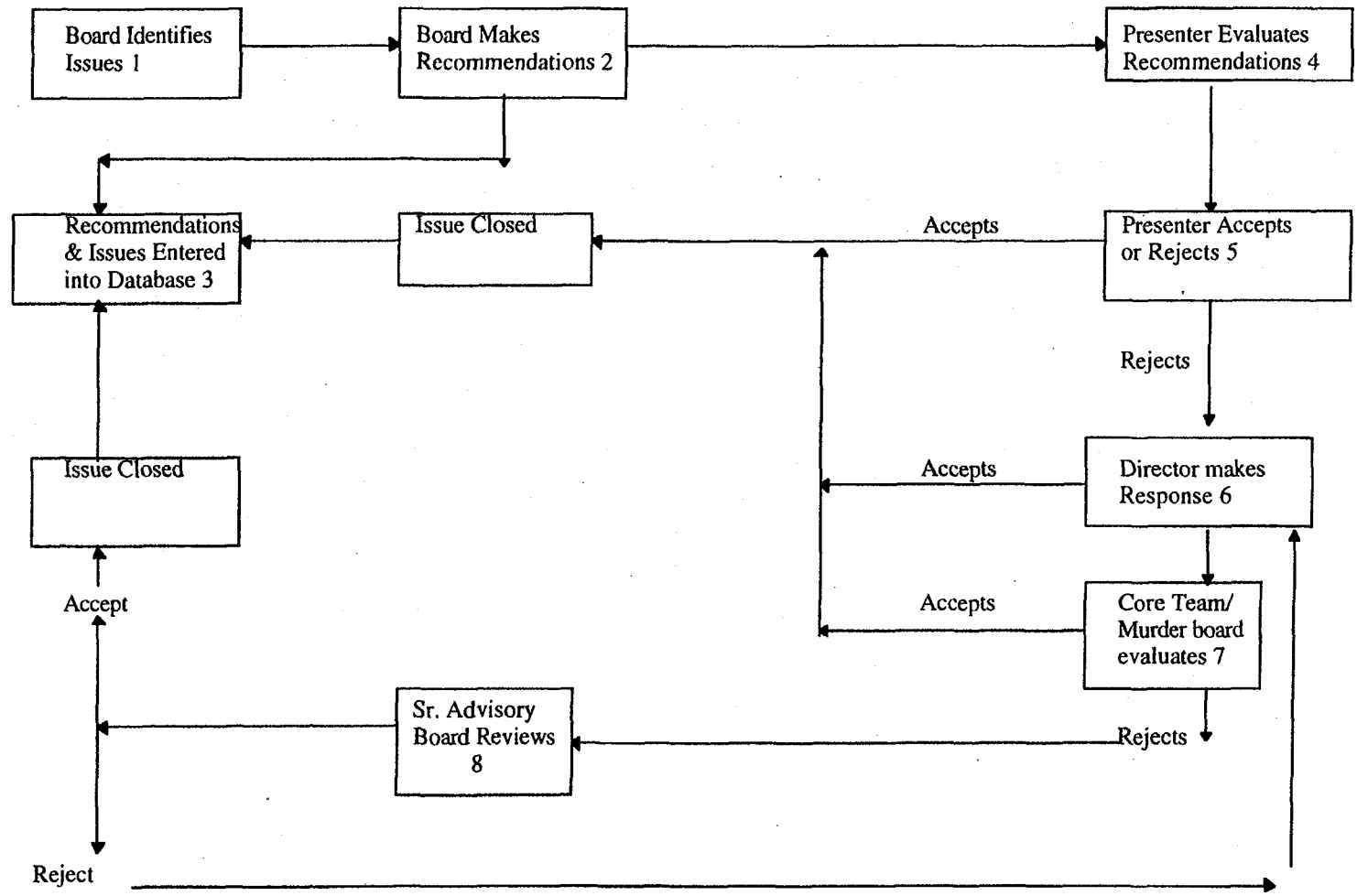


Figure 4-2 Indirect Review Board Issue Identification, Tracking, & Resolution

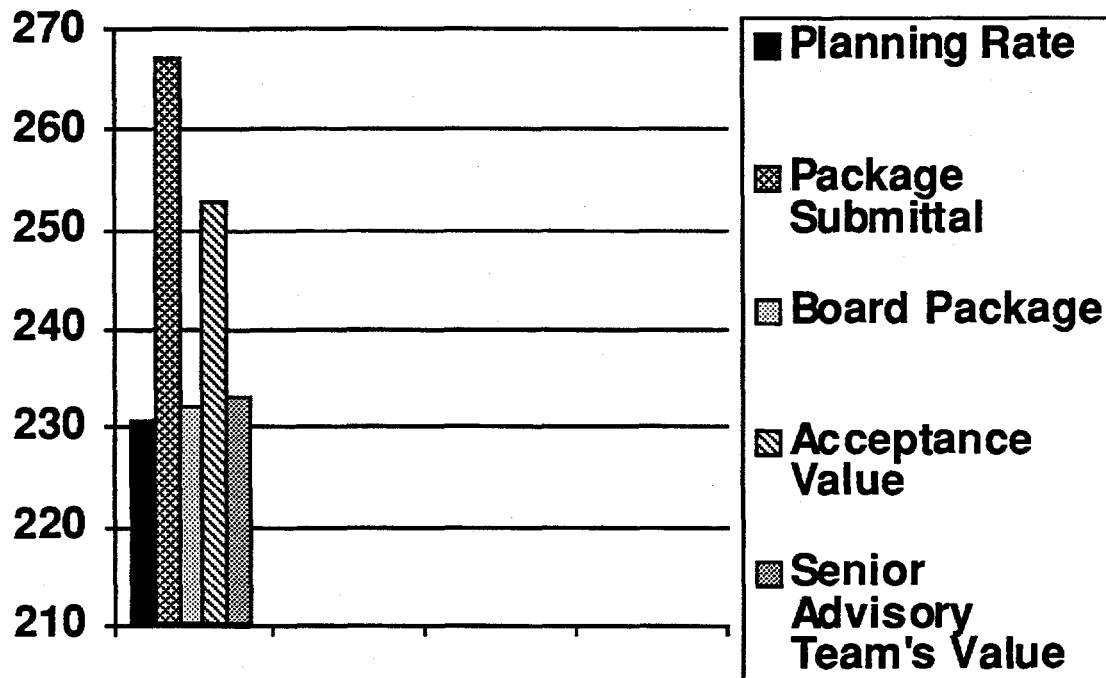


5. Results

5.1 Reductions

The boards recommended a total of \$ 28 million in reductions. This fell only \$2 million short of the planning rate goal of \$30 million. It should be noted that not all of these recommendations could be implemented due to their long term and or challenging nature. Figure 5-1 below shows the total dollar amount of indirect activities that were reviewed and how those amounts changed during the review process. Note that the initial packages submittal by the participants were well above the planning rate reference point (\$267.2M vs. \$230.6M). As previously mentioned, the board recommended total fell \$2 million short, (as compared to the planning rate reference point, \$232.1M vs. \$230.6M) and the total package value of "accepted" recommendations (\$252.9M) by the participants was still significantly higher than the planning rate and board recommended values. As shown below, the final value arrived at by the Senior Advisory Team was \$233.1M, approximately \$1M above the Board's recommended total indirect work funding level. The Senior Advisory Team worked in conjunction with other LMITCO senior mangers to arrive at this final value.

Figure 5-1. Total Reviewed Indirect Activities Plus Investment



5.2 Rate Information

These results were accepted by the package owners and then incorporated into their FY 1997 Indirect Planning Packages. The rate structures were then prepared based on these results. Table 1 below shows the rate information for FY 1997 as compared to FY 1996.

Table 5-1. Rate Information

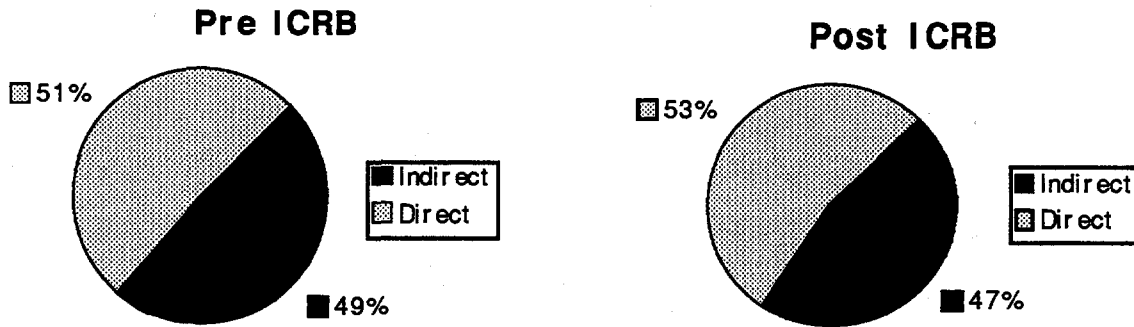
	1996	1996	1997	1997	1997
	Rates Charged	Rates Required	Outyear Planning Rate	Formulation Rates	Baseline Rates
Fringe	44%	47.2%	44%	44%	44%
Overhead	18.5%	15.7%	20%	18%	15.2%
G&A	28%	35.9%	30%	30%	32.5%
Facility Service Center	\$5.80	\$5.47	\$6.60	\$5.80	\$5.60
Sales	\$789M	\$675M	\$685M	\$685M	\$685M
Labor Multiplier	1.52	1.57	1.56	1.53	1.53
Labor Factor	2.18	2.31	2.25	2.21	2.20

Based upon the results from the ICRB it was possible to keep the total 1997 baseline rate slightly less than the total 1997 formulation rate (2.20 vs. 2.21). However the individual rates for overhead, G&A, and facility service centers did change. It is not expected that these changes will have any large impacts on programs. The changes will have the greatest impact on those programs with large material purchase needs.

5.3 Pre-Post ICRB Comparison

What these results translate to for our customers can be characterized as an increase in buying power. Figure 5-2 gives the pre-post ICRB comparison. In short, every dollar spent in FY 1997 will buy \$.02 more than in 1996. For example, a \$1M dollar program, will now have an additional \$20K available to accomplish the direct workscope.

Figure 5-2. Pre-Post ICRB



In addition to the identified budget reductions a number of areas of a longer term nature were identified to be worked in the future. Many of these issues were also of a cross-cutting nature. A complete list of these issues can be found in Appendix 6. These issues have been assigned by the senior advisory team throughout the company for consideration and implementation in the coming year.

6. Lessons Learned

Lessons learned were gathered throughout the ICRB process. In addition, a post ICRB meeting was held to specifically discuss lessons learned. The following bullets summarize a few of the more commonly voiced concerns regarding the general approach.

- Senior management guidance on strategy and goals is necessary. This includes a real target value, softer issues such as level of acceptable risk, and how and where we should invest.
- An integration effort is necessary before the next ICRBs are conducted. This will aid in reducing the stovepiping and redundancy in the packages.
- The basis of estimate for many packages was historical. We have a real need to seek out additional benchmarking, especially commercial comparisons.
- Package owners did not come in with ideas regarding cost cutting or elimination of activities and regulations/requirements. The package owners must look for these opportunities and reach consensus with the ICRB, not expect the ICRB to find them.
- Benchmarking needs to be done and, when done, evaluated by the boards and information considered when formulating recommendations. In our case, benchmarking results were overall very good but did not appear to be used.
- Level of detail of the review was much greater for some Decision Units than others—very inconsistent and, in many cases, related to the size of the Decision Unit i.e. smaller units received more detailed reviews. This resulted in some larger units not undergoing the same type of scrutiny. For future, true to “size” Decision Units.
- Develop parameters/datapoints such as discretionary funding per FTE; travel per FTE, training per FTE to facilitate evaluation.

We anticipate these issues will be addressed prior to an ICRB next year, as well as a consideration of the other comments concerning the human interactions, training, and potential alternative structures listed in Appendix 7.

7. Conclusions

The members of the core team have concluded that the indirect comprehensive review process was a good start toward getting indirect programs to accept risk and change the current ways of doing business. We also believe that there are still many improvements to be made. The participants need additional experience in questioning why activities are being performed and how they support the requirements of the work. We believe that the participants found it beneficial to identify requirements, activities, and the basis of estimate. They also felt, in most instances, that the independent review added value.

The board found that the overall process missed one critical step. That step was the integration and prioritization of all indirect work. Without this integration activity, it was difficult to determine the relative importance of indirect work activities. This integration must occur to produce the highest quality results from the review process. This would also allow the boards to understand and deal with new initiatives, by prioritizing them in relation to the total indirect workscope. It should be recognized that the wide variety and lack of an apparent relationship among the indirect funded activities will make a prioritization process very challenging to implement.

Additional positive results from the ICRB include the fact that cost estimates have achieved higher credibility not only within LMITCO but also with our customers who participated in the process. The Boards and attendees have also developed a much better understanding of indirect work activities and the services that are provided. The overall conclusion is that the boards believe they have scrubbed the indirect planning budgets and provided a thorough review of the requirements, work, and costs for the indirect work of LMITCO. We recommend that the ICRB process be institutionalized and that a process for this be developed during the first half of the fiscal year.

Appendix 1
Core Team Members

Core Team Members

LMITCO

Chair Harold Blackman

Cherie Stevens

Bruce Kaplan

Sandy Knoll

Nicki Grover

Tom Lloyd

Kathy Owca

Steve Birrer

DOE-Id

Lori Fritz

Gary Scott

Appendix 2

Board Members

Appendix 2

Group A: Chair Thayne Judd

ID Prg.	T. Wichman/R. Brown
AEDL Prg.	R. Snelling
NO Prg.	T. Mathews
LMITCO SS	S. Nordberg
LMITCO Adm.	Sue Scobby
ID Finance	F. Alexander
Customer	J. Ward/B. Handra
Secretary	M. Holzmer (ID)
Tally Team	S. Knoll

Group B: Chair C. Clark

ID Prg.	C. Henning/J. Robinson
EO Prg.	R. Bargelt
AEDL Prg..	J. Lake
NO Prg.	D. Batt
LMITCO SS	P. Sanders
LMITCO Adm.	T. Olsen
ID Finance	M. Vivian
Customer	L. Groves
Secretary	M. Anderson (ID)
Tally Team	D. Dobbe

Group C: Chair R. Stallman, Senior Chair

ID Prg.	C. Mozzer
EO Prg.	J. VanVliet
AEDL Prg.	F. Southworth
NO Prg.	B. Hamilton
LMITCO SS	P Yela
LMITCO Adm.	W. Goodwin/J. Maheras
ID Finance	P. Keele
Customer	T. Heiserman/C.Hanson
Secretary	N. Olson
Tally Team	N. Grover

Appendix 3
Participant Training



**INDIRECT PLANNING GUIDANCE
&
INDIRECT COMPREHENSIVE REVIEW BOARD
(MURDER BOARDS)
TRAINING**

**Murder Board Core Team:**

- Harold S. Blackman, Chairman
- Steve A. Birrer
- Bruce L. Kaplan
- Cherie T. Stevens
- Thomas J. Lloyd
- Lori L. Fritz
- Gary L. Scott

OV ID

HSB

BRRR

BLK5

CTS

THM

FRITZLL

SCOTTGL

Phone

6-0245

6-3427

6-0529

6-9789

6-9754

6-1878

6-5197

Indirect Baseline Team:

- Sandra B. Knoll
- J. L. Crane
- Kathleen V. Owca

SBK

JLC

KVO

6-1438

6-8606

6-6561

Training Agenda

Why are we here?

- Indirect Planning Guidance & Comprehensive Review

What is expected, and how will we accomplish this?

What is the format you will be using in presenting the information?

- "Example" using the format

What are the deliverables?

- Murder Boards Documentation
- Indirect Baseline Documentation

Training Agenda (Cont.)

We are not here to:

- Change Indirect Costing Methodology
- Talk about Indirect Cost Distributions / Allocations

Purpose of Indirect Planning Guidance

- To provide data/documentation for the Indirect Work Baseline which authorizes all Indirect Work.
- Establish Indirect Rates

Purpose of Indirect Murder Board Review

- To develop a crystal clear understanding of the Indirect products defined in terms of requirements.
- In a way that produces defensible cost estimates that represent a common understanding of the requirements, tasks, and costs.
- So that we can accomplish the maximum programmatic work possible for the lowest cost.

Murder Board Review Goals

- Ensure that all work is driven by requirements.
- Review scope of work to ensure that it is necessary to accomplish the requirements.
- Review resource estimates to determine the quality of the cost estimate.
- Evaluate thought process and data application process.
- Look for ways to reduce costs in work packages.
- Enhance efficiencies to increase scope without increasing cost.

Issues the Murder Board Review Must Address

- Current Indirect funding is too high to achieve planned rates - magnitude in millions.
- No targets, but we expect lowest possible costs to support the requirements.
- Shrinking programmatic budgets.
- Perception that we have "fat" budget numbers.
- Credibility of our cost estimates is poor.
- Costs not tied to firm requirements.



What is expected from Indirect Work Managers?

Completion of an Indirect Comprehensive Review Package for each Decision Unit.

- Identify requirements for performing indirect work / support activities at INEL.
- Develop defensible cost estimates for indirect work / support activities.
- Provide all required documentation to facilitate Indirect Baseline development and Indirect Murder Board process.

What is expected from Indirect Work Managers? (Cont).

- Presentation of review package material to assigned murder board.
- Preparation of FY 1997 Indirect Work Packages and all required documentation for Indirect Baseline.



Team Effort Required to Accomplish Goals

Murder Boards

- Not here to cut specific costs or change charging practices.
- Here to change old way of doing business.
- Here to change perception we're fat.
- Here to ensure a defensible planning basis by:
 - scrubbing requirements
 - scrubbing logic and scope
 - scrubbing basis of estimate

Assumptions:

Indirect work managers will work with their internal and external (DOE Technical Counterpart) customers to:

3-12

- Provide the level of service to meet customer requirements.
- Provide justification of the added value of exceeding minimum requirements.
- Plan, execute, and provide cost effective services.

Assumptions: (Cont.)

- Be in compliance with laws, commitments, etc.
- Provide measures and feedback on how compliance is being met.

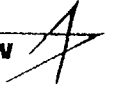
3-13

****Caution for development of package****

You are encouraged to use benchmarking data if you have it---don't just compare to other DOE labs.

We have developed a process to:

- Identify the information needed for a defensible planning basis
- Focus on critical information
- Eliminate rework
- Identify:
 - Requirements that drive work
 - Activities to perform the work and associated products and deliverables
 - Defensible cost estimates to perform work



Constraints:

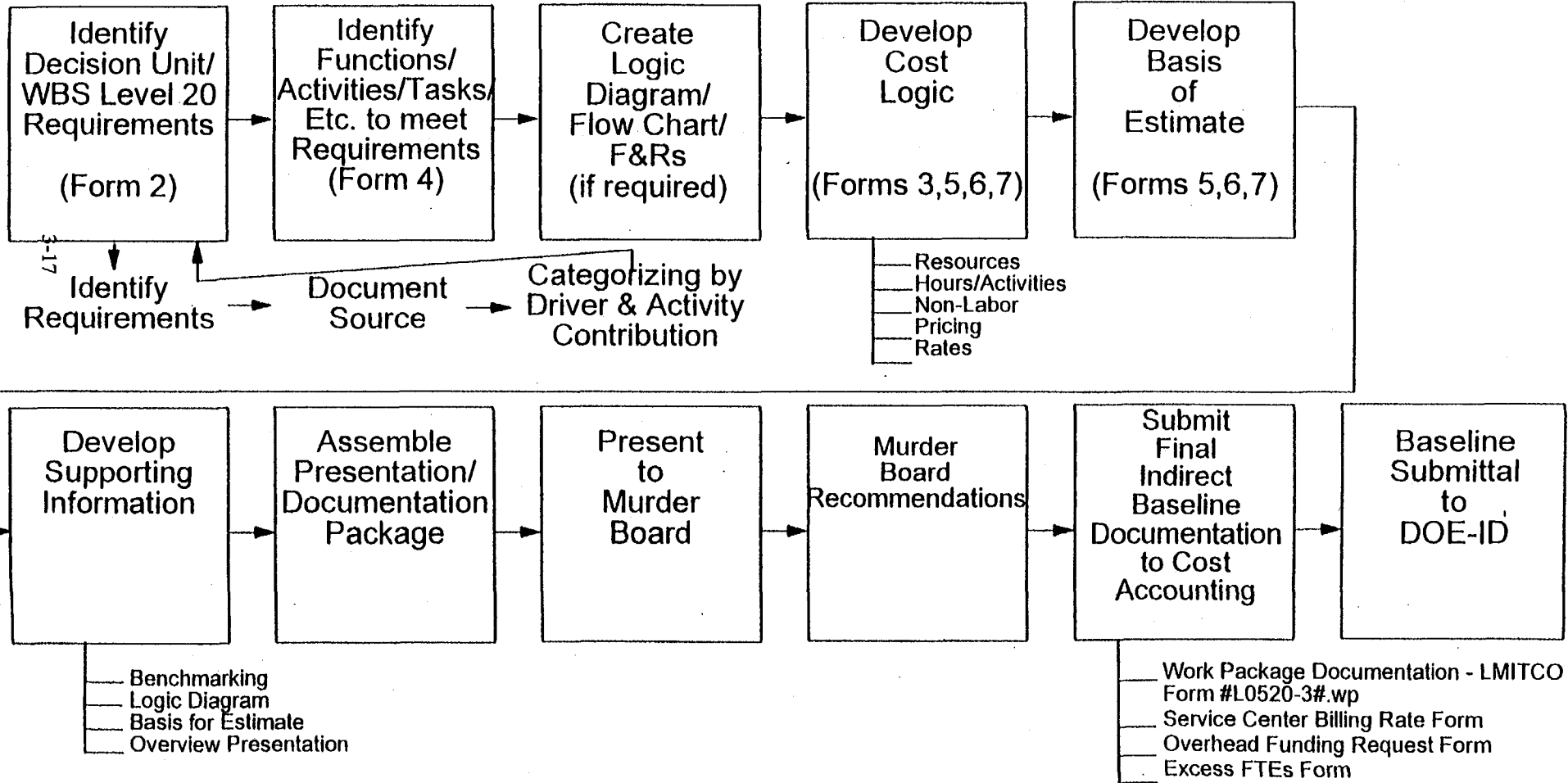
- Indirect costs must be recovered by Murder Board goal rates.
- Murder Board Reviews will begin July 8.
- Murder Board process must be completed by July 17.

Indirect Comprehensive Review Board Package

- **Basic process**
- **Decision Unit composition**
- **Instructions on how to complete the process forms**
- **Example basis of estimate package**
- **Cost estimating help**



Murder Board Process Flow





Develop Overview Presentation at Decision Unit Level

- **Description / Overview of activities**
- **Special issues and challenges**
- **Future requirements, initiatives, and goals**

Your Job is to Construct Logical Decision Units for Review

In order to do this:

- Some may want to break a single WBS level 20 into two or more Decision Unit packages (Example: URC & LDRD).
- Some may want to combine a group of WBS level 20 authorizations (Example: Common Use Facilities).
- Logical Decision Unit groupings to Tom Lloyd, 6-9754, OV ID "THM", MS 3593, by June 24.
- Murder Board Presentation schedule will be determined from this information.

Driver Categories

1. All activities that are required for compliance to Federal and state laws and regulations.

Compliance agreements.

Consent orders.

Court orders.

LMITCO / DOE contractual requirements.

DOE orders that are legal mandates.

2. All activities that are required to meet requirements in DOE orders that are not legal mandates.

Driver Categories (Cont.)

3. **All activities that are required to meet requirements in**
Agreements in Principle (Example: ShoBan, State).
Memos of Understanding (Example: NRF).
4. **All activities that are required for continued effective**
management and operations of the INEL
Policy and directives - LMITCO, DOE, Corporate.
Best business practices.

Activity Contribution Categories

- **Absolute**
- **Investment**
- **Insurance**

(Detailed definitions are included in the Indirect Planning Guidance and Murder Board Review letter / package.)

Authorization Title:

WBS Level 20 No.:

Form 4

FUNCTION DESCRIPTION/WORK SCOPE:

ASSUMPTIONS:

PRODUCTS & DELIVERABLES:

CUSTOMERS:

MAJOR MILESTONES:

PERFORMANCE MEASURES:

Total Gross: S

Manager: _____

Distributions: S

Fiscal Year: _____

Total Net: S

How to Structure the Work Scope

- Start with the Decision Unit.
- Analyze and group related requirements.
- Establish the absolute work scope.
- Determine the major tasks necessary to achieve the requirements.
- Establish the Investment and Insurance work scope.
- Determine the major tasks necessary to achieve the requirements

Cost Estimating

- How to build a defensible cost estimate.
- Definitions.
- Methodologies.
- Cost estimating tools.
- Basis of estimate.

How to Build a Defensible Cost Estimate

1. Clearly identify scope elements.
2. Subdivide into logical breakdown of sub-elements.
3. Use acceptable methods to establish defensible resource requirements for each sub-element (labor hours and non-labor dollars).
4. Make assumptions, as necessary - Be prepared to defend the assumptions.
5. Provide defensible basis of estimate explanations for lowest sub-element presented.

Methods of Estimating

Bottoms Up Technique

Generally, a work statement is used to establish the work required to perform each discrete task. From these quantities, labor, and materials are derived to accomplish that work.

Specific Analogy

Specific analogies depend upon the known cost of an activity used in a prior situation for the cost of a similar activity in a new situation. Adjustments are made to known costs to account for differences in complexities.

Expert Opinion

May be used when other techniques or data are unavailable. This is the least credible and should be used only when no other technique or data are available. If this technique is used, the names and credentials of at least three experts will need to be provided, along with the average of their opinions.

Supporting Documentation for Basis of Estimate

Provides a narrative explanation to document source of costs that may include:

- Activity descriptions
- Scope definition
- Subject matter experts

Cost Estimating References

- Nationally accepted trade publications
- Benchmarking
- INEL cost estimating guides
- INEL cost estimating professionals
- Historical Data
 - Site-specific tasks
 - Private sector examples
- Vendor Data
 - Catalogues
 - Quotations
- Subject Matter Experts

Cost Estimate Checklist

- ✓ Are mathematical extensions and additions correct?
- ✓ Check for scope omissions and oversights.
- ✓ Are labor hours reasonable when compared against schedule durations?
- 3-32 ✓ Are subcontractors clearly identified and referenced?
- ✓ Are vendor quotes clearly identified and referenced?
- ✓ Has the estimate been reviewed for completeness by peers?
- ✓ Are cost estimates in FY 1996 dollars?

How the Murder Board Rates Package Quality

Quality and Basis of Estimate

Confidence Rating

The scope of work has been well defined and detailed backup documentation is available. The cost estimate has a well founded basis such as documented historical costs or firm vendor quotes. Uncertainties are minimal to non-existent.

5

The scope of work is well defined, but is provided with less detail. Most of the cost estimate is based on documented historical costs or outdated quotations supplemented with some experienced engineering judgment. Uncertainties are apparent, but small.

4

The scope of work is moderately well defined but lacks detail. The cost estimate is based on an approximately even distribution of documented historical costs or quotations and experienced engineering judgment. Uncertainties are moderate.

3

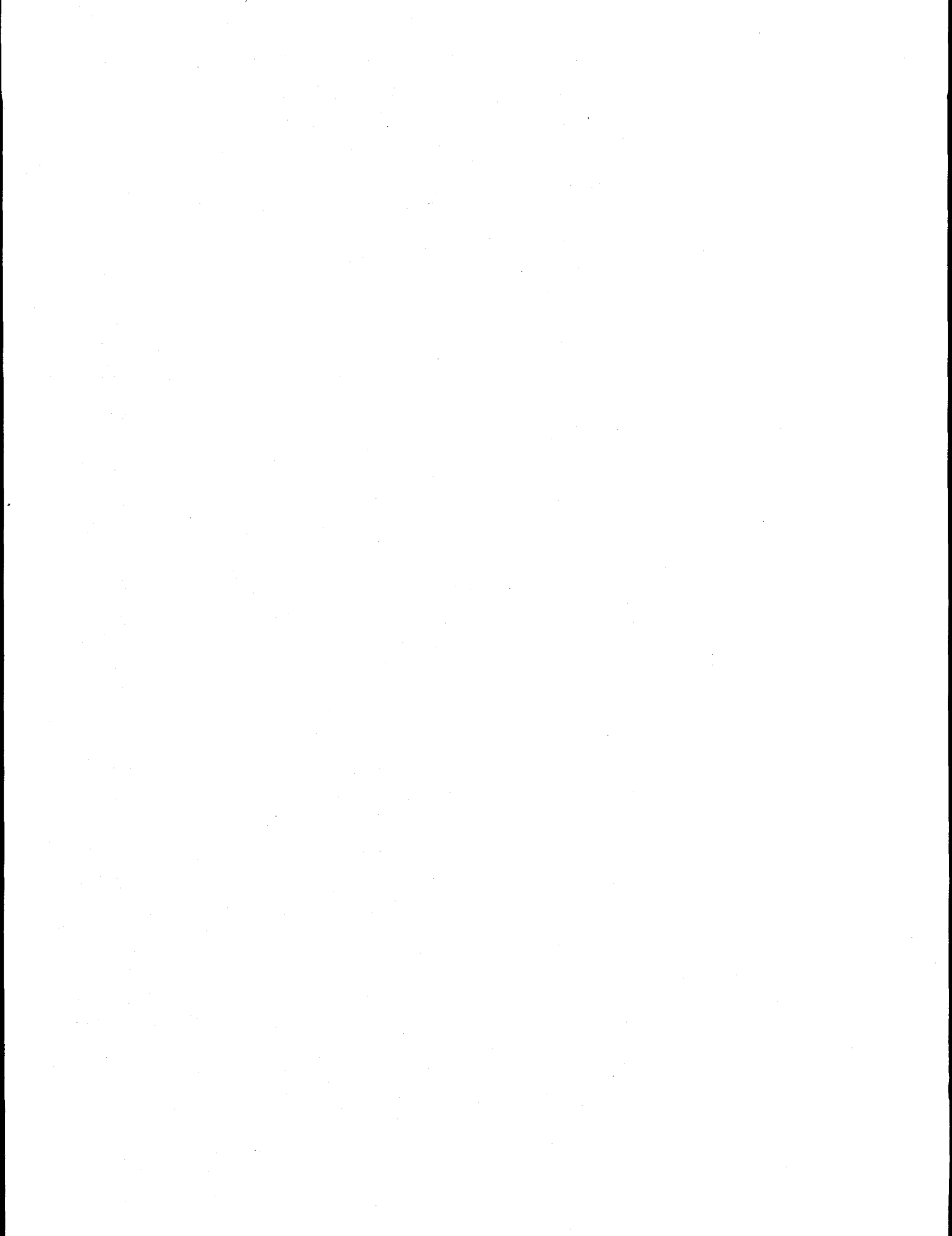
The scope of work is only partially defined but lacks significant detail. The cost estimate is based mostly on engineering judgment. Uncertainties are moderately high.

2

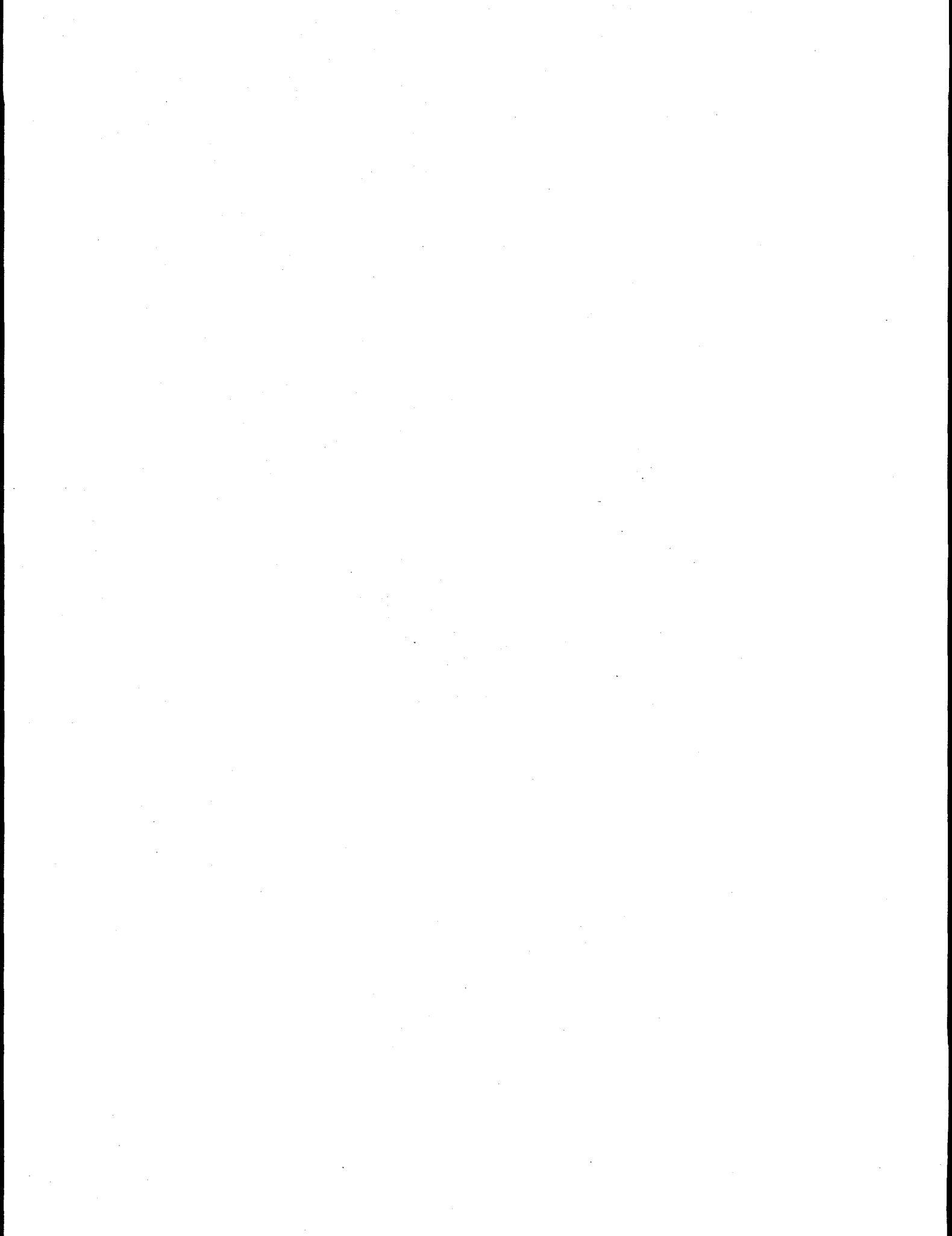
There is insufficient data to develop a sound scope of work. The cost estimate is based completely on engineering judgment. Uncertainties are high.

1

33



Completed Decision Unit Package



Indirect Planning Guidance

- Continuation of Murder Board Review process.
- Documentation builds on output from Murder Boards; rework / duplication has been eliminated.
- Information from Murder Boards will enable completion of all indirect planning documentation.
- You will have from July 17 to August 2 to finalize all indirect planning documentation. Includes all required approvals.

Required Indirect Planning Documentation

Required Forms:

- Murder Board Forms:
 - ▶ Indirect Comprehensive Review Board Package Cover Sheet (Form #1)
 - ▶ WBS Level 20 Requirements Document (Form #2)
 - ▶ Indirect WBS Level 20 Cover Sheet (Form #3)
 - ▶ WBS Level 20 Task Summary Sheet (Form #4)
 - ▶ Indirect Decision Unit Summary Level Resource Requirements (Form #5)
 - ▶ Indirect WBS Level 20 Resource Requirements (Form #6)
 - ▶ Indirect WBS Level 40 Resource Requirements (Form #7 - replaces LMITCO Form #L0520-2#.wp)

Required Indirect Planning Documentation (Cont.)

Required Forms: (Cont.)
Required Indirect Planning Documentation: (Indirect with Indirect Work Managers with

- Additional Indirect Planning Documentation - LMITCO Form Point of Contact assists the Indirect Work Managers with completion of forms.)
 - ▶ Work Package Documentation - LMITCO Form #L0520-3#.wp
 - ▶ Service Center Billing Rate Form
 - ▶ Service Center Billing Request Form
 - ▶ Overhead Funding Request Form
 - ▶ Excess FTEs Form

Assumptions

All FY 1997 Indirect Planning will utilize the following rates:

- Fringe 44%
- Overhead - From Indirect Point of Contact
- Facilities Service Center - \$5.80 per hour
- Other Service Centers - From Indirect Point of Contact

These are the same rates used for direct planning.

Assumptions (Cont.)

Planning rates are based on best information to date and may be adjusted for the execution year (FY 1997). All planning must be completed using the rates within the Indirect Planning Guidance package; there are no exceptions.

Escalation - Plan in benefiting work package

3-41

- Merit 3.5% in March 1997
- LEAP (LMITCO Excellence Award Program) 0.5%
- Promotion 0.5%
- Respective bargaining unit agreement increases (% and timing)

Indirect FTE Planning Requirements

- Plan FTEs at the requirements level as a result of the Murder Board process.
- Identify excess FTEs separately, i.e., DO NOT include this amount in your FY 1997 work packages.
 - Enables resource allocation according to requirements.
- Excess FTE Form should be completed for each Branch.



Excess FTEs
FY 1997

Branch: _____

WBS Level 20

Activity

FTEs

\$ Amount

Indirect Planning Schedule

June 17

Indirect Planning Guidance Issued

June 17 through July 7

Comprehensive Review/Murder Board Preparation

June 24

Decision Unit Groupings to Tom Lloyd - OV ID "THM"
(MS 3593)

July 8 through July 17

Comprehensive Reviews/Murder Boards

Indirect Planning Schedule (Cont.)

July 18 through July 23

Prepare and Present Murder Board Results to Senior Management and DOE

July 18 through August 2

Finalize Indirect Planning Documents

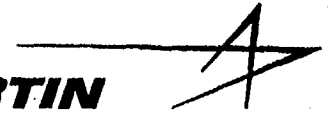
August 3 through August 22

Prepare Indirect Baseline for submittal to DOE

August 23

Submit Indirect Baseline to DOE

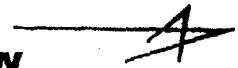
Appendix 4
Board Member Training



**INDIRECT
COMPREHENSIVE
REVIEW BOARD**

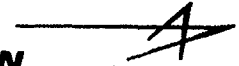
Murder Board Training

June 28, 1996



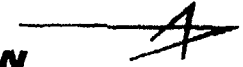
AGENDA

- Overview
- Indirect Cost Pool
- Review Board: Roles and Responsibilities
- Conduct of Board Operations
- Product and Schedule



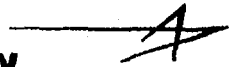
Purpose of Indirect Murder Board Review

- To develop a crystal clear understanding of the indirect products defined in terms of requirements.
- In a way that produces defensible cost estimates that represent a common understanding of the requirements, tasks, and costs.
- So that we can accomplish the maximum programmatic work possible for the lowest cost, and align indirect spending with INEL growth objectives.



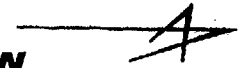
Murder Board Review Goals

- Ensure that all work is driven by requirements.
- Review scope of work to ensure that it is necessary to accomplish the requirements.
- Review resource estimates to determine the quality of the cost estimate.
- Evaluate thought process and data application process.
- Look for ways to reduce costs in work packages.
- Enhance efficiencies to increase scope without increasing cost.



Issues the Murder Board Review Must Address

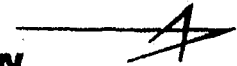
- Current Indirect funding is too high to achieve planned rates - magnitude in millions.
- Grow laboratory business to \$1.2 billion per year.
- No targets, but we expect lowest possible costs to support the requirements.
- Shrinking programmatic budgets.
- Perception that we have “fat” budget numbers.
- Credibility of our cost estimates is poor.
- Costs not tied to firm requirements.



What to Expect from Indirect Work Managers

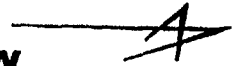
Completion of an Indirect Comprehensive Review Package for each Decision Unit

- Identify requirements for performing indirect work/support activities at INEL.
- Develop defensible cost estimates for indirect work/support activities.
- Provide all required documentation to facilitate Indirect Baseline development and Indirect Murder Board process.



What to Expect from Indirect Work Managers (Cont.)

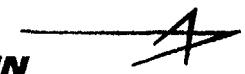
- Presentation of review package material to assigned murder board.
- Preparation of FY 1997 Indirect Work Packages and all required documentation for Indirect Baseline.



Team Effort Required to Accomplish Goals

Murder Boards

- Not here to cut specific costs or change charging practices.
- Here to build a shared understanding.
- Here to change perception we're fat.
- Here to ensure a defensible planning basis by:
 - scrubbing requirements
 - scrubbing logic and scope
 - scrubbing basis of estimate.



Team Effort Required to Accomplish Goals (Cont.)

FROM

TO

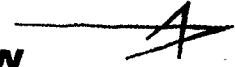
**Government/M & O Contractor
perceived way of doing business**



Bottom-line way of owing business

- Unlimited funding for poorly defined scope
- Blind compliance to meet all requirements
- Existing work force must be utilized
- Zero risk mentality and planning
- Gold plating/always first class

- Reduce funding to perform defined scope
- Critical thinking for each requirement
- Matching work force to scope and requirements
- Accepting risk appropriate to compliance scope
- Maximize productivity to meet proj specifications



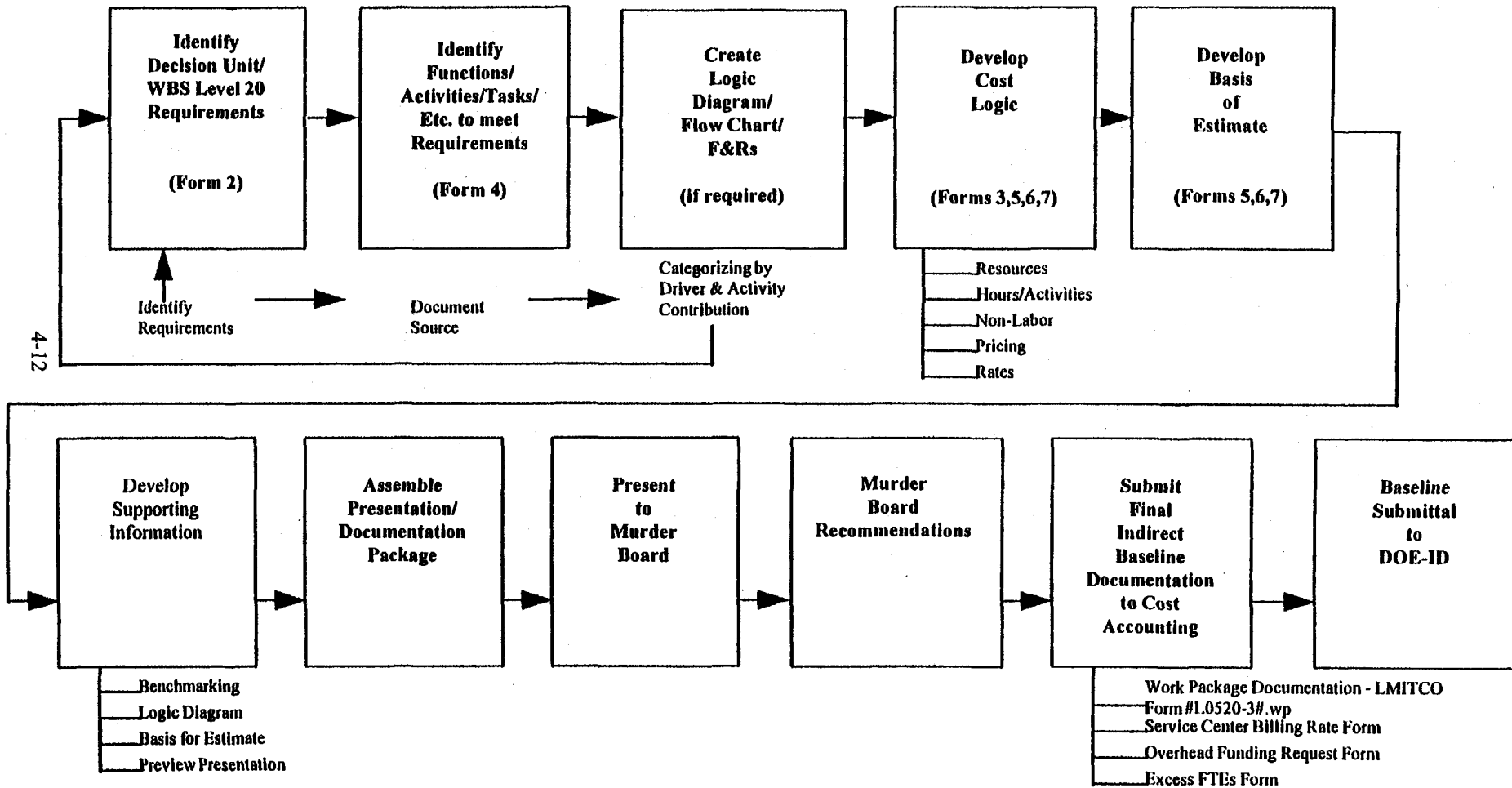
Constraints:

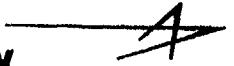
- Indirect costs must be recovered by Murder Board goal rates.
- You will be provided a funding reference point for each Board.
- Murder Board Pilot July 2.
- Murder Board reviews will begin July 8.
- Murder Board process must be completed by July 17.



Murder Board Process Flow

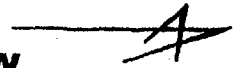
(what the preparer does)





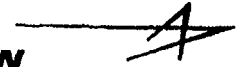
Forms Instruction

- Decision Unit
- Activity / Work Scope
- Cost Estimate



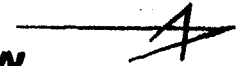
Decision Units for Indirect Work

- Decision Units
- Form 2 elements
- Source requirements
 - Deliverables/milestones
 - Category of source requirements
 - ⁴⁻¹⁴ – Driver (absolute, investment, or insurance)
- Use:
 - Starting point for murder boards
 - Source document for developing the scope for cost estimates
 - Final “approved” versions are the first piece of the Requirements Baseline



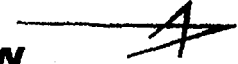
Driver Categories

- 1. All activities that are required for compliance to Federal and state laws and regulations.**
Compliance agreements.
Consent orders.
Court orders.
LMITCO / DOE contractual requirements.
DOE orders that are legal mandates.
- 2. All activities that are required to meet requirements in DOE orders that are not legal mandates.**



Driver Categories (Cont.)

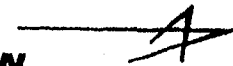
3. **All activities that are required to meet requirements in Agreements in Principle (Example: ShoBan, State).
Memos of Understanding (Example: NRF).**
4. **All activities that are required for continued effective management and operations of the INEL.**
Policy and directives - LMITCO, DOE, Corporate.
Best business practices.



Activity Contribution Categories

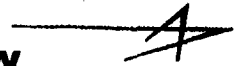
- Absolute
- Investment
- Insurance

(Detailed definitions are included in the Indirect Planning Guidance and Murder Board Review letter/ package.)



How to Structure the Work Scope

- Start with the Decision Unit.
- Analyze and group related requirements.
- Establish the absolute work scope.
- Determine the major tasks necessary to achieve the requirements.
- Establish the Investment and Insurance work scope.
- Determine the major tasks necessary to achieve the requirements.



Cost Estimating

- How to build a defensible cost estimate.
- Methods of estimating.
- Documentation for basis of estimate, and cost estimating references.

WBS Level 20 Task Summary Sheet

Branch:

Decision Unit No.:

Authorization Title:

WBS Level 20 No.:

Form 4

FUNCTION DESCRIPTION/WORK SCOPE:

ASSUMPTIONS:

PRODUCTS & DELIVERABLES:

CUSTOMERS:

MAJOR MILESTONES:

PERFORMANCE MEASURES:

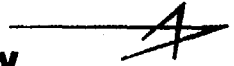
Total Gross: \$

Manager: _____

Distributions: \$

Fiscal Year: _____

Total Net: \$

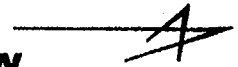


How to Build a Defensible Cost Estimate

1. Clearly identify scope elements.
2. Subdivide into logical breakdown of sub-elements.
3. Use acceptable methods to establish defensible resource requirements for each sub-element (labor hours and non-labor dollars).
4. Make assumptions, as necessary - be prepared to defend the assumptions.
5. Provide defensible basis of estimate explanations for lowest sub-element presented.

Methods of Estimating

LOCKHEED MARTIN



Bottoms Up Technique

Generally, a work statement is used to establish the work required to perform each discrete task. From these quantities, labor, and materials are derived to accomplish that work.

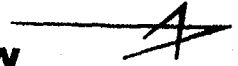
Specific Analogy

Specific analogies depend upon the known cost of an activity used in a prior situation for the cost of a similar activity in a new situation.

Adjustments are made to known costs to account for differences in complexities.

Expert Opinion

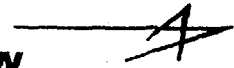
May be used when other techniques or data are unavailable. This is the least credible and should be used only when no other techniques or data are available. If this technique is used, the names and credentials of at least three experts will need to be provided, along with the average of their opinions.



Supporting Documentation for Basis of Estimate

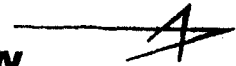
Provides a narrative explanation to document source of costs that may include:

- Activity Descriptions
- Scope definition
- Subject matter experts



Cost Estimating References

- Nationally accepted trade publications
- Benchmarking
- INEL cost estimating guides
- INEL cost estimating professionals
- Historical Data
 - Site-specific tasks
 - Private sector examples
- Vendor Data
 - Catalogues
 - Quotations
- Subject Matter Experts

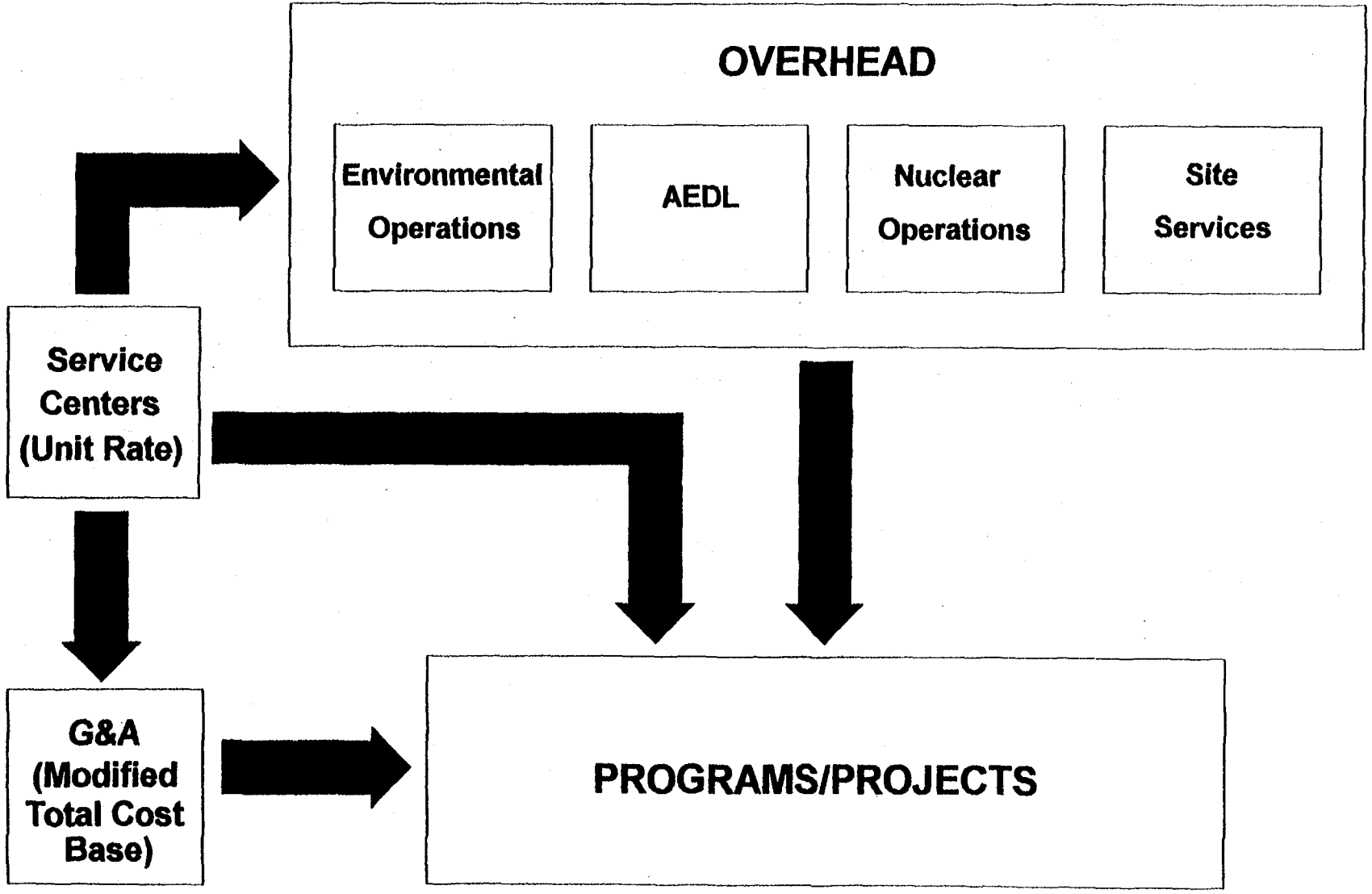


Cost Estimate Checklist

- Are mathematical extensions and additions correct?
- Check for scope omissions and oversights?
- Are labor hours reasonable when compared against schedule durations?
- ⁴⁻²⁹ Are subcontractors clearly identified and referenced?
- Are vendor quotes clearly identified and referenced?
- Has the estimate been reviewed for completeness by peers?
- Are cost estimates in FY 1996 dollars?

LOCKHEED MARTIN IDAHO TECHNOLOGIES COMPANY INDIRECT COSTING METHODOLOGY

4-30

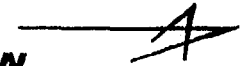


FY 1997 INDIRECT PLANNING GOALS

(\$ in millions)

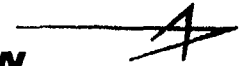
	FY 1996 Current Adjusted Gross Auth.	FY 1997 Murder Board Gross Auth. Goals	Opportunity
Overhead	\$44	\$44	---
G&A (Excl. Fee, & Retiree Medical)	\$104	\$77	\$27
Service Centers	\$113	\$110	\$3
Total Opportunity			\$30
Sales Projection	\$700	\$685	

*Reminder - We billed EM \$21M this year due to indirect underrecovery.



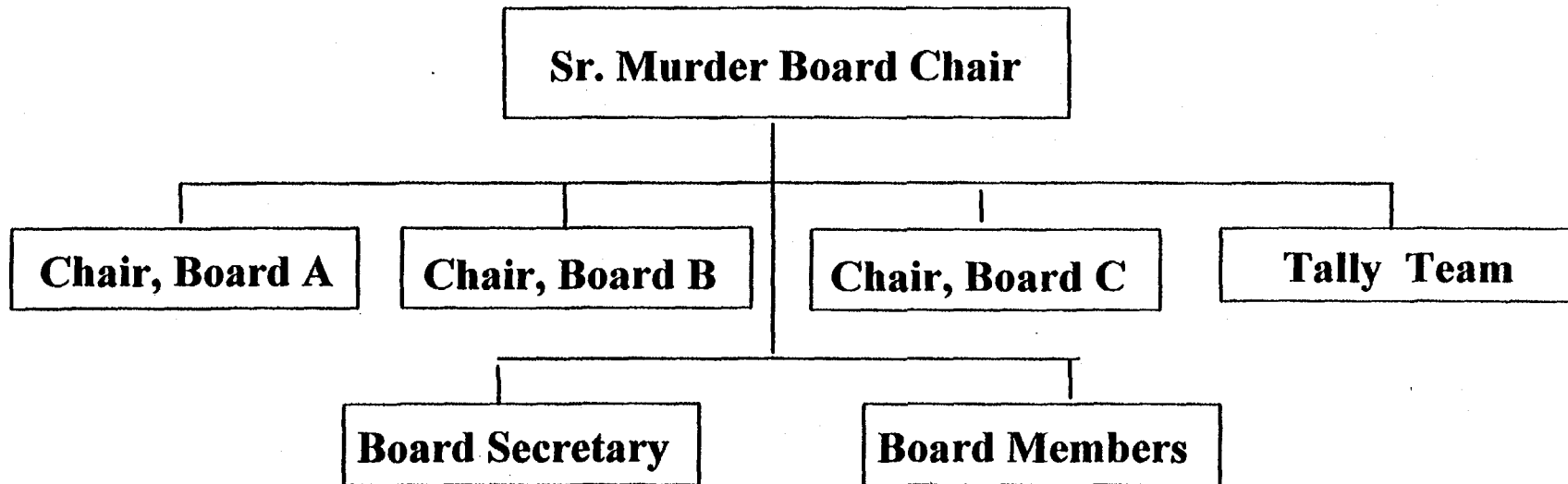
Murder Board Members' Roles and Responsibilities

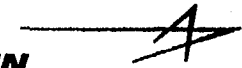
- Organization Structure
- Staffing and Account Group
- Roles and Responsibilities



Murder Board Organization

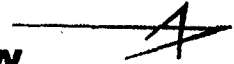
4-33





Roles and Responsibilities

- Sr. Murder Board Chair
 - Resolve disputes
 - Chair close-out/assures consistency between boards
 - Decide on process changes affecting all
- Murder Board Chairs
 - Responsible for board results and conduct
 - insuring close communication w/indirect presenters
 - control observer input
 - obtain consensus recommendations
 - assure fair treatment of presenters
 - assure rigorous testing and mutual understanding of comprehensive review packages



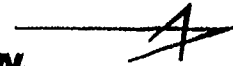
Roles and Responsibilities (Cont.)

Murder Board Chairs (Cont.)

- Establish Board schedule with indirect presenter
- Can call for special meetings as required with indirect presenter
- Approves formal Board results prepared by Board Secretary

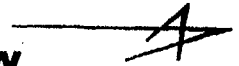
• Board Members

- Perform in-depth review of each decision unit
- Evaluate quality of indirect comprehensive review packages
- Take an INEL perspective
- Raise issues and provide recommendations regarding requirements, activities, and cost



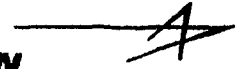
Roles and Responsibilities (Cont.)

- Board Secretary
 - Help board chair facilitate closure on issues recommendations
 - Maintains minutes and completes checklists including Board Chair approval
 - Communicates results to Tally Team and Indirect Review presenters
 - Maintains board schedule



Roles and Responsibilities (Cont.)

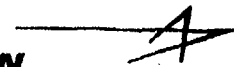
- Tally Team
 - Maintains up-to-date status and roll-up of costs by category
 - Archives information coming from Boards
 - Track issues and recommendations
 - Rep attends close-out meeting
- Decision Criteria
 - Board makes decisions by consensus
 - Sr. Board Chair is ultimate arbiter/decision authority



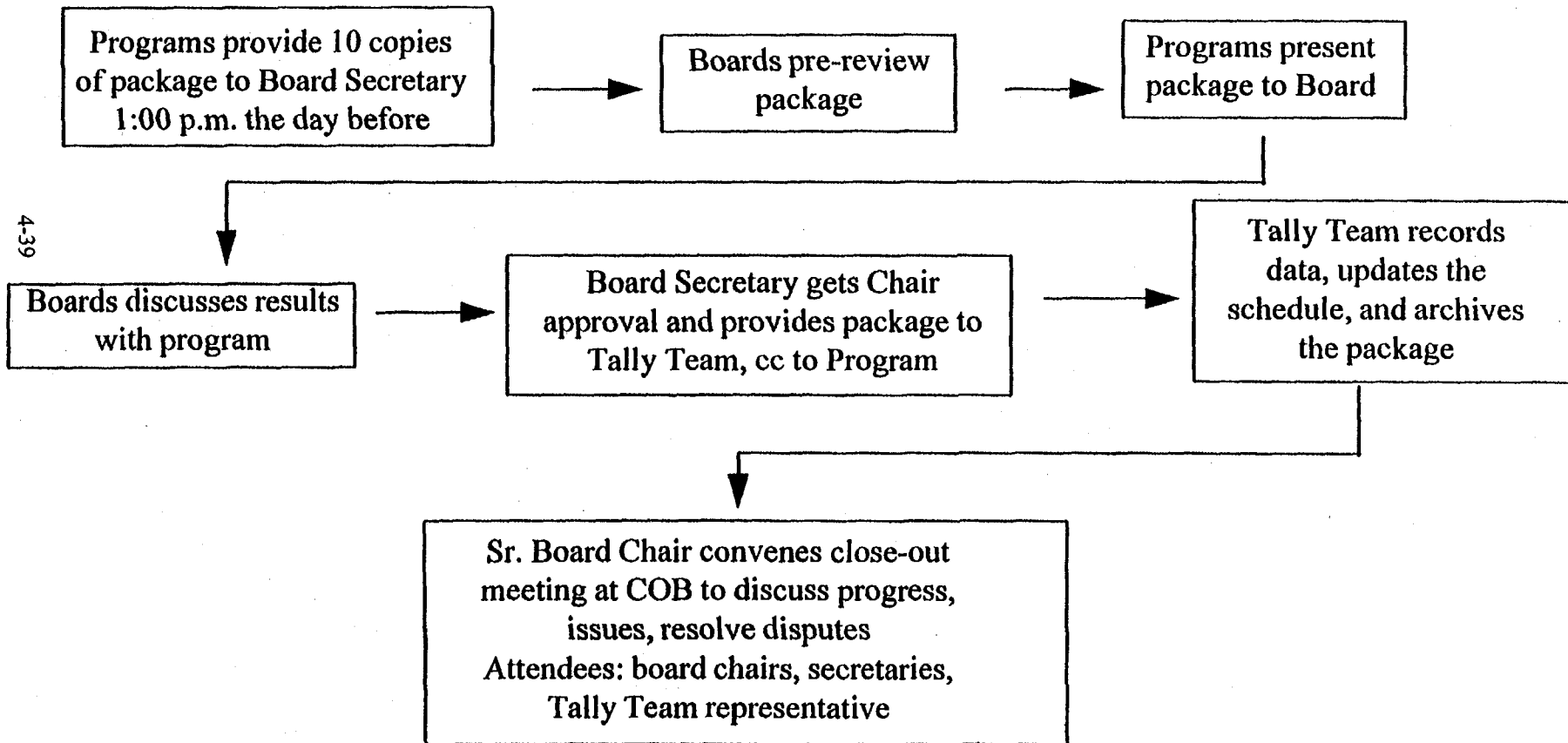
Conduct of Board Operations

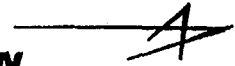
The Package and How to Review It

- Process - an overview
- Goals - a reminder
- Example Package
- Checklist and Forms
- Exercise



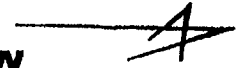
Murder Board Process (what the Board does)





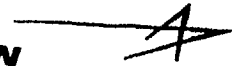
Murder Board Review Goals

- Ensure that all work is driven by requirements.
- Review scope of work to ensure that it is necessary to accomplish the requirements.
- Review resource estimates to determine the quality of the cost estimate.
- Evaluate thought process and data application process.
- Look for ways to reduce costs in work packages.
- Enhance efficiencies to increase scope without increasing cost.



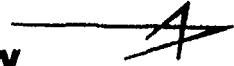
The Package

- Package cover sheet
- DU Requirements Documents (DURDs)
- Estimating Package cover sheet
- Major Task Scope Statement
- Logic Diagram/F&R/Activity Flowchart
- DU Basis of Estimate
- Resource/Cost Estimate form



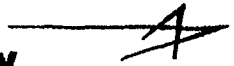
Filling out the Forms and Checklists

- Overall Assessment DU Package
- Murder Board Checklist
- Recommendation Sheet
- Tracking Forms



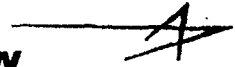
Murder Board Deliverables

- For each package reviewed
 - Completed Checklist.
 - Quality Rating for each package reviewed;
 - can be reached mathematically or by consensus.
 - Recommendations for reducing costs in package.
 - Recommendations for improving the basis of estimate (better sources of data, etc.).
 - Recommendations for organization of work.



Murder Board Deliverables (Cont.)

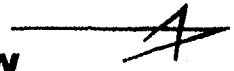
- For each Board
 - List areas where redundant scope appears to exist between individual packages reviewed (or based on murder board member knowledge between packages in other programs indirect and direct).
 - List potential consolidation opportunities.
 - List potential privatization opportunities.
 - Recommendations for costing strategies.



Work Package Review

Form 4: Understanding the Workscope & Function for this DU?

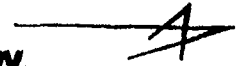
- What is the **workscope and/or function** described?
- Who are the **customers**, what are the **products** they get, how do you measure successful **performance** of services, or delivery of the products?



Work Package Review (Cont.)

Form 2: Understanding the requirements for this DU?

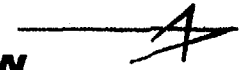
- What were the **sources**?
- What did you see in the source that make you define this particular requirement?
- 4-46 • How else could someone interpret the source? How could we test out the viability of other interpretations? Could you help us understand what causes you to select the interpretation you have?
- Could you help us see how the **driver categories** were assigned? Could other categories fit?
- Could you help us understand how you determined **absolute, investment, or insurance**?



Work Package Review (Cont.)

Form 5, 6, & 7: The costs of performing activities

- Please help us see the costs for performing the activities you've defined, and the basis of the costs you've estimated.
- Help us understand the level of resources required for this workscope.
- Were there other sources of comparison data that could apply?



Work Package Review (Cont.)

Relationship between Form 4 & Forms 5-7:

How the costs relate to the workscope defined

- Could you show us the connection between the activities you've defined here on Form 5 and the functions/workscope you outlined in Form 4?
- Are there any activities that don't clearly add value to meeting the functional requirement?
- How much are we spending for absolute, insurance, and investment for meeting each requirement? Are there places the costs seem out of line?



Work Package Review (Cont.) Relation between Form 1 & Form 4: What functions derive from these requirements?

- Could you help us see how these functions (Form 4) were derived from these requirements (Form 1)? What did you see in the requirements that lead you to these particular functions?
- Might other functions have been derived instead? What lead you to select these functions from the others that might have been possible?

Murder Board Review Checklist (1 of 4)
 Murder Board _____
 Indirect DU Owner _____

Decision Unit _____
 Date: _____

Questions	Yes/ no	Comment/recommendation
REQUIREMENTS & WORK SCOPE		
1. Requirements properly categorized in this decision unit? (Category 1, 2, or 3)		
2. Is the workscope assigned to the correct category (Absolute, investment, or insurance)		
3. For each requirement, does the work scope only include activities/tasks that are required?		
4. Is all the work labeled ABSOLUTE clearly required?		How much:
5a. Is work included which is INVESTMENT oriented?		How much:
5b. When and how does the investment pay for itself?		
6a. Is work included which is INSURANCE?		How much:
6b. Does enough risk exist to warrant investing in extra insurance?		
6c. Is the cost of failure serious enough to warrant this insurance expenditure?		
7. Are there activities that could be eliminated if current practices/management direction or DOE orders could be changed?		Specific examples:
8. Is the work scope documented at a level where the schedule and cost can be accurately estimated?		

Murder Board Review Checklist (2 of 4)

Murder Board _____

Indirect DU Owner _____

Decision Unit _____

Date: _____

Questions	Yes/ no	Comment/recommendation
9. Are the major tasks necessary to insure completion of the milestones included?		
10. Are the assumptions sound and do they directly relate to the workscope and cost estimate?		
11. Are the products/deliverables adequately defined?		
12. Are the customers correctly identified?		
COST ESTIMATE		
13. Is the logic used in establishing the resource estimates clear?		
14. Does the reference data adequately support the resource estimate?		
15. If historical data was used does it reflect the number of people REQUIRED to do the work?		
16. Do the resource levels appear appropriate for the work scope described?		How much:
17. Are there better sources of comparison data that could be used for this type of work? What are they?		
18. If benchmarking data was used, do they compare favorably?		
19. If they compared unfavorably to the benchmarking data, what is being done to correct the situation?		

4-51

Murder Board Review Checklist (3 of 4)

Murder Board _____

Indirect DU Owner _____

Decision Unit _____

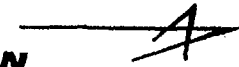
Date: _____

Questions	Yes/ no	Comment/recommendation
COST REDUCTIONS		
20. Are there ways that resources could be further reduced if current practices could be changed?		How much:
21. Could activities be eliminated if some prior activity were done differently?		
22. Does the technology exist to eliminate or streamline this activity?		
23. Could this activity be eliminated without impairing the form, fit, or function of our customer's product?		Specific examples:
24. Is this activity required by an external customer and will that customer pay for this activity?		
25. Could activities be provided more cost effectively from the outside?		
26. Are there potential consolidation activities?		

Murder Board Review Checklist (4 of 4)
Murder Board _____
Indirect DU Owner _____

Decision Unit _____
Date: _____

Rate the Following	1 poor	2	3 average	4	5 excellent
1. Quality of workscope definition					
2. Quality of estimate basis (vendor quote=5, SWAG=1)					
3. Quality of detailed, backup documentation (activity based=5, level of effort=1)					
4. Level of certainty (risk associated with assumptions)					
5. Confidence that cost estimate is minimum to meet requirements					
6. OVERALL RATING OF COST ESTIMATE QUALITY & MATURITY (see attached definitions)					



How the Murder Board Rates Package Quality

Quality and Basis of Estimate

Confidence Rating

The scope of work has been well defined ,and detailed backup documentation is available. The cost estimate has a well founded basis such as documented historical costs or firm vendor quotes. Uncertainties are minimal to non-existent. 5

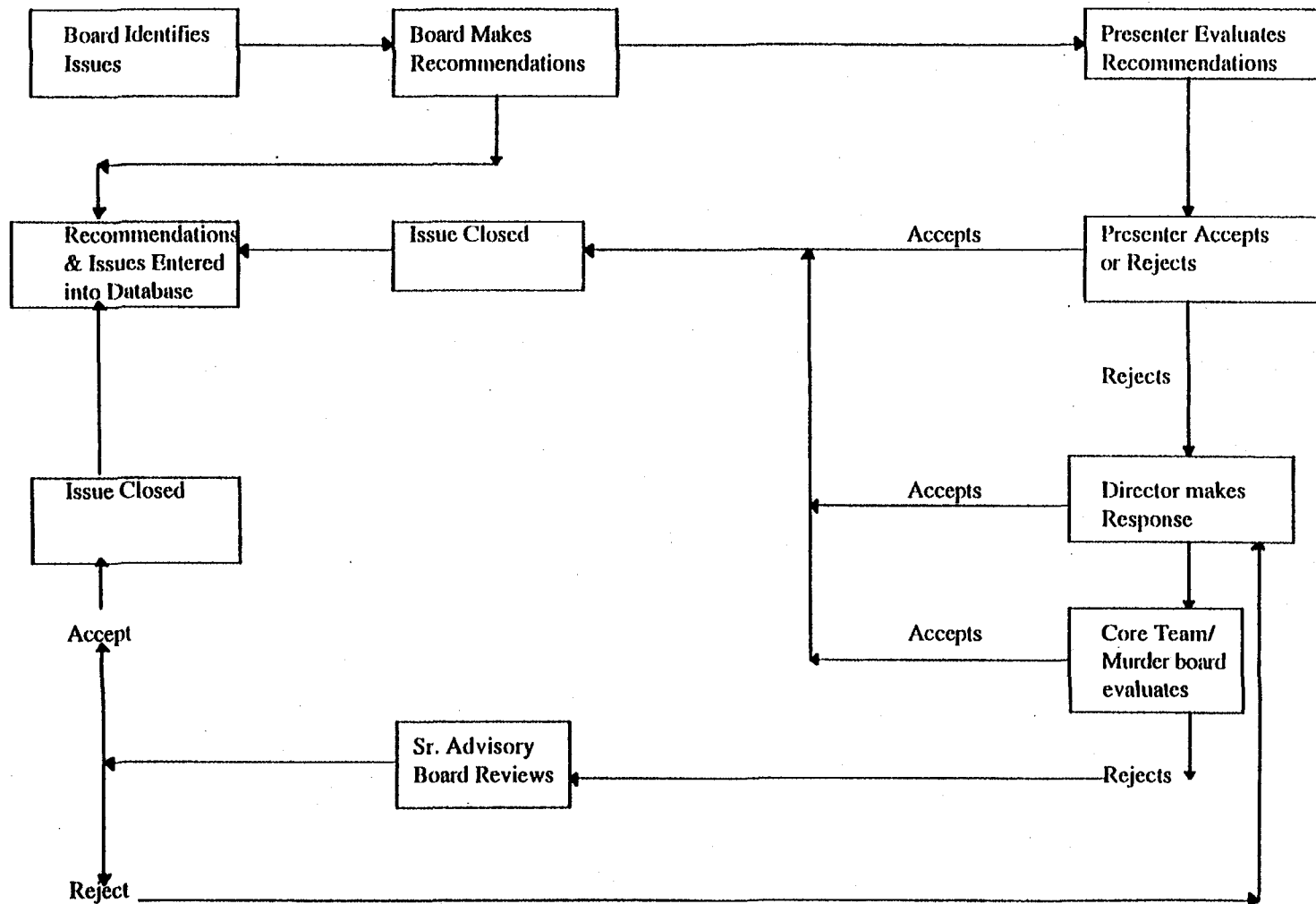
The scope of work is well defined, but is provided with less detail. Most of the cost estimate is based on documented historical costs or outdated quotations supplemented with some experienced engineering judgement, Uncertainties are apparent, but small. 4

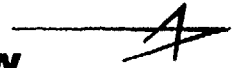
The scope of work is moderately well defined but lacks detail. The cost estimate is based on an approximately even distribution of documented historical costs or quotations and experienced engineering judgement. Uncertainties are moderate. 3

The scope of work is only partially defined but lacks significant detail. The cost estimate is based mostly on engineering judgement. Uncertainties are moderately high. 2

There is insufficient data to develop a sound scope of work. The cost estimate is based completely on engineering judgement. Uncertainties are high. 1

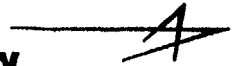
Murder Board Issue Identification, Tracking, & Resolution





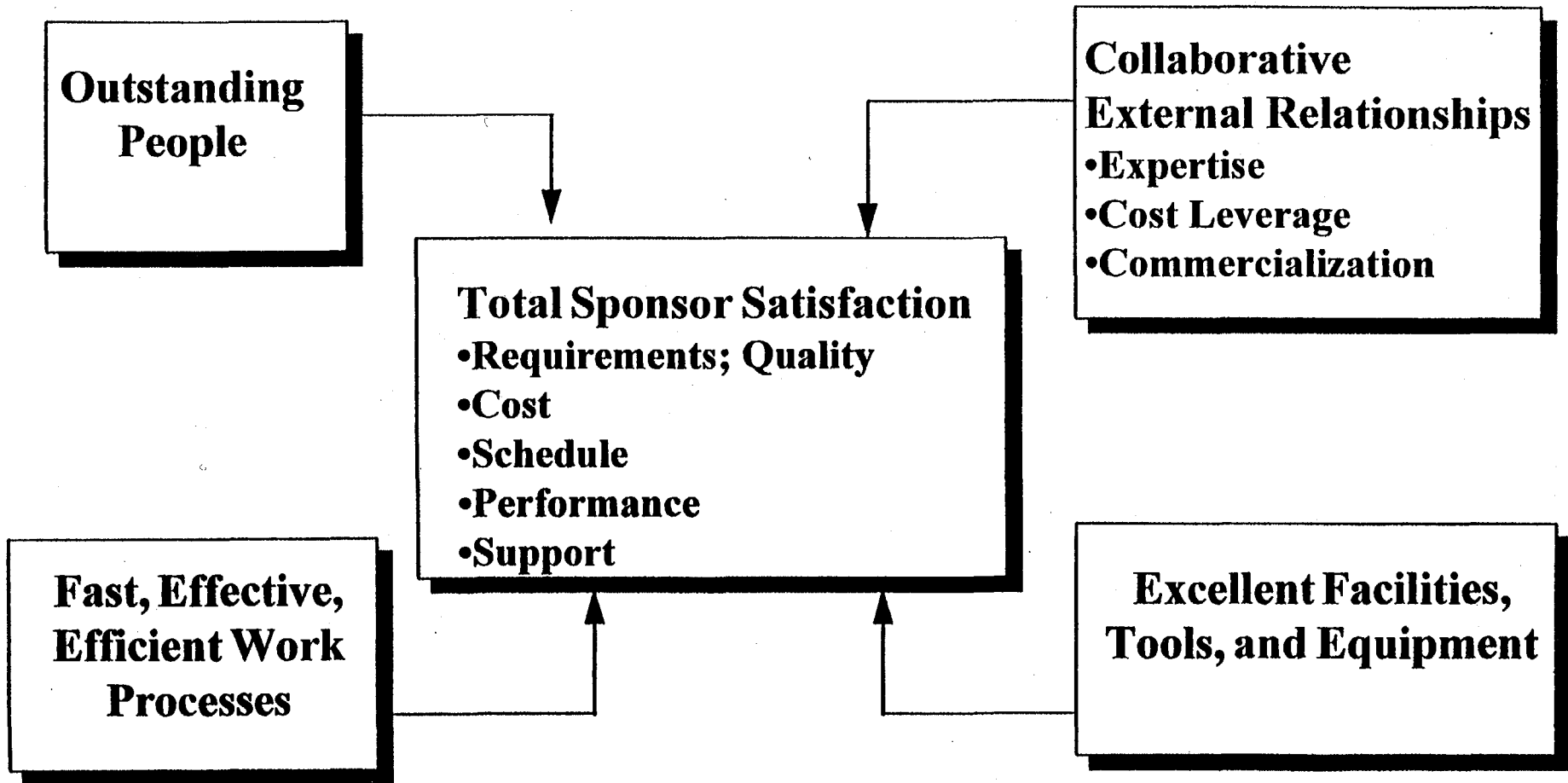
Tally Team Responsibilities

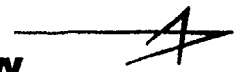
- Enter issues and recommendations into a tracking log.
- Provide each board with a copy of the tracking log, daily.
- Follow-up with Indirect Presentations and Boards to resolve and alleviate issues as necessary.
- Maintain running total for decision unit cost.
- Retain decision unit documentation for future reference.



Objective Teamwork Foundations

4-57





A CONTINUUM OF TEAMS

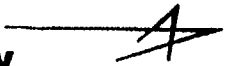
**HIERARCHICAL MANAGEMENT SELF
MANAGEMENT ----- DIRECTED ----- DESIGNING
CONTROL TEAMS TEAMS**

DRIVERS FOR THE CONTINUUM

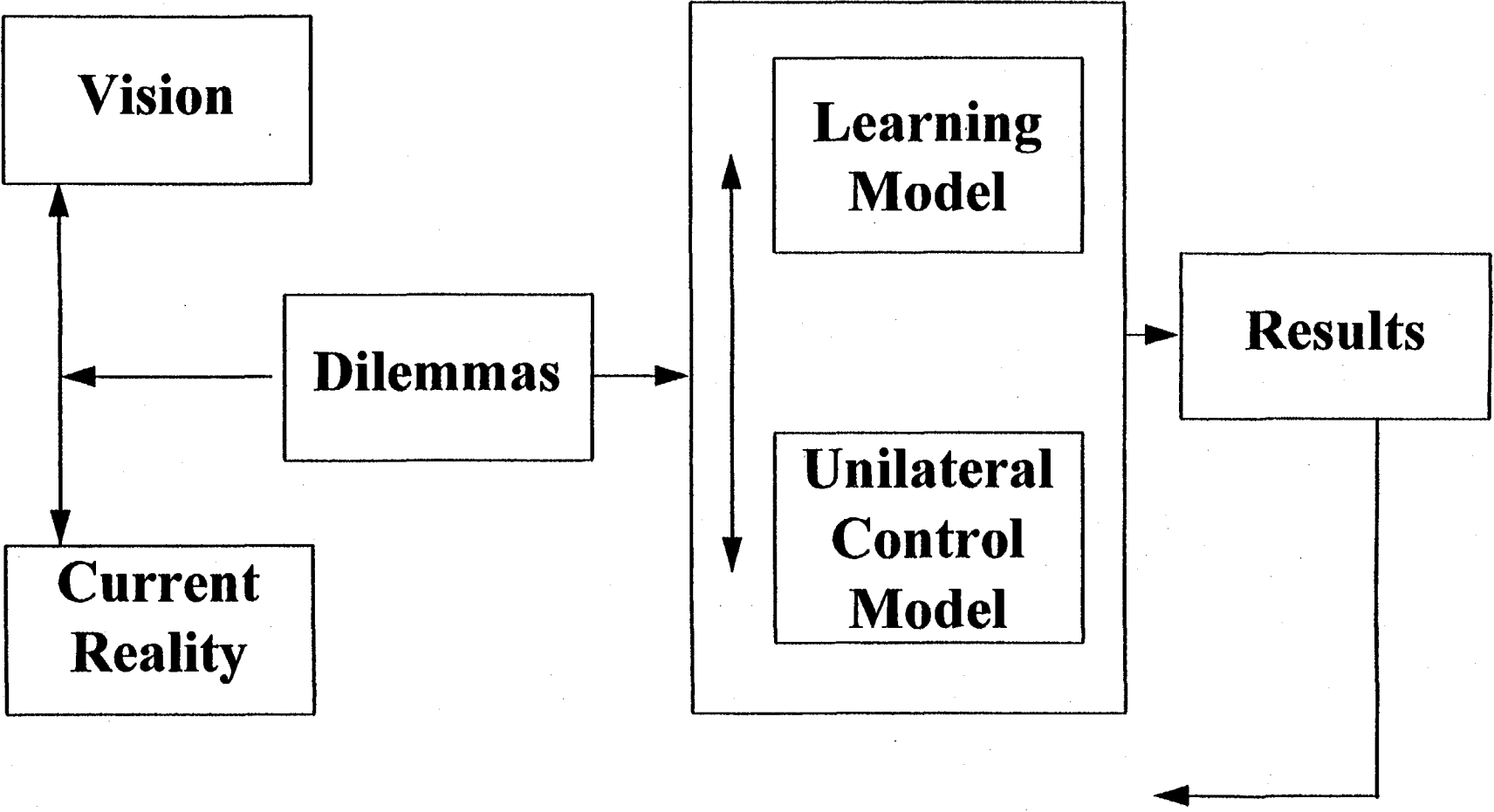
4-58

**ORGANIZATION
PROCEDURE
CONTROL
INDIVIDUALISM
COMPLIANCE
NOT MY JOB
STATUS QUO**

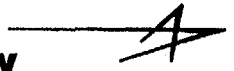
**PROCESS
CUSTOMER
EMPOWERMENT
TEAMWORK
COMMITMENT
OWNERSHIP
CHANGE**



Learning System



4-59



Advocacy & Inquiry

High
Advocacy

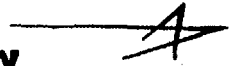
<p>Telling Imposing</p>	<p>Dialogue Mutual Learning</p>
<p>Withdrawing Observing</p>	<p>Interviewing Easing in</p>

Low

Low

High

Inquiry



Left-hand Column

What I Was Thinking

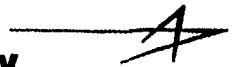
- He's not pushing back on the requirements.
- They are being defensive, they are afraid of changing.
- He's trying to protect his people.

What We Said

You: If we don't follow these requirements, we'll all go to jail.

Me: I don't think those requirements are real.

He: I've already cut this program to the bone.



Ladder of Inference

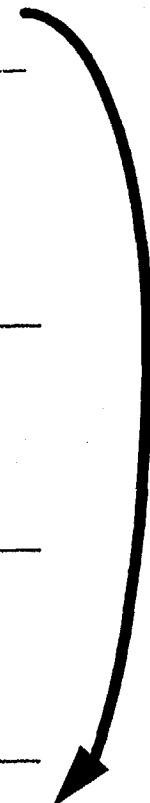
4. Beliefs and Assumptions

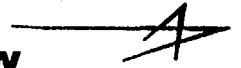
3. Conclusions

2. Paraphrased meanings

1. Directly observable data: what was
actually written or said

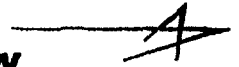
Selection Process





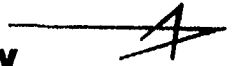
Learning Strategies:

- When you hear an abstract conclusion, ask for an illustration
- when you make an inference, paraphrase what someone said that led you to make that inference.
- encourage others to question your reasoning.
- inquire into the reasoning of others.
- look for the sense in how others are thinking and acting.



Exercise

- Meet with team
- Work through example, using checklist/forms
- Convene, and report back results/discuss

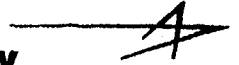


Debrief

- Challenges

- Do's & Don'ts

- Questions?

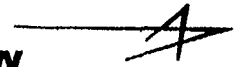


Murder Board Ground Rules

Focus on clarity of:

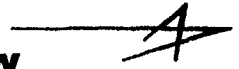
- Products and customers
- Requirements
- Activities that support requirements
- Cost estimates
- Source date

If a package rates a 1, it should be identified and tracked as a major issue and assigned to the responsible Director for rework.



Murder Board Ground Rules (Cont.)

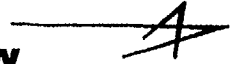
- Do assist the Indirect work manager to understand how to:
 - Improve the defensibility of their cost estimates;
 - Identify more cost effective approaches.
- Do maintain strong discipline around schedule and attendance.
- Do be flexible to accommodate program needs/problems.



Murder Board Ground Rules (Cont.)

Do not:

- Attack the presenter
- Redo the cost estimates in the meeting
- Get mired in the details

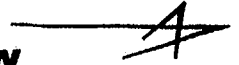


How the Pilot Boards will be Run (July 2)

- 3 simultaneous Boards will be conducted in the AM
 - will be time to pre-review package & discuss results
- All Boards debrief AM pilots
 - time to modify process for next week
- Close-out meeting at COB to discuss results

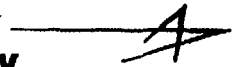
Pilot Board Schedule

08:00 - 09:00	Pre-review of package
09:00 - 10:30	Presentation and discussion of package
10:30 - 11:30	Board discussion/results finalization
11:30 - 1:00	Lunch
1:00 - 3:00	Debrief review, modify Board process
3:00 - 5:00	Close-out with Board chairs



Sample Daily Schedule

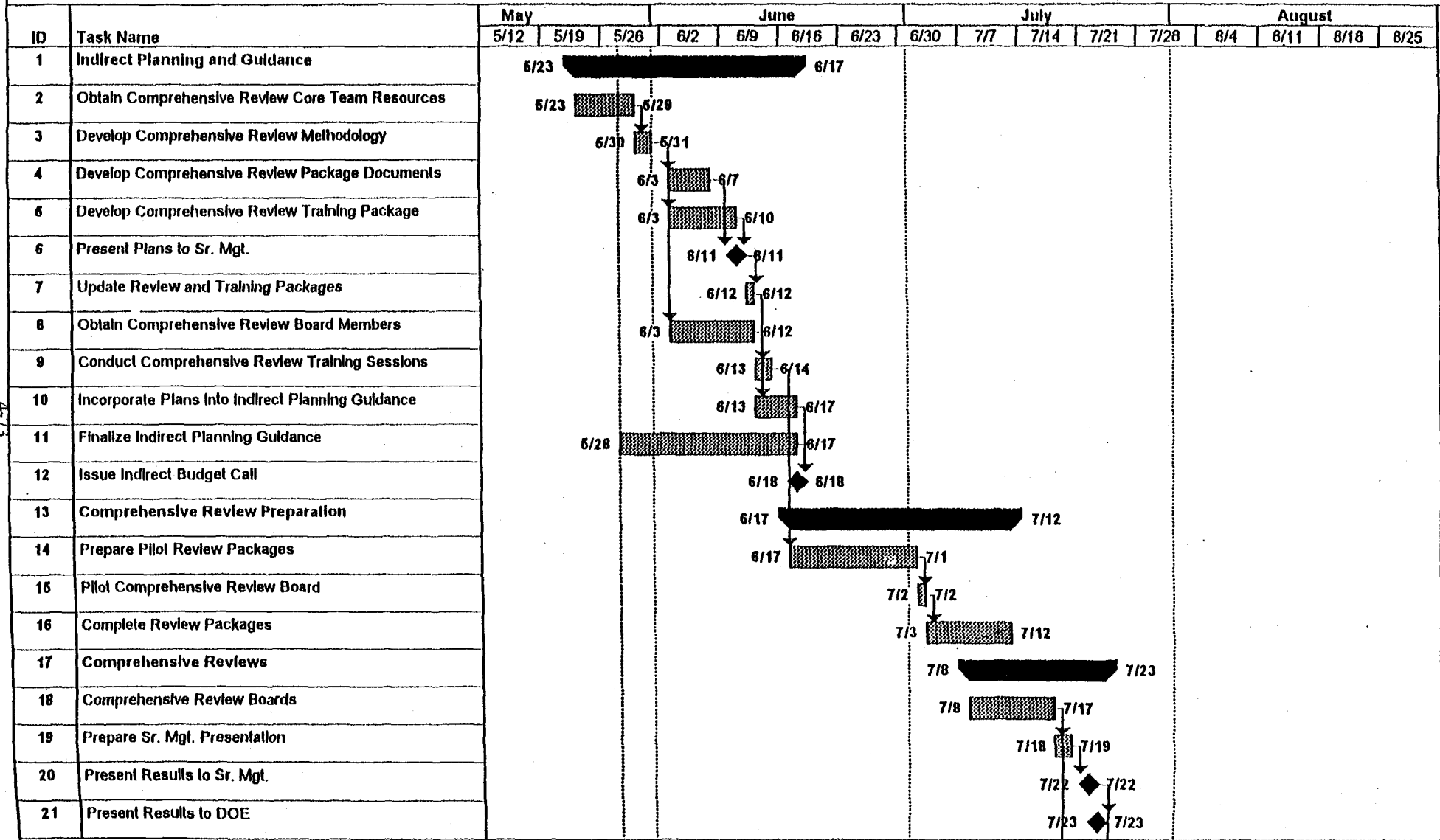
07:30 - 08:30	Pre review 1st package
08:30 - 10:00	Presentation and discussion of package
10:00 - 10:30	Board discussion/results finalization
10:30 - 11:30	Pre-review second package
11:30 - 12:00	Lunch
12:00 - 1:30	Presentation and discussion of package
1:30 - 2:00	Board discussion of results finalization
2:00 - 3:00	Pre-review third package
3:00 - 4:30	Presentation and discussion of package
4:30 - 5:00	Board discussion/results finalization
5:00 - 6:00	Board close-out meeting



Board Locations

Board A	TSB A- Breakout Area 1
Board B	TSB B- Breakout Area 2
Board C	TSB C- Breakout Area 3
Close-out Meeting	TSB A- Breakout Area 1

Indirect Budget Planning and Guidance
Master Schedule
May 28, 1996



Indirect Budget Planning and Guidance
Master Schedule
May 28, 1998

ID	Task Name	May			June				July				August				
		5/12	5/19	5/26	6/2	6/9	6/16	6/23	6/30	7/7	7/14	7/21	7/28	8/4	8/11	8/18	8/25
22	Finalize Indirect Budgets											7/23	[Solid Bar] 8/23				
23	Finalize Indirect Budget Planning Packages											7/23	[Hatched Bar] 8/2				
24	Prepare Indirect Budget Baseline													8/6	[Hatched Bar] 8/22		
25	Submit Baseline to DOE for Approval															8/23	8/23
26	Document Comprehensive Review Board Project																
27	Draft Final Report												7/18	[Solid Bar] 8/9			
28	Mgt.. Review of Draft Report												7/18	[Hatched Bar] 7/26			
29	Issue Final Report													7/29	[Hatched Bar] 8/2		
														8/5	[Hatched Bar] 8/9		

4-74

Appendix 5
Decision Units

Decision Units by Board

Board A

Decision Unit #	WBS Number	Description
A01	20 D08000000/D09000000	SAFEGUARDS & SECURITY
A02	20 D15000000	FLEET MAINTENANCE
A03	30 D15000000	FLEET MAINTENANCE
A04	20 D16000000	BUS MANAGEMENT
A05	20 D07000000	SPACE & AREA PLANNING
A06	20 D42000000	WROC/PBF
A07	30 D03300000	LANDFILL
A08	20 D03000000	WASTE HANDLING
A09	20 G77000000	TRANSPORTATION LOGISTICS
A10	20 D37000000	FIRE DEPARTMENT
A11	30 D05300000	ALARM SYSTEMS
A12	20 D45/D51/D52	AEDL LAB FACILITIES
A13	20 D55000000	ROCKVILLE FACILITIES
A14	20 D44000000/D45000000	IF FACILITIES
A15	20 D41/D402/D43/D38	SITE FACILITIES
A16	20 G72000000/G73000000	SITE LEGACY
A17	20 D34000000	UTILITY SERVICES
A18	20 D36000000	SITE R&G
A19	20 D35000000	FACILITY COMPLIANCE

Board B

DECISION UNIT #	WBS NUMBERS	DESCRIPTION
B01	20 G14000000/G58000000	HR/DIVERSITY&COMPLIANCE
B02	20 G04000000/30 D13400000	PC & BUSINESS MGMT SYS
B03	NEW	BUSINESS LEGACY SYS
B04	20 G16000000	PUBLIC/EMPLOYEE COMM
B05-B09	COMBINED	IRM
B10	20 G13000000	FINANCIAL OPERATIONS
B11	20 G59000000	BUSINESS MANAGEMENT
B12	40 G5XX	CONTRACTS
B13	40 G65XX	PRIVATIZATION
B14		LEGAL
B15		ETHICS
B16	20 G02/G75/G05/G53	INEL INSTITUTE/TRAINING
B17	20 D14/30 G432/30 G213	TECHNICAL PUBLICATIONS
B18	20 G28000000	CULTURAL RESOURCES
B19	20 G03000000	VALUE ENGINEERING
B20	20 P30000000	ENVIRON OPS OVERHEAD
B21	20 P40000000	AEDL OVERHEAD
B22	20 P50000000	NUCLEAR OPS OVERHEAD
B23	20 P60000000	SITE SERVICES OVERHEAD

Board C

DECISION UNIT #	WBS NUMBER	DESCRIPTION
C01	20 G06/D50/G26	PROPERTY MANAGEMENT
C02	20 G33000000	COUNTERINTELLIGENCE
C03	20 D46000000/G71000000	WELD LAB/WELD QUAL
C04	20 D54000000	AUTO TESTING CENTER LAB
C05	20 D25000000/20 G29000000	CALIBRATION SERVICES
C06	20 G29000000	QUALITY ASSURANCE
C07	20 G29000000	ASSESSMENT
C08	20 G29000000	ISSUES MANAGEMENT
C09	20 D33000000	CAFETERIA
C10	20 G21000000	DOCUMENT DIST
C11	20 D48000000	LAB SERVICES
C12	20 G34000000	LDRD
C13	20 G34000000	URC
C14	20 G61000000	TECHNOLOGY TRANSFER
C15	20 G70000000	NUCLEAR SAFETY
C16	30 D13000000	MATERIAL MGMT
C17	20 G62000000	STRATEGIC BUSINESS DEV
C18	20 D01/G01/D011	SAFETY & HEALTH
C19	20 G52000000	ENVIRONMENTAL AFFAIRS
C20	20 G56000000	DOE-ID SERVICES
C21	20 G76000000	ENERGY MANAGEMENT

Appendix 6
Issues

OVERLAPPING COMPANY ISSUES

Murder Board Review

I. OUT-YEAR PLANNING AND STRATEGIC INITIATIVES

1. Information Resource Management has several (some ongoing) system enhancements planned for FY-1997 and beyond. The cost to upgrade the business systems, referred to as the Legacy system upgrade project, is estimated to be approximately \$20M over a three-year time frame, starting in FY-1997 (\$1.3M estimated for FY-1997). This is not currently included in the planning reference rate.

RECOMMENDATION: The Program Review Board (PRB) needs to ensure that activities are not endorsed without consideration of life cycle impacts to indirect cost activities. An effort should be undertaken to prioritize all indirect activities in an order of relative importance for decision making purposes.

2. Senior Management, at DOE-ID and LMITCO, has tasked Public Relations with two new efforts, "Grow the 40" and "Change the Conversation in Idaho." This \$.5M effort is not affordable within the current planning reference targets, even though considerable cost efficiencies have been implemented.

RECOMMENDATION: The board considers these two activities to be "Investment" costs and should be considered as a part of the investment portfolio of the company as a whole. It is suggested that this activity be considered a business opportunity cost and funded from the Mission Development initiative as a line item from that fund source.

3. The planning packages presented by Information Resource Management (IRM) included a project to upgrade personal computing systems by initiating a multi-year lease contract that will "turn over" desk top computers every three years. Funds are requested to cover approximately 1200 PCS in the first year (FY-1997). Part of the basis for justification of this plan was the backup information provided in the FY-1998 Unicall Crosscut which indicated that the company as a whole was planning on purchasing a significant amount of ADPE equipment using DOE funds, both programmatic and landlord. Distribution of the upgraded PCS is anticipated to go to both direct program users as well as indirect.

RECOMMENDATION: If this initiative is approved, PC upgrades must be removed from all other indirect decision units. For example, HR staffing was planning on upgrading seven of 15 PCS in FY-1997 due to the change in service support levels of machines by field services. (486 and above only to be serviced) Given this IRM strategy, purchases of equipment by program organizations must be coordinated through IRM. The decision, whether programs can lease under the IRM umbrella or whether the programs' needs can be met under such an agreement, must be made in tandem with IRM.

4. Indirect planning process does not adequately address life cycle costs.

RECOMMENDATION: Detailed multi-year planning may provide better visibility into out year funding requirements.

5. It is difficult to assess the value of various investment initiatives.

RECOMMENDATION: Investment initiatives must be prioritized by the murder boards in order to evaluate which initiatives provide the most benefit to the INEL. This prioritization must also be integrated with all other indirect activities.

II. COST EFFECTIVENESS

1. Mandatory training requirements seem excessive. Some feedback has been received that the 4-hour ES&H training course was far too detailed for those individuals that manage office workers.

RECOMMENDATION: Further attempts must be made by the INEL Institute to evaluate the effectiveness of training programs designed to meet minimum requirements. Consideration of job requirements and functions should determine the level of training needed by an individual. Further consideration of the frequency requirements (annual vs. biannual) is needed.

2. The IRM cost for computer services seems excessive. In some organization, IRM costs are 60% of all non-labor costs.

RECOMMENDATION: IRM received direct feedback to prioritize the entire work scope within the IRM planning package and identify risk, proposed changes in service levels and get buy-in from customers and senior management prior to implementation. More consideration must be given to tradeoffs between system reliability and charge out rates.

3. The costs associated with the Coleman contract reside in multiple decision units, such as INEL Institute, IRM and QA&O, however the processes and basis of estimate for these activities are not under the same level of scrutiny being applied to LMITCO processes to minimize costs.

RECOMMENDATION: Coleman costs should be reviewed through a similar "Murder Board" process to assure that the operation is efficient and contract costs subsequently reduced.

4. Equipment and software have been procured by programs that are inconsistent with company standards. This equipment is often turned over to IRM by the program personnel for "caring and nurturing" once the program resource is no longer available or

affordable, often resulting in additional maintenance agreements and increased training requirements for IRM personnel.

RECOMMENDATION: IRM needs to develop a strategy / policy to minimize the occurrence of this situation. This will simplify the training and service expectation required of IRM staff and result in a significant cost savings.

5. Significant effort is being expended providing nonstandard reports to multiple customers resulting in inefficiencies and increased costs.

RECOMMENDATION: Timing and format of reports should be standardized at a company level, regardless of DOE-customer preference, for efficiency and cost saving opportunities.

6. Poor planning by internal customers results in a "cost is not an issue" mentality and increase overtime expenses when the activity is assigned to services organizations such as printing.

RECOMMENDATION: A process should be developed to determine if the cost of overtime is absolutely required before endorsed or supported by the performing organization.

7. Even though the mail room operation may be cost efficient, bench marking indicates that this organization is tasked with handling much more internal mail than similar operations at other sites.

RECOMMENDATION: The site services organization should evaluate alternatives available to minimize interoffice mail practices and the company should establish a policy to reduce mail distribution volumes.

8. Numerous cost reductions identified by the Murder Boards relate to assorted bargaining unit issues such as no part-time employment/guaranteed 40 hour work week and outsourcing.

RECOMMENDATION: Company Senior Management (PRB and SRB) must ensure that union negotiations support the Company goal of becoming more cost effective. This necessitates that many bargaining unit guarantees are no longer included within the contracts.

9. It appears that various ES&H activities including Fire Extinguisher inspections and Radcon may be duplicated among indirect work packages.

RECOMMENDATION: It will be a challenge to ensure that duplicative planning does

not occur on the front end. However, once planning packages have been submitted, Cost Accounting can ensure that appropriate Organizational Breakdown Structure (OBS) codes are used on the resource summary. Once budgets have been entered into the system, an organizational roll up can be performed. This should facilitate determining whether the appropriate resources have been planned.

10. There appears to be excessive usage of government vehicles with the indirect packages, sometimes at a ratio of 1 vehicle for every 1 FTE.

RECOMMENDATION: An initial reduction of 10% of all vehicles charged indirect was recommended by Murder Board A. Upon further review of the packages presented, a 25% reduction Company-wide may be appropriate.

11. Many procurement costs are driven by handling unique requisitions within the Company. Standardizing areas such as systems subcontracts has resulted in cost efficiencies. Standardization / consolidation of requisitioned items, resulting in a reduction in the number of requisitions, would result in greater efficiencies.

RECOMMENDATION: Management should evaluate alternatives to reduce the number of unique requisitions by consolidation, standardization, and other appropriate means.

III. LESSONS LEARNED REGARDING MURDER BOARD PACKAGE DEVELOPMENT

1. Some Decision Units have budgeted for costs associated with the Degree Program participation of an employee.

RECOMMENDATION: Since the INEL Institute is planning on covering all of the degree program costs within their operating budget, other decision units must verify that these costs are not budgeted.

2. Several of the planning packages contained contingency dollars. (Ex. Grievance arbitration and litigation expenses)

RECOMMENDATION: The PRB should retain control of all contingency dollars and those accounts that require use of those funds should be requesting additional authorization via the Change Control Board process.

3. In some instances, Murder Board review packages were voluminous.

RECOMMENDATION: Require that the package be prepared and presented at a higher level. This will limit the size of the package and precipitate a consistent review among the organizations.

4. It is often difficult to determine what various cost element dollar amounts really indicate when the work packages vary significantly in size/scope of work. For example: A figure of \$10K in travel may be reasonable for a package with 200 FTEs but may be excessive for a package with 1 FTE.

RECOMMENDATION: As part of the prepared packages, require various ratio analysis be performed. Ratios that should be provided are span of management, travel per FTE, training per FTE, staff meeting hours per week FTE, and vehicles per FTE.

5. It was often noted that planning was based on current staffing levels. While the initial training emphasized that planning should be based on requirements, the presenters often made the requirements fit the current staffing levels. An "Excess FTE" form was provided to all package preparers, however, this form was not filled out.

RECOMMENDATION: It is recommended that further emphasis be placed on planning to the requirements levels. The forms should be enhanced to include a place to document excess FTEs.

IV. POTENTIAL CONSOLIDATION OPPORTUNITIES

1. It appears that there are multiple organizations providing similar functions. This structure encourages duplicity and inconsistent strategies and minimizes the opportunity for achieving the greatest efficiencies and resultant cost savings. To date this has been identified in the areas of Document Control and software development staff.

RECOMMENDATION: IRM should spearhead an effort to determine whether this is a lack of policy or perhaps failure to enforce an existing policy and evaluate the reasonableness of combining organizations to fully optimize staff utilization and maximize cost savings.

2. There appears to be overlap in multiple areas regarding product line development, such as software development. This results in inter-company competition for outside business opportunities, and inefficient utilization of potential new business opportunity funds.

RECOMMENDATION: Reconcile the functional expectation of service organizations regarding development of products.

3. Training is conducted/ developed for all personnel, within multiple organizations across the company.

RECOMMENDATION: Consolidate training functions in the Institute, when applicable to all employees and for those activities that can demonstrate a cost benefit upon

consolidation.

4. Continuous Improvement Staff, such as Value Engineering personnel, does not reside in the Total Quality Management Organization. This results in redundant functions.

RECOMMENDATION. Merge these functions if a more-cost effective operation can be demonstrated.

5. Time spent by "shadow-forces" for home page development is not centrally controlled or known. This results in increased costs and often no regard or a misunderstanding of the requirement to coordinate with Public Affairs.

RECOMMENDATION: Establish a policy that limits who can author home page information.

6. There was a concern expressed regarding the rationale of organization alignment of the Mixed Waste Focus Area to the AEDL rather than Environmental Operations organization.

RECOMMENDATION: Evaluate whether this recent alignment is the most efficient and cost-effective mode of operation.

V. CHARGING PRACTICES

1. In multiple decision units, it appears that some activities are planned and billed through the indirect cost methodology, that should be paid for by the benefitting organization or program.

RECOMMENDATION: Identify those indirect activities that may be appropriately charged to a program directly or become a part of the Service Center Distribution account charge/rate.

2. It has come to the attention of the review boards that the \$5.80/hour facility and security surcharge was not charged consistently to personnel from teaming partners. It is the board's understanding that during FY-1996, Coleman personnel were the only personnel, charged via a subcontract, assessed with the facility and security surcharge.

RECOMMENDATION: Financial Operation recognizes that the facility charges were inconsistently applied during FY-1996. Impacts must be calculated and communicated to all program and indirect managers that will be affected by this charging practice for FY-1997.

3. Many costs are incurred without the authorization or knowledge of those individuals

responsible for budget management.

RECOMMENDATION: Assess processes that result in a charge at the point of first incurrence. Look at alternate authorization for cost incurrence to minimize post transaction correction. (Such as invalid labor, change in charge account for services such as phones and computer networking.)

4. New hire relocation costs are currently budgeted for in multiple cost accounts.

RECOMMENDATION: Budget for employee relocation should be reserved/planned and costed in a single account, suggested Human Resources. This would assure that budget allocated for this purpose are not considered to be a contingency and expended for other purposes.