FY 1997
PERFORMANCE EVALUATION AND FEE AGREEMENT
For
THE PACIFIC NORTHWEST NATIONAL LABORATORY

This document directly supports the Pacific Northwest National Laboratory Contract DE-AC06-76RL01830, Appendix F, and will be controlled by the DOE-RL Assistant Manager for Science & Technology and the PNNL Legal & Contracts Directorate.

Revision 0

February 25, 1997

John D. Wagoner
Manager, DOE-RL

William J. Madia
Director, Pacific Northwest National Laboratory

MASTER

DISCLAIMER

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor Battelle Memorial Institute, nor any of their employees, makes any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof, or Battelle Memorial Institute. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

PACIFIC NORTHWEST NATIONAL LABORATORY

operated by

BATTELLE

for the

UNITED STATES DEPARTMENT OF ENERGY

under Contract DE-AC06-76RLO 1830

Printed in the United States of America

**Available to DOE and DOE contractors from the
Office of Scientific and Technical Information, P.O. Box 62, Oak Ridge, TN 37831;
prices available from (615) 576-8401.**

**Available to the public from the National Technical Information Service,
U.S. Department of Commerce, 5285 Port Royal Rd., Springfield, VA 22161**

The document was printed on recycled paper.

DISCLAIMER

This report was prepared as an account of work sponsored by an agency of the United States Government. Neither the United States Government nor any agency thereof, nor any of their employees, make any warranty, express or implied, or assumes any legal liability or responsibility for the accuracy, completeness, or usefulness of any information, apparatus, product, or process disclosed, or represents that its use would not infringe privately owned rights. Reference herein to any specific commercial product, process, or service by trade name, trademark, manufacturer, or otherwise does not necessarily constitute or imply its endorsement, recommendation, or favoring by the United States Government or any agency thereof. The views and opinions of authors expressed herein do not necessarily state or reflect those of the United States Government or any agency thereof.

DISCLAIMER

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

TABLE OF CONTENTS

INTRODUCTION	1
I. DETERMINING THE LABORATORY PERFORMANCE RATING	2
II. CRITICAL OUTCOMES, OBJECTIVES & PERFORMANCE INDICATORS	4
Background	4
Performance Expectations	4
Change Control	4
1. ENVIRONMENTAL MOLECULAR SCIENCES LABORATORY	5
1.1 <u>Objective</u> – Construct, equip and start up EMSL	5
1.1.1 EMSL operationally complete by August 29, 1997	5
1.2 <u>Objective</u> – Establish impactful programs that fully utilize EMSL	5
1.2.1 Increase EMSL research funding commitment for FY98 against projected	5
1.2.2 Quality, relevance, and significance of scientific research conducted at EMSL measured by peer review	7
1.2.3 External User satisfaction with the operation of the EMSL	7
1.3 <u>Objective</u> – Operate EMSL	9
1.3.1 Operate the EMSL to achieve recognized “best in class” excellence as measured through eight critical success factors as follows	9
Critical Outcome Performance Rating	10
2. ENVIRONMENTAL TECHNOLOGY	12
2.1 <u>Objective</u> – Develop new and/or innovative technologies	12
2.1.1 Number of innovative technologies successfully demonstrated	12
2.1.2 Provide significant solutions to Hanford problems/needs	14
2.2 <u>Objective</u> Deploy new and/or innovative technologies	14
2.2.1 Number of formal expressions of interest entered into	15
2.2.2 Number of innovative technologies successfully deployed in commercial practice	15
Critical Outcome Performance Rating	16
3. SCIENTIFIC EXCELLENCE	22
3.1 <u>Objective</u> – Conduct quality scientific efforts that provide new insights	22
3.1.1 Results of Peer Reviews of relevance and excellence	22
3.1.2 Recognition by the scientific community, including awards and invited talks at major scientific meetings	23
3.1.3 Number of R&D 100 Awards	23
3.1.4 Number of publications in peer reviewed journals	23
3.2 <u>Objective</u> – Deliver high-value work that is relevant to DOE missions or national needs	24
3.2.1 Customer feedback on relevance and excellence of critical projects ..	24
3.2.2 Demonstrate project management discipline across product lines by meeting critical milestones and budget baselines	25

3.2.3	Number of academic partnerships	26
	Critical Outcome Performance Rating	27
4.	ENVIRONMENT, SAFETY & HEALTH/OPERATIONS	33
4.1	<u>Objective</u> -- Establish the organizational and systems-related infrastructure for ES&H and conduct of operations	33
4.1.1	Performance against OIP master schedule	33
4.1.2	Use of the Results of external customer feedback survey to improve future performance	33
4.2	<u>Objective</u> -- Achieve operational excellence in worker safety and health, and environmental protection	34
4.2.1	Occupational Safety and Health Composite	34
4.2.2	Radiological Control Composite	35
4.2.3	Environmental Protection Composite	37
4.3	<u>Objective</u> -- Provide effective and efficient utilization of Laboratory facility assets ..	40
4.3.1	Operations Composite	40
4.3.2	Life Cycle Asset Management (LCAM) Composite	42
4.4	<u>Objective</u> -- Develop Key Elements of a Voluntary Protection Program (VPP) ...	45
4.4.1	Develop a policy outlining guidelines for case management of occupational injuries/illnesses to ensure a safe and early return to work for injured staff members	45
4.4.2	Evaluate the MSD "job hazard analysis process"	45
4.4.3	Develop and pilot a "Safety Suggestions" program in the Maintenance Services Department	46
	Critical Outcome Performance Rating	46
5.	LEADERSHIP AND MANAGEMENT	58
5.1	<u>Objective</u> -- PNNL's leaders/managers create a work environment that is supportive of innovation	58
5.1.1	Composite evaluation of the Leadership and Management focus areas as determined by FY96 Quality of WorkLife (QWL) survey	58
5.2	<u>Objective</u> -- PNNL's management systems are well-defined, aligned with the needs of the business and lead to accomplishment of objectives	61
5.2.1	Customer satisfaction with the quality and effectiveness of delivered products and services	61
5.3	<u>Objective</u> -- Laboratory Leadership effectively uses the Integrated Assessment Program (IAP) to monitor performance and to drive needed improvements, enabling DOE to optimize oversight activities	61
5.3.1	Internal Oversight's annual averaged rating of the Divisions/Directorates self-assessment program performance	61
5.3.2	DOE's satisfaction with the level of involvement in the development and execution of the plans, and communication of the results	62
5.4	<u>Objective</u> -- Provide effective and efficient program management	62
5.4.1	Average fully burdened charge-out rate for staff that charge direct to 1830 Operating Programs	62
5.4.2	Research to support labor cost ratio	63
	Critical Outcome Performance Rating	63

6. ECONOMIC DEVELOPMENT	71
6.1 <u>Objective</u> -- Create and sustain technology-based business growth in Tri-Cities area	71
6.1.1 The number of new businesses started in the area	71
6.1.2 The number of businesses started in prior years that are sustained through the subsequent fiscal year	71
6.2 <u>Objective</u> -- Grow existing technology-based, local area businesses	72
6.2.1 The number of local area firms* assisted	72
6.2.2 Survey of local firms* on the value of PNNL assistance with respect to jobs retained or added	72
6.3 <u>Objective</u> -- Support the local community in attracting new technology-based businesses to the area	73
6.3.1 Feedback from local economic development organizations on the value of PNNL support with respect to their economic development goals	73
Critical Outcome Performance Rating	74
III. SELF-ASSESSMENT	79
IV. PERFORMANCE BASED FEE	80

INTRODUCTION

Fiscal Year 1997 represents the second full year utilizing a results-oriented, performance-based contract. This document describes the critical outcomes, objectives, performance indicators, expected levels of performance, and the basis for the evaluation of PNNL performance for the period October 1, 1996 through September 30, 1997, as required by Articles H-24 and H-25 of the Contract.

Section I provides the information regarding the determination of the overall performance rating for the Laboratory. In partnership with the Department of Energy (DOE) and other key customers, the Laboratory has defined six critical outcomes that serve as a basis for overall management of the Laboratory. These outcomes also serve as the basis for the performance measurement system in the Laboratory and also are at the core of the Laboratory performance evaluation.

Section II provides the detailed information concerning critical outcomes, objectives, performance indicators and expectations of performance.

Section III describes the commitments for documenting and reporting PNNL self-evaluation.

Section IV provides the information supporting performance-based fee.

I. DETERMINING THE LABORATORY PERFORMANCE RATING

The FY97 PNNL performance evaluation will be determined using a modification of the FY96 process. Progress against each Performance Indicator will result in a corresponding point value. The point values of each Performance Indicator will either be taken from the associated Contingency Diagram or, in the case of the several ES&H/Operations Performance Indicators, from a 5 point scale developed for each specific Performance Indicator. Points for each Performance Indicator will be added to determine a numeric rating for the corresponding Objective.

The sum of the points for each Objective supporting a Critical Outcome will then be weighted according to this agreement and added to determine the point value for the Critical Outcome. The point value for each Critical Outcome will determine an adjectival rating in accordance with the corresponding table for each Critical Outcome. The adjectival rating and corresponding point value for each Critical Outcome will be weighted in accordance with the Table A, below, and will be added to determine the Laboratory's point total. The total points will be compared to an agreed-upon scale in Table B, below, to determine an overall Laboratory adjectival rating.

This technique carries raw points and weighted points forward through the entire process and provides information regarding performance at each of the Performance Indicator, Objective, Critical Outcome and overall Laboratory levels. A detailed explanation is provided below.

Performance Indicator Score Development: Raw scores for each Performance Indicator are determined either by plotting year-end performance on the associated Contingency Diagram and adding the Effectiveness points accumulated along the Y-axis or by determining the level of performance and translating that level to the appropriate number value using the scales for each indicator found in this document.

Evaluation of Objectives: Point scores for each Objective are determined by adding the individual Effectiveness scores for each Performance Indicator from the associated Contingency Diagram. The totals of each of the Objectives are then weighted according to the weightings provided in each Critical Outcome section.

Critical Outcome Evaluation: Numeric Critical Outcome scores are weighted as defined in Table A below and are summed to determine the Laboratory's weighted evaluation score.

Determining the Overall Laboratory Adjectival Rating: The Critical Outcome total is compared to an agreed-to adjectival rating scale, see Table B below, to determine the overall Laboratory rating.

Note: All numeric values that have been normalized to the 5 point scale specified in this document will be rounded to the nearest tenth of a point using the standard rounding convention of x.49 and less rounds down to the nearest tenth, while x.50 and greater rounds up to the nearest tenth. Rounding will be performed at each calculation level.

Critical Outcome	Adjectival Rating	Score	Weight	Weighted Score
EMSL			15%	
Environmental Technology			20%	
Scientific Excellence			30%	
ES&H/Operations			20%	
Leadership & Management			10%	
Economic Development			5%	
			Total	

Table A. FY97 Laboratory Evaluation Score Calculation

Total Score	5.0 - 4.5	4.4 - 3.5	3.4 - 2.5	2.4 - 1.5	<1.5
Final Rating	Outstanding	Excellent	Good	Marginal	Unsatisfactory

Table B. Overall Laboratory Adjectival Rating Scale

II. CRITICAL OUTCOMES, OBJECTIVES & PERFORMANCE INDICATORS

Background

To ensure long-term ability to continue to provide high-value products and services to DOE and other customers, the Laboratory, in partnership with DOE-RL, evaluated its customer's needs and its current operating environment to develop the Laboratory's six Critical Outcomes.

The outcome-oriented approach focuses the evaluation of PNNL's performance against these critical outcomes. Progress against these outcomes is measured through the use of approximately 40 performance indicators that focus on end-results or impact and not on processes or activities. Process and input related performance indicators are used by Laboratory staff and management to operate the Laboratory, however, these measures are not embodied within the formal contract upon which performance is measured.

Performance Expectations

With the six Critical Outcomes as a framework, DOE-RL and Laboratory staff have teamed to develop mutually-agreed upon objectives and performance indicators. In addition, considerable effort has been devoted to developing an understanding of the performance expectations associated with each of the performance indicators. The specific performance expectations and associated performance rating information are documented and contained within this document.

Change Control

While the Critical Outcomes described herein represent the current set for the Laboratory they can also be changed as prevailing scientific, political and/or economic factors change. When this happens, the objectives and the resulting performance indicators will also be altered to ensure movement of the Laboratory in a direction consistent with the expectations of its customers. The content of this document will be managed via formal change control. Changes to this document should be coordinated between the Laboratory and DOE-RL points-of-contact for the indicator(s) to be changed and must be approved by the appropriate program manager(s) and the DOE-RL Contracting Officer.

The following sections describe the critical outcomes, their supporting objectives, and associated performance indicators.

1. ENVIRONMENTAL MOLECULAR SCIENCES LABORATORY (15%) - Thom Dunning /John Neath**Critical Outcome**

We will construct, equip, and staff the Laboratory on budget and on schedule, provide the maximum possible scientific capability in that Laboratory, and have the available capacity fully subscribed by users.

1.1 Objective -- Construct, equip and start up EMSL. (40%)**Performance Indicator****1.1.1 EMSL operationally complete by August 29, 1997. (Jim Bixler) (100%)**

Description - The EMSL facility and all research and computer equipment completely installed and fully operational. Fully operational means that the PNNL Readiness Assessment is completed with no unresolved issues which constrain the full range use of capabilities and includes the EMSL facility and each of the lab's research equipment and computer systems. Achievement must be consistent with the highest technical and quality standards.

Baseline Information: The baseline is the project Completion milestone of August 29, 1997. This milestone is identified in the EMSL Project Operations Transition Plan as "0.4.2.RA30, Complete Readiness Assessment and Send Final Laboratory Operational Readiness Letter to DOE-RL." Technical scope is defined in the EMSL Functional Design Criteria and appendices dated August 1993 (as revised by subsequent level 2 EMSL change requests through September 30, 1996). Schedule is defined in the Detail Project Schedule (EMSL - DTL - 001) dated October 29, 1996 which reflects all changes implemented through FY 1996. No change shall be allowed in this performance evaluation baseline without written approval of the RL contracting officer. One initial exception to the baseline for purposes of PI 1.1.1, is UHF-NMR.

Performance Rating

Outstanding	-	Completion on or before August 1, 1997
Excellent	-	Completion on or before August 29, 1997
Good	-	Completion on or before September 26, 1997
Marginal	-	Completion on or before October 25, 1997
Unsatisfactory	-	Estimated to be completed after October 25, 1997 (8 weeks behind schedule)

1.2 Objective -- Establish impactful programs that fully utilize EMSL. (Thom Dunning) (40%)**Performance Indicators****1.2.1 Increase EMSL research funding commitment for FY98 against projected. - Thom Dunning (33%)**

Description: This indicator will represent future commitment to use of the EMSL facility's capacity by comparison with a projected research funding curve. The indicator is based on funding commitments obtained in FY96-7 for programs that will be executed in the EMSL facilities (including interim facilities) in FY98. This indicator will be tracked in terms of the net new funding committed as compared to the EMSL Funding Profile, see Figure 1A, below.

Figure 1A. Funding Profile

Baseline Information: The planned average research funds anticipated at full operational capacity, assuming sufficient operating funds (approximately \$30M) are authorized, is approximately \$35M. The EMSL had a baseline of programmatic research funding in FY95 of \$8M. The target funding projection assumes that it will take until FY 1999 to reach full capacity. Commitment of funds over the baseline research funding (excluding operating funds) accumulated over the period of FY 1996 and FY1997 will be measured. Since funding of research projects may be committed to over multiple years, this indicator will include that funding identified for authorization in FY 1998 as identified during FY 1996 and 1997 on qualified research projects.

Performance Expectation Related Assumptions: The funding projection is based on an understanding that DOE will bring specific initiatives on line that will be targets for EMSL related work. Some of the initiatives currently identified include: Environmental Technology Partnership(ETP), Environmental Management Science Program (EMSP), and the Natural

& Accelerated Bioremediation Research Program. The Laboratory has already achieved awards in the ETP and EMSP totaling \$20.8M of which EMSL will directly support about \$4M. This measure excludes LDRD funded initiatives and existing research work which moves into EMSL from other areas of the Laboratory.

Performance Rating: FY96-7 Cumulative Rate Scale:

Outstanding	\$9.0M or greater
Excellent	Less than \$9.0M
Good	Less Than \$8.0M
Marginal	Less Than \$7.0M
Unsatisfactory	Less Than \$6.0M

The Laboratory has already achieved a cumulative \$6M in new funding for FY 1996-7 which is included in the above cumulative rate scale.

1.2.2 Quality, relevance, and significance of scientific research conducted at EMSL measured by peer review. (Thom Dunning) (33%)

Description: The DOE Director of Energy Research has primary responsibility for evaluating scientific research. The evaluation of EMSL research programs will be based on four criteria:

- Quality of science
- Relevance to DOE missions or national needs
- Effective & efficient research program management
- Success in developing/utilizing research capabilities

The basis for this indicator will be an evaluation by DOE of the reports of the formal peer reviews completed on key programs including direct and timely input by DOE Program Managers. Review reports will be evaluated by DOE with a performance rating based on the standard adjectival scale.

Performance Expectation Related Assumptions: The only formal EMSL peer reviews currently planned is OBES.

Performance Rating: The performance rating for this indicator is dependant upon the subjective rating of qualified peer groups which are sponsored by the DOE or can be established by DOE to be sufficiently independent of the Lab. The rating from each peer group shall be a document authored by the individual reviewers and included in the final evaluation which supports an adjectival rating.

1.2.3 External User satisfaction with the operation of the EMSL. (Thom Dunning) (34%)

Description: This indicator evaluates PNNL's ability to utilize the EMSL as a DOE User Facility. It is comprised of two phases, the first of which develops the plan for a system

which will contain a comprehensive set of performance indicators measuring the external user's satisfaction in performing research at the EMSL. Phase II measures the effectiveness of PNNL's implementation of the system established by the agreed to plan developed in Phase I.

Baseline Information: This indicator was established as a FY 1996 performance indicator and a draft list of metrics for the system are as follows:

1. Collaborative Interactions
2. Collaborative Projects with tangible products (publications, software releases, invention reports or patents, technical reports, instruments developed, scientific/technical databases developed/supported, scientific/technical standards set, workshops, etc.)
3. Independent usage of EMSL User facilities (Molecular Science Computing Facility, High Field Magnetic Resonance Facility, High Field Mass Spectrometry Facility)
4. Importance of research capabilities not available at home institution
5. Availability of instruments/facility for scheduled use within reasonable time delay
6. User satisfaction with services provided.

Performance Expectation: Phase I: A completed plan identifying the purpose, scope, comprehensive description of the system's design and all of the databases, questionnaires, how it will be implemented, what is required for capturing the information and the estimated cost of its development and operation will be submitted before the end of the second quarter FY97. A rating for Phase I will be achieved by the delivery of this plan with incorporation of resolved DOE comments by the end of FY97 - 2nd quarter. Achievement must be consistent with the highest technical and quality standards.

Performance Rating:

Outstanding	-	By March 10, 1997
Excellent	-	By March 31, 1997
Good	-	By April 14, 1997
Marginal	-	By April 28, 1997
Unsatisfactory	-	After April 28, 1997

Phase II is the Quarterly evaluation of progress on the plan's implementation in accordance with the agreed-to schedule. Selected milestones will be identified, weighted and evaluated to determine an adjectival ratings.

The Indicator performance rating shall be established by calculating the weighted average for the two phases.

Objective Performance Rating: The Objective 1.2 performance rating shall be established by calculating the average for the three indicators.

1.3 Objective – Operate EMSL. (Thom Dunning) (20%)**Performance Indicator**

- 1.3.1 Operate the EMSL to achieve recognized "best in class" excellence as measured through eight critical success factors as follows. (Dale Knutson)

1. Highly Qualified Staff
2. Technical Needs Focus
3. Product Quality
4. Environment, Safety & Health
5. Visitor Handling
6. Facility and Equipment Management
7. Business Management and Cost Containment
8. Communications

Description: This indicator will involve measurement of the EMSL Management System, through utilizing the measurement of eight critical success factors in EMSL Ops. This indicator evaluates PNNL's ability to effectively operate the EMSL as a "best in class" DOE research facility. It is comprised of two phases, the first of which develops the plan for a system which will contain a comprehensive set of performance indicators measuring performance and achievement of the critical success factors. Phase II measures the effectiveness of PNNL's implementation of the system established by the agreed to plan developed in Phase I. Achievement must be consistent with highest technical and quality standards.

Performance Expectation: Phase I: A completed plan identifying the purpose, scope, comprehensive description of the system's design and all of the databases, questionnaires, how it will be implemented: what is required for capturing the information and the estimated cost of its development and operation will be submitted before the end of the third quarter FY97. A rating for Phase I will be achieved by the delivery of this plan with incorporation of resolved DOE comments by the start of the 4th quarter. Evaluation by DOE RL will be stated in terms of the standard adjectival ratings (i.e., outstanding, excellent, etc.) based on the below:

Performance Rating:

Outstanding	-	Completion on or before May 26, 1997
Excellent	-	Completion on or before June 30, 1997
Good	-	Completion on or before July 14, 1997
Marginal	-	Completion on or before July 28, 1997
Unsatisfactory	-	Completion after July 28, 1997

Phase II is the quarterly evaluation of progress on the plan's implementation in accordance with the agreed schedule. Phase II start is dependent on the identification and approval of funding defined in Phase I. Phase II consists of the following project elements:

1. Visitor Handling

- Demographic module
 - Secure access behind PNNL firewall module
2. Exportable copy of EMSL OPs
 3. ES&H Recommendation Implementation

Evaluation by DOE-RL will be stated in terms of the standard adjectival ratings (i.e., outstanding, excellent, etc.) based on the below:

Performance Rating:

Implementation of project elements by the end of FY 1997.

Outstanding	-	Completion on or before August 26, 1997
Excellent	-	Completion on or before September 30, 1997
Good	-	Completion on or before October 14, 1997
Marginal	-	Completion on or before October 28, 1997
Unsatisfactory	-	Completion after October 28, 1997

Phase II rating will be based on the average of the three project elements. If implementation does not occur by the end of FY 1997, then DOE-RL and PNNL will agree on the estimate of implementation for rating purposes.

The 1.3.1 indicator performance rating shall be established by calculating the weighted average for the two phases with 60% for Phase I and 40% for Phase II. If Phase II start does not occur due to lack of funding, then the rating shall be solely based on Phase I.

Objective Performance Rating - The 1.3 objective performance rating shall be based solely on the 1.3.1 performance indicator.

Critical Outcome Performance Rating

The overall performance rating for this critical outcome will be determined by calculating a weighted average for each Performance Indicator and subsequent Objectives, in accordance with Table 1.2 below. All calculations are based on the standard 5 point DOE adjectival scale (i.e., Outstanding = 5, Excellent = 4, etc.)

Determining Overall EMSL Performance Rating						
	Indicator Rating	Value	Indicator Weight	Weighted Value	Objective Weight	Objective Score
Objective 1.1						
Indicator 1.1.1			100%			
Objective 1.1 Total					40%	
Objective 1.2						
Indicator 1.2.1			33%			
Indicator 1.2.2			33%			
Indicator 1.2.3			34%			
Objective 1.2 Total					40%	
Objective 1.3						
Indicator 1.3.1 - Phase I			60%			
Indicator 1.3.1 - Phase IIa*			13%*			
Indicator 1.3.1 - Phase IIb			13%*			
Indicator 1.3.1 - Phase IIc			14%*			
Objective 1.3 Total					20%	
					Total score	

Table 1.2. EMSL Scoring and Objective Rating

* Note: If Phase II start does not occur due to lack of funding, Indicator 1.3.1 Phase I value will be 100%.

Total Score	5.0 - 4.5	4.4 - 3.5	3.4 - 2.5	2.4 - 1.5	1.4 - 1.0
Final Rating	Outstanding	Excellent	Good	Marginal	Unsatisfactory

Table 1.3. EMSL Final Rating

2. ENVIRONMENTAL TECHNOLOGY (20%) - Bill Shipp (PNNL)/Debbie Trader (DOE)

Critical Outcome

PNNL will be instrumental in the development, demonstration and deployment of new and innovative technologies that 1) allow environmental cleanup to be done faster, at lower cost, safer or more effectively, 2) minimize waste generation, 3) enhance the effectiveness of waste treatment processes, or 4) result in inherently clean and energy efficient industrial processes. Classified programs are not included in this Critical Outcome.

Definitions:

Innovative Technologies technologies or systems that demonstrate a significant advance in the state of the art or represent a new application of existing technology to a method or process with the result of improved cost, schedule, safety, and/or effectiveness. A project that contains or has the potential to contain one or more of the following attributes shall meet the criteria for innovative technology: 25% reduction in life cycle cost, 25% reduction in schedule, measurable and significant safety enhancement, measurable and significant program risk reduction, and/or as defined by the user or their representative.

Figures 2A and 2B document the associated agreements on performance expectations in the form of contingency functions for all of the performance indicators.

2.1 Objective -- Develop new and/or innovative technologies. (John Sealock) (50%)

Performance Indicators

2.1.1 Number of innovative technologies successfully demonstrated - John Sealock

A **successful demonstration** is defined as the completion of an activity that provides sufficient performance and cost data to enable the user to evaluate the innovative technology against alternatives and to support a decision as to viability for further development, deployment, or commercialization.

A **funded demonstration** is defined as an activity that has been funded at a level agreeable to both the client and the Laboratory for performance of the task, for the full duration of the expected period of performance

Description: This indicator will measure those activities that enable the evaluation of an innovative technology or system against user derived performance requirements. For EM-50 projects, performance requirements may be derived from STCG needs; for other projects, performance requirements shall be developed through close consultation with the user to ensure responsiveness to user need(s). Funded projects shall be evidence that identified needs are addressed. The demonstrations to be included in this indicator will be those that provide technical data required to enable an operational entity, such as an M&O contractor, their subcontractor, or an industrial partner to evaluate the innovative technology against alternatives and/or select the innovative technology or system for further development or deployment.

This indicator also includes preproduction demonstrations of new software (beta tests not upgrades), the development of methodologies for evaluating innovative technologies against baselines, and demonstration activities conducted throughout the DOE Complex which are funded by the EM-50 Tanks Focus Area. This indicator will measure the end result of a technically sound, user driven TFA program.

Baseline Information: Baseline information for this performance indicator is extremely limited, but FY96 performance and anticipated FY97 funding is used. The number of innovative technology demonstrations will be used to evaluate PNNL performance in meeting this performance indicator. RL and PNNL will work toward establishing methodologies to form a baseline for measuring the impact of innovative technologies as a basis for future indicators.

Performance Expectation Related Assumptions: In the second quarter of FY-97, the innovative technology demonstrations for measuring this performance indicator will be identified. PNNL and DOE-RL will agree to this list, which will not exceed 19 demonstrations, comprised of up to 14 PNNL performed demonstrations plus five demonstrations funded by the EM Tanks Focus Area. Once a potential demonstration has been placed on the list, the only way in which it will be removed from the list is if the funding is canceled. Demonstrations may be substituted and added to the list, provided DOE-RL concurs. Failure to successfully complete the demonstrations on this list will negatively impact the performance evaluation. The spirit of this indicator is to measure the most critical/significant demonstration activities of the lab.

Performance Evaluation: Where funding is provided, a report shall be prepared describing the innovative technology and the demonstration to document the activity and convey results to other potential users. The report will document needs addressed and will also contain appropriate cost data and where supported by the client, life-cycle cost benefit analysis; data from this analysis may be utilized by DOE in the event fee is earned as a result of the demonstration. For all projects, reports as required by the client will be documented by inclusion in the project file.

The Activity Acceptance and Completion form will be used to document acceptance by RL of the nature (i.e., Problem Addressed, Impact on Customer's Needs, and Activity to be performed) of the demonstration activities proposed to meet this performance indicator. Once proposed and accepted by DOE, the activity will remain on the evaluation list unless the project or its funding is cancelled. At the completion of the demonstration the outcome of activities will be documented by completing the "Activity Acceptance and Completion" report by including a brief description of the activities completed and the potential benefits, economic and otherwise, that may be derived from scale-up and deployment of the technology.

A point system will be used to link this performance indicator with the performance evaluation. Each demonstration that is included on this list will contribute one point. Successful completion of the demonstration in accordance with project scope, budget, and schedule milestones (as planned or modified by appropriate project change control procedures) will contribute two points. Failure to complete a demonstration will result in a negative two points. Redemonstrations, at any location, are not eligible for additional credit.

2.1.2 Provide significant solutions to Hanford problems/needs - Rod Quinn

Description: This indicator will measure and enhance the focus of two PNNL activities in addressing Hanford science needs and technical gaps. First, PNNL will evaluate the science and technology needs at Hanford as developed by the ERC, PHMC, and STCG to identify the basic research, applied research, advanced development, demonstration requirements, and deployment opportunities. This information will be used to address OER, EM, NAS, Focus Area, etc., questions on Hanford Science and Technology needs, identify critical research areas needing investigation, and to provide an opportunity for partnerships with DOE-RL, industry, and academia.

The second element to this performance indicator will be to identify and enhance the specific funded activities which PNNL conducts to solve significant Hanford problems and address priority needs. PNNL activities in support of PHMC and ERC technology assessment, evaluation, and insertion will be applied to this performance indicator. Activities may also include those undertaken in support of the STCG. These activities may be those that: 1) reduce technical uncertainty, 2) address safety questions, 3) provide process improvement, 4) identify, evaluate and recommend innovative technologies, 5) provide technology assessments, 6) submit proposals that address the STCG, EM programmatic, and EM science needs, and 7) creating new links to technology development activities at Hanford and other DOE sites for industry and academia.

Baseline Information: This is a new performance indicator. A process will be established for identifying the science needs and technology gaps and determining how PNNL addresses these needs/gaps in bringing them to closure. On a quarterly basis the activities which PNNL is conducting to address Hanford needs will be identified and discussed with DOE-RL.

Performance Expectation Related Assumptions: Currently, PNNL is solving Hanford problems in a number of areas; however, DOE-RL wants PNNL to increase their emphasis on Hanford.

Performance Evaluation: The results of the activities performed to meet the required performance will be documented, in a manner similar to that used for technology demonstrations. A point system will be used to evaluate this performance indicator. The efforts undertaken to identify and respond to technical gaps will be documented in a matrix or tabular fashion and transmitted to DOE-RL in a letter report and upon approval will earn 10 points. Each significant PNNL activity in the second element that is included on the list will contribute one point. Successful completion of activities in accordance with project scope and budget, as planned or modified by the change control procedures, will contribute two points. Failure to successfully complete an activity will result in a negative two points.

2.2 Objective Deploy new and/or innovative technologies (Rick Brouns) (50%)**Definitions:**

A **successful deployment** is defined as one that meets the user's requirements and is included as part of the users baseline.

Commercial practice is defined as use by industry, DOE contractors, DOD contractors, or other licensees in routine practice as a part of their baseline suite of tools.

Innovative technologies held or offered 'on the shelf' but not utilized in active practice are not acceptable under this definition.

A **funded deployment** is defined as inclusion of the innovative technology in a baseline activity that has been funded at a level agreeable to both the user and PNNL for performance of the task, for the full duration of the expected period of performance.

Performance Indicators

2.2.1 Number of formal expressions of interest entered into - Rick Brouns

Description: This indicator will be measured by the number CRADAs, MOUs, licenses, partnerships, and joint ventures established during the year. These measures reflect PNNL's efforts to create opportunities for commercialization of PNNL and Government developed innovative technologies. This indicator is a "leading edge" indicator for indicator 2.2.2, as it is generally a precondition for innovative technology deployment by industrial partners.

Baseline Information: PNNL historical performance was estimated using the above definitions.

Performance Expectation Related Assumptions: None identified.

2.2.2 Number of innovative technologies successfully deployed in commercial practice - Rick Brouns

Description: This indicator will measure the transfer to a user of hardware, software, and methodologies for actual use in their field of application.

This indicator includes deployments funded by the EM-50 Tanks Focus Area. This will measure the end result of a technically sound, user driven program.

Baseline Information: PNNL historical performance was estimated using the above definitions. The number and location of innovative technology deployments will be used to evaluate performance. DOE-RL and PNNL will be working toward establishing methodologies to form a baseline for measuring the impact of innovative technologies for future indicators.

Performance Expectation Related Assumptions: This indicator measures activities that have a significant time lag, that is, the deployments in FY97 will have been in process for 3-5 years in various stages of development. There will be an attribution of value for the activity. The relative value of deployments is reflected in the point system described below.

Performance Evaluation: The outcome of included activities will be documented in the "Activity Acceptance and Completion" report format, which will include a brief description of the deployment, and the cost/economic and other benefits, that may be derived from its use. Where funding is provided, a report shall be prepared describing the innovative technology and the deployment and to convey results to other potential users, including a life-cycle cost benefit assessment; data from this analysis may be utilized in the event fee is earned as a

result of the deployment.

The Activity Acceptance and Completion form will be used to document acceptance by RL of the nature (i.e., problem addressed, impact on customer's needs, deployment approach and activity to be performed) of the deployment activities proposed to meet this Performance Indicator. Once proposed and accepted by RL, the activity will remain on the evaluation list unless the project or its funding is canceled. The completion of the deployment will be documented by completing the "Activity Acceptance and Completion" report, including a brief description of the activities completed and the potential benefits, economic and otherwise, that may result from the deployment of the technology.

A point system will be used to evaluate performance. Four points will be awarded for the first time an innovative technology is deployed at Hanford. The first time an innovative technology is deployed at other DOE sites or on DOE wastes at other locations, three points will be awarded. Two points will be awarded the first time an innovative technology is deployed at other government sites. First time deployment at commercial or private sites will earn one point. The maximum lifetime points awarded for any one innovative technology is limited to four. This activity includes 10 points to be earned by TFA directed deployments. Higher points values can be negotiated and approved by DOE in advance for deployment activities that are judged to be particularly significant to DOE's cleanup objectives.

Critical Outcome Performance Rating

Figures 2A and 2B document the associated agreements on performance expectations in the form of contingency functions. The overall performance rating for this outcome will be determined by summing the effectiveness scores for both Objectives as depicted in Table 2.1, below, normalizing the scores using Table 2.2 and comparing the normalized sum to the rating scale in Table 2.3.

ENVIRONMENTAL TECHNOLOGY CRITICAL OUTCOME

Objective 2.1: Develop new and/or innovative technologies.

Performance Indicator		SCALES																	
1	Tech. Demonstrated			5	10	15	20	25	30	35	40	45	50	55	57				
2	Hanford Solutions	-20	-10	0	10	20	30	40	50	60	70	80	90	100	106				

Figure 2A. Objective 2.1 Contingency Diagram

Rev. 0, 2/14/97

ENVIRONMENTAL TECHNOLOGY CRITICAL OUTCOME

Objective 2.2: Deploy new and/or innovative technologies

Performance Indicator

- 1 Formal Interest
- 2 Tech. Deployments

SCALES

0	1	2	3	4	5	6	7	8	9	10	11	12	
		6	9	12	15	18	21	24	27	30	33	36	38

Figure 2B. Objective 2.2 Contingency Diagram

Rev.0, 2/14/97

Developing the Environmental Technology Performance Rating

ELEMENT	Performance Level	Effectiveness Score	Value Points	Weight	Weighted Points
2. Environmental Technology					
2.1 Develop new and/or innovative technologies					
2.1.1 Number of innovative technologies . . . demonstrated					
2.1.2 Provide significant solutions to Hanford problems/needs					
	Objective 2.1 Total			50%	
2.2 Deploy new and/or innovative technologies					
2.2.1 Number of formal expressions of interest entered into					
2.2.2 Number of innovative technologies successfully deployed . . .					
	Objective 2.2 Total			50%	
				Total	

Table 2.1. Development of the Environmental Technology Rating

Objective 2.1	Objective 2.2	Value Points
185	185	5
184	184	4.9
183	183	4.8
182	182	4.7
181	181	4.6
180	180	4.5
176 to 179	172 to 179	4.4
173 to 175	165 to 171	4.3
170 to 172	158 to 164	4.2
167 to 169	151 to 157	4.1
165 to 166	145 to 150	4
162 to 164	138 to 144	3.9
159 to 161	131 to 137	3.8
156 to 158	124 to 130	3.7
153 to 155	117 to 123	3.6
150 to 152	110 to 116	3.5
137 to 149	98 to 109	3.4
124 to 136	87 to 97	3.3
111 to 123	76 to 86	3.2
98 to 110	65 to 75	3.1
86 to 97	55 to 64	3
73 to 85	44 to 54	2.9
60 to 72	33 to 43	2.8
47 to 59	22 to 32	2.7
34 to 46	11 to 21	2.6
20 to 33	0 to 10	2.5
3 to 19	(-14) to (-1)	2.4
(-12) to 2	(-26) to (-15)	2.3
(-28) to (-13)	(-39) to (-27)	2.2
(-44) to (-29)	(-51) to (-40)	2.1
(-60) to (-45)	(-64) to (-52)	2
(-75) to (-61)	(-77) to (-65)	1.9
(-91) to (-76)	(-89) to (-78)	1.8
(-107) to (-92)	(-102) to (-90)	1.7
(-122) to (-108)	(-114) to (-103)	1.6
(-138) to (-123)	(-126) to (-115)	1.5
(-151) to (-139)	(-142) to (-127)	1.4
(-163) to (-152)	(-157) to (-143)	1.3
(-176) to (-164)	(-171) to (-158)	1.2
(-188) to (-177)	(-186) to (-172)	1.1
(-200) to (-189)	(-200) to (-187)	1

Table 2.2. Environmental Technology Score Normalization Table

Total Score	370 - 320	319 - 200	199 - (17)	(-18) - (-172)	(-173) - (-400)
Rating	5.0 - 4.5	4.4 - 3.5	3.4 - 2.5	2.4 - 1.5	1.4 - 1.0
Final Rating	Outstanding	Excellent	Good	Marginal	Unsatisfactory

Table 2.3. Environmental Technology Performance Rating

3. SCIENTIFIC EXCELLENCE (30%) - Gerry Stokes(PNNL)/Dick Goranson (DOE)**Critical Outcome**

We will deliver more and better R&D for each dollar, becoming the science and technology provider of choice in the markets we serve.

3.1 Objective – Conduct quality scientific efforts that provide new insights. (Gerry Stokes) (50%)**Performance Indicators****3.1.1 Results of Peer Reviews of relevance and excellence - Ron Walters**

Description: The Director of Energy Research has primary responsibility for evaluating scientific research. It is generally agreed that the evaluations will be based on four criteria:

- Quality of science
- Relevance to DOE missions or national needs
- Effective & efficient research program management
- Success in construction and operation of facilities

We expect that the Department's Assistant Secretaries and the Director of Energy Research would provide their evaluations to the DOE-RL Contracting Officer as primary input for this indicator. The results from these reviews, including performance levels and trends and PNNL response to previous peer reviews on the same programs, will be summarized into an overall evaluation and performance rating based on the standard adjectival scale. Concurrence on this self-evaluation will be obtained from appropriate DOE organizations.

Note: This indicator will not include peer reviews of programs conducted as part of the EMSL since these are covered elsewhere.

Baseline Information: Not applicable

Performance Expectation Related Assumptions: Specific peer reviews to be conducted in any given year are determined by DOE Program Offices. Peer reviews currently anticipated for FY97 include all, or selected portions, of the following programs:

- Atmospheric Radiation Measurements Program: OHER/JASONS-Environmental Sciences Division
- Chemical Sciences Program: OBES-Chemical Sciences Division
- Materials Science Program: OBES-Materials Science Division
- Tanks Focus Area Programs: OEM-Tanks Focus Area Advisory Panel
- Plumes Focus Area Program: OEM-Plumes Focus Area Advisory Panel

Baseline Information: Not applicable

Performance Expectation Related Assumptions: None

3.1.2 Recognition by the scientific community, including awards and invited talks at major scientific meetings - Gerry Stokes/Dick Goranson

Description: During FY97, data will be collected in an attempt to baseline the types of involvement and awards that will comprise "recognition by the scientific community", as well as the number of PNNL staff that receive such recognition. This information will then be used as a baseline to develop the FY98 performance indicator. With respect to the performance evaluation, the indicator this year will be of the "yes/no" type, simply indicating success in collecting baseline data in preparation for implementation in FY98.

Baseline Information: No baseline data is available for this indicator.

Performance Expectation Related Assumptions: None 1

3.1.3 Number of R&D 100 Awards - Carol Dudick

Description: The indicator will be based on a 3 year rolling average of the number of R&D 100 Awards received by PNNL each year. R&D Awards are submitted in the early spring for a summer notification.

Baseline Information: Laboratory historical performance data is readily available and is used in the determination of performance expectations.

Performance Expectation Related Assumptions: None identified.

Effect of the Projected FY97 R&D 100 Awards on the Historical Rolling Average

(The FY96 3-Year Rolling Average is 3.33)

FY95	3	3	3	3	3
FY96	5	5	5	5	5
FY97 (Possible Awards) 1	2	3	4	5	(Max.)
3 Year Average	3.00	3.33	3.66	4.00	4.33

3.1.4 Number of publications in peer reviewed journals - Erik Anderson

Description: This indicator represents the number of publications by staff in significant technical journals or publications on an annual basis. The number of publications by staff will be determined by an annual search of the following commercially available databases for authors affiliated with the Laboratory:

- Chemical Abstracts (Chemistry)
- SciSearch
- Social SciSearch (Social Sciences)
- BIOSIS Previews (Life Sciences)
- INSPEC (Physics/Electronics/Electrical Engineering)
- Ei Compendex*Plus (Engineering)

- EMBASE (Biomedical)
- MEDLINE (Biomedical)

Baseline Information: In addition to the data collected against this indicator, the baseline data collected in FY96 (491 peer reviewed publications) will be normalized against the value-added base of scientists and engineers. Additionally, attempts will be made to collect normalized data from other national laboratories, where available, to be used as a performance benchmark. This data will then be used to help determine the FY98 performance levels.

Performance Expectation Related Assumptions: For FY97, PNNL will correlate the number of publications in peer reviewed journals with the publication rates of other multi-program national laboratories provided RL assists in the collection of the data necessary to perform this normalization. To compensate for staff size, the data will be normalized against the value-added base of scientists and engineers at the end of the fiscal year. This information will not impact this FY97 performance indicator. However, if this effort is successful, the resultant information will be used to provide a baseline for discussions of PNNL FY98 performance in this area.

3.2 Objective -- Deliver high-value work that is relevant to DOE missions or national needs. (Gerry Stokes) (50%)

Performance Indicators

3.2.1 Customer feedback on relevance and excellence of critical projects - Jeff Smith

Description: Customer feedback will be obtained through the use of a survey. The survey is designed to solicit feedback along two dimensions: a) the strategic value of the work to the customer, and b) project performance, i.e., how well PNNL is performing work on the project. The set of projects to be surveyed will be identified by the PNNL Associate Laboratory Directors and will be approved by the RL Science & Technology Programs Director.

The survey will be sent to the customer jointly by the PNNL Laboratory Director and the RL Assistant Manager for Science and Technology. Surveys will be returned to PNNL with a copy provided to RL.

The survey will use a 5 point rating scale and will also provide the customer with the opportunity to provide written comments. The indicator will be reported in terms of average score (rounded to the nearest 0.1) for each of the two dimensions (i.e., strategic value and project performance) for all projects surveyed.

Baseline Information: Previous surveys conducted in FY95 and FY96 provide some information to assist in setting performance expectations but due to differences in projects sampled and survey content, previous customer feedback results can not be directly used to set current year expectations.

Performance Expectation Related Assumptions: The assumptions used to construct the

Contingency curves in Figure 3B are the following:

The anticipated range of average scores for FY97 are:

	<u>Best Anticipated</u>	<u>Most Likely</u>	<u>Poorest Anticipated</u>
Strategic Value	4.5	3.8	3.1
Project Performance	4.2	3.5	2.5

3.2.2 Demonstrate project management discipline across product lines by meeting critical milestones and budget baselines. - Mike Mitchell/Jeff Frey

Description: In FY97, the measure of success will be to demonstrate effective project management discipline by incrementally improving upon the Lab's FY96 project (cost and schedule) execution baseline. To accomplish this, data will be collected throughout FY97 from a set of approximately 50 projects. The set of projects to be included in this baseline will be identified by the PNNL Associate Laboratory Directors and approved by the RL Science & Technology Programs Director.

The projects to be assessed will be those deemed significant or critical and attempts will be made to make the set representative for the Laboratory, i.e. some construction projects, technical projects, and functional support projects. The final list of projects will be developed by each Product Line Manager in partnership with DOE-RL by February 28, 1997. The indicator will be reported as follows:

- a) Budget Analysis: Percent of projects that are completed within their baseline budget.
- b) Schedule Analysis: Percent of all milestones that are completed on, or ahead, of their scheduled baseline.

Criteria and Requirements: The intent of this effort is to leverage existing project performance information that is currently being used to monitor project progress and use it to better understand PNNL's ability to plan and execute projects. RL's involvement is to assess overall project management performance within the Laboratory and not to change or impact existing client relationships. The criteria for measuring project execution will be based upon actual performance against baseline budget and schedule information. The following two criteria will be applied to each selected project:

A. Was the work completed (to the customer's satisfaction) within the agreed upon performance period and were key interim and final milestones completed as planned throughout the year?

B. Was work performed within the client's agreed upon budget?

Baseline Information: FY96 Baseline Information was used to determine the FY97 performance levels.

Performance Expectation Related Assumptions: None.

3.2.3 Number of academic partnerships - Eric Leber/Jeff Estes

Description: This indicator measures the number of interactions between Laboratory staff and faculty of colleges, universities, elementary, and secondary schools, resulting from research/education partnerships, as well as the number of PNNL staff participating in these programs.

Progress during FY97 will be tracked and based on the following measures:

A. Number of research/education partnerships.

1. Develop three to five strategic research/education partnerships with colleges and universities that strengthen specific core technical capabilities of the Laboratory and enhance our science/technology mission. Critical measures for the quality of these strategic partnerships include the number and type of:

- a. student, faculty, and postdoctoral research assignments.
- b. institutional collaborations that complement and strengthen specific core technical abilities.
- c. jointly authored publications, in refereed journals, that highlight DOE's/PNNL's strategic research thrusts.

2. Continue to enhance integrated research/education partnerships with colleges, universities, and other organizations that augment/strengthen the Laboratory's mission and broad set of core technical capabilities. Measures for these enhanced partnerships include the number of:

- a. student, faculty, and postdoctoral research assignments.
- b. affiliate staff scientist appointments for faculty.
- c. jointly authored publications that highlight PNNL's broad set of core technical capabilities.

B. Number of strategic partnerships that support science education reform

1. Develop three to five focused partnerships, with formal and informal science education entities, that link PNNL human and technical resources, as well as Battelle's corporate distributions, with local and state efforts to plan, develop, implement, and evaluate science education reform programs that are based on national and state science education standards and benchmarks. These partnerships include efforts to:

- a. enhance science curriculum, instruction, and assessment at elementary, secondary, and postsecondary schools;
- b. strengthen professional development for preservice and inservice teachers;
- c. provide equipment to elementary, secondary, and postsecondary schools to enhance science teaching and learning;
- d. provide high-quality science education for all, including those historically under represented in scientific, engineering, and technical fields;
- e. support school-to-work (career) transition programs in science and engineering;

- f. develop, through the use of educational technology tools, "connectivity" between DOE/PNNL resources and science classrooms;
- g. leverage national, state, and local efforts to develop science literacy for all.

Baseline Information: Using data collected on academic collaborations in FY96, USEP established a baseline for partnerships. In FY96, there was a total of 59 academic partnerships involving 724 collaborations.

Performance Expectation Related Assumptions: We anticipate a substantial reduction in funding from our DOE client (DOE-OER, University and Science Education) in FY97. It has been proposed that this funding be recovered through program support. However, we have no firm commitments in this area at this time. As a result, we have established a minimum value of 45 academic partnerships (including 3 strategic research/education and 3 strategic science education reform partnerships), an expected value of 55 academic partnerships (including 4 strategic research/education and 4 strategic science education reform partnerships), and a maximum value of 60 academic partnerships (including 5 strategic research/education and 5 strategic science education reform partnerships) for FY97.

Critical Outcome Performance Rating

Figures 3A and 3B document the associated agreements on performance expectations in the form of contingency functions. The overall performance rating for this outcome will be determined using the following tables. The sum of the effectiveness scores from the individual contingency diagrams will be added on Table 3.1, normalized to a standard 5 point scale on Table 3.2, totaled on Table 3.3 and compared to the rating schedule in Table 3.4.

SCIENTIFIC EXCELLENCE CRITICAL OUTCOME

EFFECTI VENESS

Objective 3.1: Conduct quality scientific efforts that provide new insights.

Performance Indicator

- 1 Peer Review Results
- 2 Scientific Recognition
- 3 R&D 100 Awards
- 4 Peer Reviewed Pub's.

SCALES

No	M							G								E						O
																						Yes
	3.0						3.33					3.66					4.0					4.33
400							425					450					475					500

Figure 3A. Objective 3.1 Contingency Diagram

Rev.0, 1/27/97

SCIENTIFIC EXCELLENCE CRITICAL OUTCOME

EFFECTIVENESS

Objective 3.2: Deliver high value work that is relevant to DOE missions or national needs.

Performance Indicator

- 1 Cust Feedback - Value
- 2 Cust Feedback - Perf.
- 3 Proj Disc - Milestones
- 4 Proj Disc - Budget
- 5 Academic Partnerships

SCALES

						3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5
			2.5	2.6	2.7	2.8	2.9	3.0	3.1	3.2	3.3	3.4	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2
60%					65%					70%					75%					80%
					70%					75%					80%					85%
					45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60

Figure 3B. Objective 3.2 Contingency Diagram

Rev. 0, 2/14/97

Developing the Overall Scientific Excellence Performance Rating

ELEMENT	Performance Level	Effectiveness Points	Value Points
3. Scientific Excellence and Productivity			
3.1 Conduct quality Scientific efforts. . .			
3.1.1 Results of Peer Reviews			
3.1.2 Recognition by the Scientific Community			
3.1.3 Number of R&D 100 Awards (3 Yr Average)			
3.1.4 Publications in Peer Reviewed Journals			
	Objective 3.1 Total		
3.2 Deliver high-value work. . .			
3.2.1a Customer feedback - strategic value			
3.2.1b Customer feedback - performance			
3.2.2a Research project management - budget			
3.2.2b Research project management - schedule			
3.2.3 Number of academic Partnerships			
	Objective 3.2 Total		

Table 3.1. Scientific Excellence Performance Rating

Objective 3.1	Objective 3.2	Value Points
285	380	5
257 - 284	357 to 379	4.9
229 to 256	334 to 356	4.8
201 to 228	311 to 333	4.7
173 to 200	288 to 310	4.6
145 to 172	265 to 287	4.5
129 to 144	248 to 264	4.4
113 to 128	230 to 247	4.3
97 to 112	213 to 229	4.2
81 to 96	195 to 212	4.1
65 to 80	178 to 194	4
49 to 64	160 to 177	3.9
33 to 48	143 to 159	3.8
17 to 32	125 to 142	3.7
1 to 16	108 to 124	3.6
(-15) to 0	90 to 107	3.5
(-21) to (-16)	74 to 89	3.4
(-28) to (-22)	58 to 73	3.3
(-34) to (-29)	42 to 57	3.2
(-41) to (-35)	26 to 41	3.1
(-47) to (-42)	10 to 25	3
(-54) to (-48)	(-6) to 9	2.9
(-60) to (-55)	(-22) to (-7)	2.8
(-67) to (-61)	(-38) to (-23)	2.7
(-73) to (-68)	(-54) to (-39)	2.6
(-80) to (-74)	(-70) to (-55)	2.5
(-98) to (-81)	(-82) to (-71)	2.4
(-116) to (-99)	(-93) to (-82)	2.3
(-134) to (-117)	(-105) to (-94)	2.2
(-152) to (-135)	(-116) to (-106)	2.1
(-170) to (-153)	(-127) to (-117)	2
(-188) to (-171)	(-138) to (-128)	1.9
(-206) to (-189)	(-149) to (-139)	1.8
(-224) to (-207)	(-160) to (-150)	1.7
(-242) to (-225)	(-171) to (-161)	1.6
(-260) to (-243)	(-182) to (-172)	1.5
(-268) to (-261)	(-203) to (-183)	1.4
(-276) to (-269)	(-224) to (-204)	1.3
(-284) to (-277)	(-244) to (-225)	1.2
(-292) to (-285)	(-264) to (-245)	1.1
(-300) to (-293)	(-285) to (-265)	1

Table 3.2. Scientific Excellence Rating Normalization Table

Determining Overall Performance Rating			
	Value Points	Weight	Weighted Points
Objective 3.1		50%	
Objective 3.2		50%	
		Total Score	

Table 3.3. Overall Scientific Excellence Weighted Score

Total Score	5.0 - 4.5	4.4 - 3.5	3.4 - 2.5	2.4 - 1.5	1.4 - 1.0
Final Rating	Outstanding	Excellent	Good	Marginal	Unsatisfactory

Table 3.4. Scientific Excellence Rating Ranges

4. ENVIRONMENT, SAFETY & HEALTH/OPERATIONS (20%)**Critical Outcome**

We will conduct our work in a manner that fully protects the environment and the health and safety of our staff and public.

4.1 Objective -- Establish the organizational and systems-related infrastructure for ES&H and conduct of operations. (30%) Ken Brog/Walt Apley

This work is a precursor to continuous improvement over the long-term.

Performance Indicators**4.1.1 Performance against OIP master schedule (90%) - Walt Apley.**

Description: This indicator will measure progress toward RL-approved Operational Improvement Program (OIP) performance milestones. These milestones are depicted in the OIP Master Schedule, see Figure 4A. Progress toward overall completion of the OIP is denoted by completion of each of the milestones and will be plotted on the Master Schedule.

A numeric rating for this Indicator will be determined by translating the number of milestones completed on the OIP Master Schedule as shown in Figure 4A.

Performance Ranges:

- 5 points = Completion of all milestones and demonstrated utilization of Prep and Risk, Facility Use Agreements (FUAs) or Standards Based Management System by another DOE contractor.
- 4 points = Completion of all milestones demonstrating full institutionalization of program elements
- 3 points = Completion of ES&H, Radiological Control and Training Milestones

Baseline Information: The OIP, a three year reengineering effort to improve operations and enhance safety, enters its final year of deployment in FY97. Initially, eight initiatives were identified and categorized. Efforts then focused on collecting and analyzing data, developing solutions and establishing the framework for implementation. The current process and system development and implementation activities, which are captured in the OIP Master Schedule, were derived from the earlier work.

Performance Expectation-Related Assumptions: None

4.1.2 Use of the Results of external customer feedback survey to improve future performance (10%) - Ken Brog.

Description: Work for this indicator is designed to incentivize the use of survey results to implement corrective actions and improve future performance. The work for this indicator

will: plan and conduct an external ES&H customer feedback survey; analyze the survey data, identify trends and patterns; formulate conclusions based on results; prepare a path forward and a plan for corrective action (if warranted); and use the survey data and results in planning and management documentation (such as the self-assessment plans).

The survey will measure the extent to which PNNL's external ES&H and Environmental Compliance customers are satisfied with the products and/or services provided. Specific customers targeted include (noninclusively) RL and Washington State Department of Ecology staff and management. Formal feedback will be obtained near the end of the fiscal year. Any feedback reported to RL during quarterly reviews or at mid-year will be anecdotal and unsolicited.

Performance Ranges:

- 5 Points = The survey was conducted and was determined to be comprehensive. In addition, an Action Plan was developed to take advantage of the information that was collected.
- 4 Points = The survey was conducted and was determined to be comprehensive.
- 3 Points = The survey was conducted.

Baseline Information: The content of the FY97 survey is based on the appropriate use of results and recommendations from the FY96 effort. Results from the FY96 survey were also used to create and amend other performance indicators in this section.

Performance Expectation Related Assumptions: None

4.2 Objective – Achieve operational excellence in worker safety and health, and environmental protection.
(30%) - Ken Brog

Performance Indicators

4.2.1 Occupational Safety and Health Composite (33%) - Glenn Hoenes

Description: This indicator is a composite of 3 Performance Sub-Indicators designed to provide an overall picture of the effectiveness of the Worker Health & Safety program. Figure 4B documents the associated agreements on performance expectations in the form of a contingency function. This set of Performance Indicators is negotiated annually with DOE-RL/STO and are adjusted as appropriate for planned fiscal year work activities. The specific levels (metrics) established for the Performance Indicators are developed based on one or more of the following criteria:

- critical review of past PNNL performance and historical trends,
- benchmarking against other DOE R&D Laboratories,
- line management performance improvement goals, and
- an overall goal of continuous improvement and the pursuit of excellence.

The specific Performance Indicators selected include:

1. Lost Workday Case Incident Rate: The number of lost workday cases per 200,000 person-hours. This includes illness and injury cases which result in days away from work, restricted work days or both. This is a standard DOE and OSHA reporting requirement that follows the specifications and criteria established by OSHA.
2. Number of Motor Vehicle Accidents: This includes both recordable and non-recordable accidents involving government motor vehicles. This indicator is based on the total number of accidents. The values selected are based on past PNNL performance.
3. Occurrences involving chemicals and fires: Occurrences that involve chemicals and fires as specified in DOE O 232.1 Group 1 B and Group 3 C (1).

Baseline Information: FY97 targets and PNNL historical data were used to develop the goals for these performance indicators.

Performance Expectation Related Assumptions: Changes in work scope funding or priorities may affect some of these measures. Any changes will be managed in accordance with the change management system specified on page 4 of this document and will be the basis for renegotiation or modification of some or all of these indicators.

The performance rating for Indicator 4.2.1 will be determined using the Occupational Safety & Health Composite Contingency Diagram, Figure 4B and Tables 4.2, 4.7, and 4.8.

Note: In the case of a catastrophic event resulting in a fatality, and where PNNL is found to be substantially at fault because of, e.g., management failure to take appropriate action, management system failure or lack of management systems necessary to mitigate an anticipated event, the point value for all three occupational safety and health performance indicators within the Worker S&H composite may be reduced by the DOE Operations Manager to its lowest possible value.

4.2.2 Radiological Control Composite (34%) - David Higby

Description: This indicator is a composite of nine performance indicators designed to provide an overall picture of the effectiveness of the Radiological Control Program. This set of performance indicators is negotiated annually with DOE-RL/STO and is adjusted as appropriate for planned fiscal year work activities. The specific values (metrics) established for the Performance Indicators are developed based on one or more of the following criteria:

- critical review of past PNNL performance and historical trends,
- benchmarking against other DOE R&D Laboratories,
- line management performance improvement goals, and
- an overall goal of continuous improvement and the pursuit of excellence.

The specific Performance Indicators selected include:

1. Collective Dose: The collective dose (in rem) for workers on annual, quarterly and

monthly dosimeter exchanges. This will be reported for Hanford Site activities (i.e. will not include dose received or at other sites. Excludes code "13" dosimetry results.) This indicator is based on PNNL collective dose for the fiscal year.

2. Unplanned Exposures Above Administrative Control Level: The number of unplanned exposures that result in doses greater than the administrative control levels (ACLs) defined in the Hanford Site Radiological Control Manual. This includes: a) a single occupational exposure that exceeds an expected exposure by 100 mrem, b) a single unplanned exposure onsite to a minor, student, or member of the public that exceeds 50 mrem, and c) unplanned exposures above ACLs.

3. Unplanned Spills and Airborne Contaminations: This includes the following events: a) unplanned airborne contamination above 10% of DAC outside a posted Airborne Radioactivity Area; b) spills of contamination in radiological work areas requiring increased personnel protective equipment above that required before the spill; c) spreads of removable contamination (above Hanford Site Radiological Control Manual Table 2-2 levels) outside posted contamination areas, high contamination areas, and radiological buffer areas.

4. Skin and Personal Clothing Contaminations: Radiological contamination of a person's skin or personal clothing above 5000 dpm beta-gamma/100 cm² or 500 dpm alpha/100cm² as specified in DOE M 232.1-1, Group 4B.

5. Unplanned Depositions: Occupational exposure events resulting in the uptake of radioactive material(s) resulting in a committed effective dose equivalent of 100 mrem or more above the expected as specified in DOE M 232.1-1, Group 4A.

6. Net Change in Areas Posted and Controlled as Contamination Areas, High Contamination Areas, and Airborne Radioactivity Areas: The net change in surface area (i.e. floor space) posted and controlled as either a Contamination Area, High Contamination Area or Airborne Radioactivity Area using the definitions in Table 2-4 of the HSRCM.

7. Uncontrolled Release of Radioactive Material: Uncontrolled (i.e. non-legacy) release of liquid or solid radioactive material meeting of the criteria specified in DOE M 232.1-1, Group 2A.

8. Loss of Sealed Sources: Loss of control, accountability, or both, of a sealed or unsealed radioactive source that is reportable as per DOE M 232.1-1, Group 1.D.

9. Completion of planned field evaluations of training: This includes the evaluations of Radworker I and II trained workers who were trained in fiscal year 1996. Article 613.6 of the HSRCM requires that "a limited subset of former students" be surveyed. The basis for this indicator is derived from "Evaluating the Effectiveness of Radiological Training, Guidelines to Establish and Conduct a Post-Training Evaluation Program and Retention Testing Program," issued by DOE in response to DNFSB recommendation 91-6.

Baseline Information: FY97 targets and PNNL historical data were used to develop the goals for these performance indicators.

Performance Expectation Related Assumptions: Changes in work scope funding or priorities may affect some of these measures. Any changes will be managed in accordance with the change management system specified on page 4 of this document and will be the basis for renegotiation or modification of some or all of these indicators.

The performance rating for Indicator 4.2.2 will be determined using the Radiological Control Composite Contingency Diagram, Figure 4C and Tables 4.3, 4.7, and 4.8.

Note: In the case of a catastrophic event resulting in a Severity Level I Notice of Violation of 10 CFR 835, "Occupational Radiation Protection," the point value for all nine radiological control performance indicators within the Radiological Control Composite may be reduced by the DOE Operations Manager to its lowest possible value.

4.2.3 Environmental Protection Composite (33%) - Gary McNair

Description: This indicator is a composite of five Performance Indicators designed to provide an overall picture of the effectiveness of the Environmental Protection program. Figure 4C documents the associated agreements on performance expectations in the form of contingency functions.

The specific Performance Indicators selected include:

1. Pollution Prevention: Number of Pollution Prevention Opportunity Assessments (P2OAs) conducted.

Description: Indicator results from the need to seek out and practice pollution prevention, resource conservation and waste minimization. The focus is to integrate pollution prevention/waste minimization into project planning, management and decision making. Accomplishment is documented by the completion of the individual P2OA worksheets (5) for each assessment.

Note: The performance of 9 P2OAs is currently funded within ADS 8400.

Assumptions: None.

Performance Ranges:

Maximum:	Eleven (11) P2OAs completed
Expected:	Nine (9) P2OAs completed
Minimum:	Less than six (6) P2OAs completed

2. Streamlining of Environmental Documentation Requirements.

Description: The implementation of sitewide CXs streamline the NEPA compliance process while ensuring that the goals of NEPA are met. This is accomplished by empowering the Laboratory Field Services staff to support activities in compliance with those classes of actions that the NEPA Compliance Officer has approved in sitewide form. The Field Services staff will routinely apply and approve these classes of actions in the field. PNNL will prepare of up to five sitewide CXs, based on the newly approved DOE

Implementing Procedures (10 CFR 1021, released in final form August 8, 1996) and new DOE Order 451.1.

Note: The performance of 2 site-wide CXs is currently funded within ADS 8400.

Assumption: PNNL activities are directly impacted by the development of sitewide Cxs.

Maximum:	5 sitewide CXs prepared and submitted to DOE for approval
Expected:	3 sitewide CXs prepared and submitted to DOE for approval
Minimum:	0 sitewide CXs prepared and submitted to DOE for approval

The following list of DOE CXs are those that PNNL tentatively intends to pursue this year. Specific CXs may change based upon changing needs. These five CXs represent a significant potential for cost savings with no incremental cost to the government.

A. Cleanout and shutdown activities necessary to place a facility in an environmentally safe condition for transition (CX B1.27 and CX B1.28).

B. Siting, construction (or modification), operation, and decommissioning of microbiological and biomedical diagnostic, treatment, and research facilities (limited to BioSafety Levels 1 and 2) (CX B3.12).

C. Siting, construction (or modification), operation, and decommissioning of an onsite facility for characterizing and sorting previously packaged waste (CX B 6.5).

D. Small-scale, short-term cleanup actions, under RCRA, AEA, or other authorities, generally less than 5 million dollars in cost and 5 years in duration (CX B6.1).

E. Siting, construction, modification, operation, or decommissioning of an onsite facility for storing packaged hazardous waste for 90 days or less (accumulation or satellite areas) (CX B6.4).

3. Identify and Resolve Major Laboratory-wide Environmental Compliance Issues.

Description: This indicator is designed to update the legacy waste program and identify the path forward for all known legacy wastes items at PNNL. The indicator calls for the development of item-specific disposal proposals. To the extent possible, the proposals will be based on simple engineering feasibility studies and determination of the best, most cost-effective treatment, and final disposition of the legacy wastestreams. The work will utilize the field services infrastructure in conjunction with evolving environmental management systems to discover unidentified and unresolved laboratory-wide environmental compliance issues. Once identified, specific measures will be taken to document requirements and plans necessary for resolution of the issues. Funding will be obtained to implement the developed plans. Finally, specific changes will be incorporated into environmental management systems to prevent similar issues arising in the future.

Issue: Identification and resolution of Laboratory-wide legacy waste problem. The legacy waste baseline will be updated and a path forward for all "known" legacy waste items will be prepared. Item specific proposals will be developed and funding for implementation will

be pursued.

Performance Ranges:

- Maximum: Disposal proposals prepared for more than 90 percent of all legacy wastes identified by January 1, 1997.
- Expected: Disposal proposals prepared for 70 to 90 percent of legacy wastes identified by January 1, 1997.
- Minimum: Disposal proposals prepared for less than 70 percent of legacy wastes identified by January 1, 1997.

4. Efficiency and Effectiveness for Environmental Management Activities

Description: This indicator will assure that the overall efforts within PNNL's Environmental Management Program are continuously improving in both efficiency (cost) and effectiveness (impact). The efforts during FY97 will be focused on establishing appropriate baselines for outyear evaluation and indicators.

Performance Ranges:

- Expected: Appropriate performance measures developed by PNNL with concurrence from DOE by July 1, 1997 and PNNL baseline data developed by September 30, 1997 with comparative data obtained from two outside organizations.

5. Institutionalize Environmental Management Program

Description: This indicator will assure that the appropriate level and type of resources (staff and dollars) are available for the compliant performance of environmental management services by the Program. The Program is currently funded through a number of sources. It is important that specific activities be funded through the most appropriate funding source [eg, Line projects, overhead (line or ES&H), or ADS]. One overall goal of this indicator is to optimize the amount of Environmental Management Program's work which is paid by purchase services arrangements.

The indicator will institutionalize a field services program to provide an adequate number of appropriately-trained representatives to support line organizations in ensuring compliance with environmental and waste management requirements. This activity will provide the basis for sustaining this level of service into FY98.

PNNL will perform a "requirements study" to determine the optimum number of PNNL field service staff required to provide adequate, yet cost-effective coverage to the line organizations.

Authorities of the field service positions will be defined, and an "Implementation Plan," with the associated "Implementation Schedule" will be submitted for DOE's concurrence. Upon receiving DOE concurrence, PNNL will execute the Implementation Plan. The

measurement criteria follow:

Schedule and Plan:

5/30/97	Complete "requirements study" to identify appropriate level of FTE field support.
6/15/97	Submit Implementation plan and schedule to DOE for concurrence.
7/1/97	Concurrence from DOE received. (A non-response from DOE by this date allows the laboratory to continue implementation without formal DOE acknowledgement)
09/30/97	Obtain commitments from line management on number of FTEs to be "purchased" in FY98.

Performance Range:

Maximum:	Full execution of all identified FY97 actions within Implementation Plan and Schedule by September 30, 1997.
Expected:	Partial execution, eighty percent (80%), of the identified FY97 actions within Implementation Plan and Schedule by September 30, 1997.
Minimum:	Implementation Plan and Schedule submitted by June 15, 1997.

The performance rating for this indicator will be determined using Figure 4D, the Environmental Protection Composite Contingency Diagram, and Table 4.4.

Note: In the case of a catastrophic event, resulting in significant harm to worker health and safety, and/or public health and safety, and/or damage to the environment, and where PNNL is found to be substantially at fault because of, e.g., management failure to take appropriate action, management system failure or the lack of management systems necessary to mitigate an anticipated event, the score for the Environmental Protection composite may be reduced by the DOE Operations Manager to its lowest possible value. Examples of significant harm to worker health and safety, and/or public health and safety, and/or damage to the environment environmental damage include: an action or a release of hazardous material in such quantity or toxicity that it results in: a) the need to evacuate the potentially-impacted offsite population, b) serious environmental contamination, c) serious negative impact to flora and fauna outside the boundaries of the Hanford reservation (e.g., a major fish kill).

4.3 Objective -- Provide effective and efficient utilization of Laboratory facility assets. (30%) - Walt Apley

4.3.1 Operations Composite (75%) - Lynn Eberhardt

Description: The Operations performance indicators address the actions necessary to complete work safely, effectively, and efficiently. For the entire contract the ability to implement high quality work control processes is critical. Recognizing that the Laboratory's

research work and ES&H performance are measured in other indicators, the Operations indicator focuses on topics specific to Facilities & Operations that can influence the success of the organization. Although a large number of items could be monitored to identify improved performance, the following list was selected because they cross organizational boundaries, have interconnections, either are currently being tracked or should be tracked, and because focused attention in planning and integration of work should result in positive changes which, in total, will cause a positive change for the Laboratory.

The specific Performance Indicators selected include:

1. Work Request Age: The average time (in days) from work authorization to work completion. The measurement of work request completion will include:

- All Maintenance Services work requests initiated in FY97 and those remaining open at the end of FY96 (Note: "routine" work such as daily changing of gas cylinder bottles is excluded from this measurement).
- The age of work requests is defined as the length of time (days) from the day the work request is entered into the planning and scheduling system to the day it is removed from the planning and scheduling system.

The expectation is that with continued focus on planning and integration of work activities at a facility level, continued outstanding performance in this parameter is not only achievable, but required. Outstanding performance in this measure will not be achieved at the exclusion of other measurements (e.g., overtime, outages, rework) or sacrifice scope or workmanship.

Baseline Information: The historical average work request age for craft work was 60 days, and at the end of June 1996 the monthly average was 58 days, and year-to-date average was 54 days.

2. Work Request Backlog: The percentage of outstanding Facility Work Requests for DOE, PSL, and RTL-520, that are greater than 3 months old. The measurement of backlog will include:

- Maintenance work requests for DOE facilities maintained by PNNL, PSL, and RTL-520.
- The age of work requests will be the length of time (days) from the day the work request is entered into the planning and scheduling system to the day it is removed from the planning and scheduling system.
- Three (3) months is equal to 90 calendar days.

Baseline Information: Based upon one year of closely monitored data (for DOE facilities only), PNNL has experienced a 45% to 50% average backlog of maintenance work requests greater than three months old. The categories of work associated with this backlog measurement are all Priority 1 through 4 work requests. Given this data and observed performance over the past year Backlog could be reduced further. It is reasonable then that improvement in average work request backlog be a performance

measure with the same parameters in FY97 as in FY96. To achieve the challenged reduction will require the attention of all involved in work request submission, planning, and scheduling/execution.

3. Maintenance Rework: The percent of monthly work requests that were "reworked" compared to the total completed. Rework is defined as "work which must be reperformed within the succeeding 30 day period due to not meeting the original specifications". Tasks will only be included in the "rework" category if the defined requirements and specifications were not originally met. Jobs which are redefined or the scope has been changed will not be classified as "rework" jobs. The measurement of Rework will include maintenance work requests for DOE facilities maintained by PNNL, PSL, RTL-520, and LSL-II.

Baseline Information: There is very little historical data to measure the actual number of maintenance tasks that fit the above criteria. Interviews with staff indicate that out of 20 work requests, 1 may come back for "rework" and, at the outside, 2 (that is, 5 -10%).

4. Overtime Work Ratio: The number of overtime hours worked by Maintenance Services staff compared to the number of regular hours worked, expressed as a percent. Existing payroll data will be used.

Baseline Information: Historical average overtime work ratio (overtime hours/regular hours) was 8% in FY95 and 6.6% in FY96. Use of overtime to compensate for poor planning is not an acceptable alternative as overtime used on a regular basis increases PNNL cost, lowers efficiency, and increases the potential for negative ES&H events. Consequently, there is and will continue to be a strong emphasis on planning and scheduling work such that overtime becomes an exception rather than a routine practice.

The DOE STO Director may elect to exclude certain overtime hours worked if it is jointly determined with PNNL that the need for such overtime was due to emergency conditions.

5. Planned Multiple-Use Outages: The ratio of planned multiple-use outages to the total number of planned outages, expressed as a percent. This metric will be tracked on a monthly basis for the following building: PSL, RTL-520, LSL-II, 318, 325, 326, 329, 331. Multiple-use outages will include consideration of the following:

- Multiple outage credit will be taken when: more than one outage is scheduled for a calendar day; more than one utility is worked on during a scheduled outage; more than one work task is accomplished during a single scheduled outage period
- Outages conducted for maintenance work activities are included. System outages related to the local area network (i.e., LAN) will not be considered in this performance indicator.

The performance rating for Indicator 4.3.1 will be determined using the Composite Contingency Diagram, Figure 4E and Table 4.5.

4.3.2 Life Cycle Asset Management (LCAM) Composite (25%) - (MA Williams)

Description: This indicator is a composite of two sub-indicators which measure the

effectiveness of capital alteration project execution. Figure 4F documents the associated agreements on performance expectations in the form of contingency diagrams.

The specific Performance Indicators selected include:

1. Energy Research Small Projects - Cost Measure

Description: The dollar amount of new funding authorized for FY97 general plant projects which is not costed by September 30, 1997.

The basis for the measurement is the historical and desired (commercial practice) project life cycle for general plant projects. This measure will demonstrate that ER Small projects are managed to an acceptable level as defined by GAO suggested baselines and the Curtis exercise in FY 1996 for uncosted balances. This measure will allow PNNL and DOE-RL to review the status of the project. Project management reporting such as projected schedule and cost vs. actual schedule and cost will be analyzed to determine how well the projects are managed. Ultimately this will drive PNNL to reduce carryover funding to projects which have an estimated schedule date beyond the end of the funding fiscal year.

Assumptions:

- (1) No new money from EM in FY 1997, which will free up staff to complete the FY 1997 ER projects.
- (2) PNNL obtains Project Authorization from DOE-RL, November 1, 1996.
- (3) In FY 1997, PNNL will receive \$2,000K from the Office of Health and Environmental Research (OHER).
- (4) Carryover funding is defined as "services not costed in the PNNL financial system by the end of the fiscal year".
- (5) PHMC contract uncertainties will not cause project schedule slippage.

2. Energy Research Small Projects - Schedule Measures

Description: The number of small projects authorized prior to FY 1997, that will be closed out, within 30 days of their approved schedule date. This will allow PNNL and DOE-RL to review cost and schedule planning to evaluate what aspects (scope, schedule, and cost) were successful and which aspect need to be improved. The small projects authorized prior to FY 1997 are listed in Table 4.1, below.

Assumptions: (1) "Closed out" projects are defined by the date when all of the work packages associated with that project are closed in the financial system following work completion.

The performance rating for Indicator 4.3.2 will be determined using Figure 4F.

JIN Number	Project Title	"Closed Out" Schedule
D00334	MCC/HVAC Control Upgrades - 331	4/30/97
D00335	Air Compressor Replacement	1/8/97
D00336	Chillers/Cooling Tower Replacement - 331	6/20/97
D00791	Laboratory Vacuum Upgrades	4/30/97
D00889	Laboratory Consolidation Upgrades	4/25/97
D00994	HVAC Upgrades 15A/16A/17A	4/30/97
D01103	HVAC Control Upgrades - 331	3/20/97
D01127	Reverse Osmosis System Upgrade	6/29/97
D01168	Inhalation Suite Modifications	10/30/97
D01444	326 Building Laboratory Rehabilitation	10/02/97
D01446	Laboratory Upgrades - 331 Building	10/30/97
D01447	HVAC Control Systems	4/23/97
D01462	338 Building Capital Upgrades	6/11/97
D01468	Laboratory Consolidation Projects	3/20/97
D01554	320 Room 7 A.C.	1/30/97

Table 4.1. FY97 Authorized Projects Tracked for Indicator 4.3.2 (2)

Performance Rating

The performance rating for Objective 4.3 will be established by calculating the weighted average for the two indicators.

Table 4.7, ES&H/Operations Composite Indicators Rating Normalization Scale, normalizes the Effectiveness scores derived from the Contingency Diagrams for each Composite Indicator to allow for a roll-up and weighting of these scores at the Objective level.

Note: In the case of a non-ES&H catastrophic event resulting in the shutdown of a major facility, and resulting in DOE programmatic down time for more than six months, and where PNNL is found to be substantially at fault for failing to plan, acquire, operate, maintain, and dispose of physical assets, the point value for the five operations performance indicators and the two life cycle asset management indicators may be reduced by the DOE Operations Manager to their lowest possible values.

4.4 Objective -- Develop Key Elements of a Voluntary Protection Program (VPP) (10%) Glenn Hoenes**4.4.1 Develop a policy outlining guidelines for case management of occupational injuries/illnesses to ensure a safe and early return to work for injured staff members. (34%)**

Description: This task will be accomplished by a task team made up of staff from the Maintenance Services Department (MSD), MSD bargaining unit staff, Hanford Environmental Health Foundation, Occupational Safety and Health Department, Human Resources, and other line management as appropriate. This policy will be documented in the SBMS. Once the policy is developed and approved, MSD managers, supervisors, and staff will be trained on its content along with roles, responsibilities, accountabilities, and authorities. A brief report to STO will be prepared at the completion of this task to document all actions and provide program documentation.

NOTE: The following is based on completion of all above elements including training. It does not include assessment of implementation. Assessment results cannot be evaluated until sufficient cases have been processed. The assessment issue will be discussed for implementation in FY98.

Baseline Information: None

Performance Expectation Related Assumptions: None

Performance Ranges:

- 5 Points = Task completion by 3/30/97
- 3 Points = Task completion by 5/30/97
- 1 Points = Task completion by 7/30/97

Report due to DOE-RL/STO: 09/30/97

4.4.2 Evaluate the MSD "job hazard analysis process (33%)."

Description: A multi-disciplinary team will evaluate the job hazard analysis process (from Enhanced Work Planning) for incorporation into maintenance work planning. This team will develop recommendations targeted at providing increased employee involvement and improved hazard analysis for non-routine jobs planned through the work control process. If appropriate, recommendations will be evaluated and improvements integrated into the PNNL Work Control Process. Based on the changes to the Work Control Process, training will be given to MSD staff, supervisors, and management. A brief evaluation report will be prepared at the completion of this task to document actions taken and recommendations for improvement.

Baseline Information: None

Performance Expectation Related Assumptions: None

NOTE: The following is based on completion of all above elements including training. It does not include assessment of implementation. This cannot be completed until sufficient

work has been processed. The assessment issue will be discussed for implementation in FY98.

Performance Ranges:

5 Points = Task completion by 7/30/97
3 Points = Task completion by 8/30/97
1 Points = Task completion by 9/30/97

Report due to DOE-RL/STO: 09/30/97

4.4.3 Develop and pilot a "Safety Suggestions" program in the Maintenance Services Department (33%).

Description: This is designed to increase employee involvement in a positive and proactive manner. A multi-disciplinary task team within MSD will evaluate the current MSD safety incentive procedure and develop recommendations which will assure "Safety Suggestions" are an integral part of the new MSD Safety Program. From those recommendations, improvements will be integrated into the MSD Safety Program. Based on the revised program, training will be given to MSD staff, supervisors, management, etc. A brief report will be prepared at the completion of this task to document actions taken.

Baseline Information: None

Performance Expectation Related Assumptions: None

NOTE: The following is based on completion of all above elements including training. It does not include assessment of implementation. That cannot be achieved until sufficient time has elapsed to test the effectiveness of the program. The assessment issue will be discussed for implementation in FY98.

Performance Ranges:

5 Points = Task completion by 7/30/97
3 Points = Task completion by 8/30/97
1 Points = Task completion by 9/30/97

Report due to DOE-RL/STO: 09/30/97

The performance rating for Objective 4.4 will be determined by averaging the scores of the 3 indicators.

Critical Outcome Performance Rating

The overall performance rating for Critical Outcome 4.0 will be determined by calculating the scores for each of the four composites and individual indicators, then summing the weighted point score for Objectives 4.3 and 4.3 as indicated in Tables 4.2 through 4.9 below.

Master Schedule: Operations Improvement Program Appraisal Milestones

The Advisory Panel will meet in October and will participate in a self-assessment of institutionalization of OIP initiatives during late February and March.

Success Indicators:

- PNNL Standards are electronically available to staff and link staff to appropriate Subject Matter Experts
- Integrated ES&H Management System is judged effective (the process is defined, the tools are in place and institutionalization criteria exist) through independent oversight
- Field verification demonstrates implementation of 10 CFR 835
- PNNL Improvement Agenda is developed based on results of self-assessment, customer/user surveys and independent oversight

Rev. No.:

0

Date:

1/30/97

Milestones:

- 1 Complete full compliance with DOE RadCon Manual - 10/31/96
- 2 Electronic Prep & Risk issued as standard for Laboratory - 12/12/96
- 3 Issue report documenting completion of the RadCon Initiative - 12/31/96
- 4 Provide briefing on OIP and EHSI startup lessons learned to ER multi-program laboratory counterparts - 1/30/97
- 5 Issue criteria as to what constitutes institutionalization of the OIP initiatives - 2/24/97
- 6 Issue approved list of Laboratory standards - 2/28/97
- 7 Issue user survey on Facility Use Agreements - 3/14/97

- 8 Issue implementation plan to establish functional and electronic integration of the online Facility Use Agreements, Prep & Risk processes, hazard inventory, environmental compliance data, and Standards-Based Management System (SBMS) standards - 3/28/97
- 9 Issue CONOPS standard as formal component of Work Control processes - 3/28/97
- 10 Issue white paper on operational performance measures for inclusion in the Electronic Performance Reporting pilot - 3/28/97
- 11 Issue SBMS standard on procedure development and usage - 4/25/97
- 12 Issue user survey on SBMS - 6/13/97
- 13 Issue report on self-assessment of implementation of Facility Use Agreements - 6/27/97

- 14 Revise and submit 325 FUA Requirements Appendix as formal Operational Requirements, Assessment and Validation Document - 6/27/97
- 15 Issue report on self-assessment of SBMS - 8/27/97
- 16 Issue report on independent oversight of Integrated ES&H Management System (IESHM) - 9/05/97
- 17 Identify and prioritize revisions to IESHM - 9/19/97
- 18 Issue training and qualification requirements, procedures, and guidelines - 9/19/97
- 19 Issue PNNL's determination and supporting report on participation in the YPP - 9/26/97
- 20 Incorporate results of OIP-related self-assessments and user surveys into proposed Laboratory Improvement Agenda - 9/30/97

311c-01-27-97

PNNL Approval *Walter J. Opley*
DOE Concurrence *T. R. Christman*

OCCUPATIONAL SAFETY and HEALTH COMPOSITE

Performance Indicator 4.2.1, Occupational, Safety and Health

EFFECTIVENESS

Performance Indicator

- 1 LWDC Incident Rate
- 2 Motor Vehicle Acc.
- 3 Chemicals or Fire

SCALES

	2.1			2.0			1.9			1.8			1.7			1.6			1.5			1.4			1.3						
	15			14			13			12			11			10			9			8			7			6			5
5							4						3																		

Note 1: Values in boxes indicate discreet values

Note 2: In the event of a fatality, the composite for the last four measures will automatically be set to "unsatisfactory" unless it can be shown that the accident was not within PNNL control.

Figure 4B. Performance Indicator 4.2.1 Contingency Diagram Rev. 0, 2/6/97

RADIOLOGICAL CONTROL COMPOSITE

Performance Indicator 4.2.2, Radiological Control Composite

EFFECTIVENESS

Performance Indicator

SCALES

- 1 Collective Dose (rem)
- 2 Unplanned Exposures
- 3 Unplanned Spills/Air
- 4 Skin Contaminations
- 5 Unplan. Depositions
- 6 Net Change (sq ft)
- 7 Uncontrolled Release
- 8 Sealed Source Loss
- 9 Training Field Evals.

	21.109			20.150			19.190			18.231			17.271			16.312			15.352
1																			
2																			
3																			
4																			
5																			
6																			
7																			
8																			
9																			

Note 1: Values in boxes indicate discreet values

Note 2: In the event of a fatality, the composite for the last four measures will automatically be set to "unsatisfactory" unless it can be shown that the accident was not within PNNL control.

Figure 4C. Performance Indicator 4.2.2 Contingency Diagram Rev. 0, 2/6/97

ENVIRONMENTAL COMPLIANCE COMPOSITE

Performance Indicator 4.2.3, Environmental Compliance Composite

Performance Measure

- 1 Poll Prev Opp Ass'ts
- 2 NEPA CXs
- 3 Identify/Resolve Issues
- 4 Efficiency and Effect.
- 5 EM Program

SCALES

5					6				7				8				9					10				11
	0					1				2					3						4					5
70%						75%					80%						85%						90%			
No																										Yes
	0%					20%					40%						60%					80%				100%

Figure 4D. Performance Indicator 4.2.3 Contingency Diagram Rev. 0, 2/25/97

OPERATIONAL WORK CONTROL COMPOSITE

Performance Indicator 4.3.1, Operations Composite

- Performance Indicator**
- 1 Work Request Age
 - 2 Work Request Backlog
 - 3 Maintenance Rework
 - 4 Overtime Ratio
 - 5 Multi-Use Outages

SCALES																			
80 d						70 d						60d					50 d		
70%		65				60			55			50			45		40		35
18%				15				12				9%			6		3		30
	9%					8						7%				6			5%
	5%			10		15				20		25			30		35		40%

Figure 4E. Performance Indicator 4.3.1 Contingency Diagram Rev. 0, 2/6/97

LIFE CYCLE ASSET MANAGEMENT (LCAM) COMPOSITE

Performance Indicator 4.3.2, LCAM Composite

Performance Indicator

- 1 Small Project Carryover
- 2 Small Projects Closeout

SCALES																															
80				75				70					65				60					55					50				
11							12							13															14		

Figure 4F. Performance Indicator 4.3.2 Contingency Diagram Rev. 0, 2/6/97

Indicators	Performance Level	Effectiveness Points	Value Points
4.2.1 Occupational Health & Safety Composite			
1. Lost Workday Case Incident Rate			
2. Number of Motor Vehicle Accidents			
3. Occurrences involving Chemicals and Fires			
	Composite Total		

Table 4.2. Occupational Safety and Health Composite

Indicators	Performance Level	Effectiveness Points	Value Points
4.2.2 Radiological Control Composite			
1. Collective Dose			
2. Unplanned Exposures Above Administrative Control Limits			
3. Unplanned Spills and Airborne Contaminations			
4. Skin and Personal Clothing Contaminations			
5. Unplanned Depositions			
6. Net Change in Areas Posted and Controlled. . .			
7. Uncontrolled Release of Radioactive Material			
8. Loss of Sealed Sources			
9. Completion of Planned Field Evaluations of Training			
	Composite Total		

Table 4.3. Radiological Control Composite

Indicators	Performance Level	Effectiveness Points	Value Points
4.2.3 Environmental Protection Composite			
1. Pollution Prevention			
2. NEPA Categorical Exclusions			
3. Legacy Waste Baseline			
4. Reduction in FTE's Supported by ADS 8400			
5. Institutionalize ECR and FSR Programs			
6. Number of Occurrences in FY97			
	Composite Total		

Table 4.4. Environmental Protection Composite

Indicators	Performance Level	Effectiveness Points	Value Points
4.3.1 Operations Composite			
1. Work Requests Age			
2. Work Request Backlog			
3. Maintenance Rework			
4. Overtime Work Ratio			
5. Planned Multiple Use Outages			
	Composite Total		

Table 4.5. Operations Composite

Indicators	Performance Level	Effectiveness Points	Value Points
4.3.2 Life Cycle Asset Management (LCAM) Composite			
1. Energy Research Small Projects - Cost			
2. Energy Research Small Projects - Schedule			
	Composite Total		

Table 4.6. Life Cycle Asset Management (LCAM) Composite

Indicator 4.2.1	Indicator 4.2.2	Indicator 4.2.3	Indicator 4.3.1	Indicator 4.3.2	Value Points
200 to 210	704 to 735	269 to 280	390 to 400	195 to 200	5.0
189 to 199	674 to 703	257 to 268	370 to 389	185 to 194	4.9
178 to 188	642 to 673	245 to 256	350 to 369	175 to 184	4.8
168 to 177	611 to 641	233 to 244	330 to 349	165 to 174	4.7
156 to 167	580 to 610	200 to 232	310 to 329	155 to 164	4.6
145 to 155	552 to 579	211 to 219	290 to 309	145 to 154	4.5
133 to 144	523 to 551	201 to 210	270 to 289	135 to 144	4.4
121 to 132	495 to 522	191 to 200	250 to 269	125 to 134	4.3
110 to 120	466 to 494	182 to 190	230 to 249	115 to 124	4.2
98 to 109	438 to 465	172 to 181	210 to 229	105 to 114	4.1
86 to 97	410 to 437	162 to 171	190 to 209	95 to 104	4
74 to 85	382 to 409	153 to 161	170 to 189	85 to 94	3.9
62 to 73	354 to 381	143 to 152	150 to 169	75 to 84	3.8
51 to 61	326 to 353	133 to 142	130 to 149	65 to 74	3.7
39 to 50	298 to 325	124 to 132	110 to 129	55 to 64	3.6
26 to 38	270 to 297	113 to 123	90 to 109	45 to 54	3.5
15 to 25	242 to 269	102 to 112	70 to 89	35 to 44	3.4
3 to 14	214 to 241	91 to 101	50 to 69	25 to 34	3.3
(-8) to 2	186 to 213	80 to 90	30 to 49	15 to 24	3.2
(-20) to (-9)	158 to 185	69 to 79	10 to 29	5 to 14	3.1
(-32) to (-21)	130 to 157	58 to 68	(-8) to 9	(-6) to 4	3
(-44) to (-33)	102 to 129	47 to 57	(-9) to (-21)	(-7) to (-18)	2.9
(-55) to (-45)	74 to 101	36 to 46	(-22) to (-36)	(-19) to (-31)	2.8
(-66) to (-56)	46 to 73	25 to 35	(-37) to (-50)	(-32) to (-43)	2.7
(-77) to (-67)	18 to 45	14 to 24	(-51) to (-65)	(-44) to (-56)	2.6
(-90) to (-78)	(-12) to 17	-5 to 13	(-66) to (-79)	(-57) to (-68)	2.5
(-103) to (-91)	(-41) to (13)	-5 to 4	(-80) to (-94)	(-69) to (-81)	2.4
(-115) to (-104)	(-70) to (-42)	-15 to -6	(-95) to (-108)	(-82) to (-93)	2.3
(-127) to (-116)	(-99) to (-71)	-26 to -16	(-109) to (-123)	(-94) to (-106)	2.2
(-139) to (-128)	(-128) to (-100)	-38 to -27	(-124) to (-137)	(-107) to (-118)	2.1
(-150) to (-140)	(-157) to (-129)	-49 to -39	(-138) to (-152)	(-119) to (-131)	2
(-162) to (-151)	(-186) to (-158)	-60 to -50	(-153) to (-166)	(-132) to (-143)	1.9
(-175) to (-163)	(-215) to (-187)	-70 to -61	(-167) to (-181)	(-144) to (-156)	1.8
(-187) to (-176)	(-244) to (-216)	-81 to -71	(-182) to (-195)	(-157) to (-168)	1.7
(-199) to (-188)	(-273) to (-245)	-92 to -82	(-196) to (-210)	(-169) to (-181)	1.6
(-210) to (-200)	(-292) to (-274)	-103 to -93	(-211) to (-224)	(-182) to (-193)	1.5
(-219) to (-211)	(-310) to (-293)	-111 to -102	(-225) to (-239)	(-194) to (-206)	1.4
(-229) to (-220)	(-328) to (-311)	-120 to -112	(240) to (-253)	(-207) to (-218)	1.3
(-239) to (-230)	(-346) to (-329)	-130 to -121	(-254) to (-268)	(-219) to (-231)	1.2
(-249) to (-240)	(-364) to (-347)	-139 to -131	(-269) to (-282)	(-232) to (-243)	1.1
(-260) to (-250)	(-385) to (-365)	-150 to -140	(-283) to (-290)	(-244) to (-250)	1

Table 4.7. ES&H Composite Indicator Normalization Table

Determining Overall ES&H/Operations Performance Rating

	Value Points (Tables 4.2 - 4.5)	Indicator Weight	Weighted Value	Objective Weight	Objective Score
Objective 4.1					
Indicator 4.1.1		90%			
Indicator 4.1.2		10%			
Objective 4.1 Total				30%	
Objective 4.2					
Composite 4.2.1		33%			
Composite 4.2.2		34%			
Composite 4.2.3		33%			
Objective 4.2 Total				30%	
Objective 4.3					
Composite 4.3.1		75%			
Composite 4.3.2		25%			
Objective 4.3 Total				30%	
Objective 4.4					
Indicator 4.4.1		34%			
Indicator 4.4.2		33%			
Indicator 4.4.3		33%			
Objective 4.4 Total				10%	
				Total score	

Table 4.8. ES&H/Operations Scoring and Objective Rating

Total Score	5.0 - 4.5	4.4 - 3.5	3.4 - 2.5	2.4 - 1.5	1.4 - 1.0
Final Rating	Outstanding	Excellent	Good	Marginal	Unsatisfactory

Table 4.9. ES&H/Operations Performance Rating Scale

5. LEADERSHIP AND MANAGEMENT (15%) - Rich Adams, Jeff Smith (PNNL)/Joe Wiley (DOE)

Critical Outcome: We will provide leaders and systems that effectively support the accomplishment of the Laboratory's objectives. (Rich Adams/Jeff Smith/Tom Baranouskas) (15%)

5.1 Objective -- PNNL's leaders/managers create a work environment that is supportive of innovation. (Rich Adams) (30%)

Performance Indicators

- 5.1.1 Composite evaluation of the Leadership and Management focus areas as determined by FY96 Quality of WorkLife (QWL) survey.

Description: The average score of each of the four Quality of Work Life focus areas will improve over the FY96 focus area score.

Baseline information: Data from the ACE Quality of Work Life (QWL) survey conducted in FY95 was used to help establish a baseline of perceptions of staff regarding the quality of work life at PNNL. The survey, conducted annually, was modified in FY96 to accommodate the management's need to provide better information in several focus areas, thus allowing more concrete actions to be taken to address staff QWL issues.

Based on the results of the FY96 QWL Survey (conducted in August 1996), PNNL management has determined that four specific areas will be targeted for specific improvement actions during FY97.

The four target areas include:

1. Leadership, specifically:
 - a) Technical Group Manager (TGM) Leadership, and
 - b) perception of Associate Laboratory Director (ALD) performance,
2. Performance Feedback, and
3. Diversity

Performance Expectations and Related Assumptions: Each of the target areas will be measured as individual composites. This will allow management direct measurement of the success/failure of improvement actions taken in each target area.

Measurement within each of these areas is based on a 1 to 7 point Likert scale. Improvement is based on the percentage of staff respondents who move one full Likert point during the 12 month period between surveys.

A breakdown of the questions composing each of the composite measures as well as the proposed measurements for each target follows.

5.1.1.1 TGM's leadership mean score on the FY97 QWL Survey will improve over the FY96 baseline mean score of 4.95.

Performance Ranges:

- Outstanding = increase composite mean to 5.5 (50% of the population responds one Likert point higher than FY96)
- Excellent = increase composite mean to 5.25 (25% of the population surveyed responds one Likert point higher than FY96)
- Good = composite mean of 5.0

Items comprising this indicator are taken from the "My Immediate Manager" composite, including:

- Item M1 Does a good job of communicating with staff
- Item M2 Provides effective leadership
- Item M3 Understands the problems and demands I face in doing my job
- Item M4 Builds teamwork among the staff
- Item M5 Maintains a positive working relationship with me
- Item M6 Takes a positive role in my career development
- Item M7 Supports me in obtaining resources I need to do a high quality job
- Item M8 Is creating a supportive work environment for the staff

5.1.1.2 Associate Laboratory Director (ALD) mean score on the FY97 QWL Survey will improve over the FY96 baseline mean score of 4.03.

Performance Ranges:

- Outstanding = increase composite mean to 4.5 (50% of the population responds one Likert point higher than FY96)
- Excellent = increase composite mean to 4.25 (25% of the population surveyed responds one Likert point higher than FY96)
- Good = mean composite of 4.0

Items comprising this indicator are taken from the "Laboratory Management" composite, including:

- Item A1 Communicating with staff
- Item A2 Provides effective leadership to my Division/Directorate
- Item A3 Is leading us towards a successful future
- Item A4 Understands the problems and demands faced by staff
- Item A5 Builds teamwork across the Lab
- Item A6 Is creating a supportive work environment for all staff

5.1.1.3 Manager's performance in providing performance feedback, as reflected by the FY97 QWL Survey composite mean score, will improve over the FY96 baseline mean score of 3.99.

Performance Ranges:

Outstanding = increase composite mean to 5.0 (100% of the population responds one Likert point higher than FY96)

Excellent = increase composite mean to 4.5 (50% of the population responds one Likert point higher than FY96)

Good = composite mean of 4.00

Items comprising this indicator are taken from the "Performance Feedback" composite, including:

- Item P1 he development and performance feedback process provides me with meaningful information on my strengths and weaknesses
- Item P2 I regularly receive feedback from customers that tells me how well I am performing
- Item P3 My manager regularly discusses my performance with me
- Item P4 My division/directorate recognizes and rewards good performance
- Item P5 My manager provides me with meaningful information for my career development

5.1.1.4 The satisfaction of women and people of color (in succession plans or identified as high potential) regarding their development (Diversity), as reflected in the FY97 QWL Survey, will improve over the FY96-baseline mean score of 4.23.

Performance Ranges:

Outstanding = increase composite mean to 4.75 (50% of the population responds one Likert point higher than FY96)

Excellent = increase composite mean to 4.5 (25% of the population surveyed responds one Likert point higher than FY96)

Good = composite mean of 4.25

Items comprising this indicator are taken from several of the QWL Survey composites, including:

- Item PD1 An important part of my professional development comes from working on projects and/or assignments.
- Item PD2 My manager and I have discussed and developed a training and development plan.
- Item PD3 My manager supports my professional development.
- Item JS3 The work I do is challenging and helps me develop the skills I need.
- Item PF1 The development and performance process provides me with information on my strengths and weaknesses.
- Item PF3 My manager regularly discusses my performance with me.
- Item PF5 My manager provides me with meaningful information for my development.

Item M6 My manager takes a positive role in my career development.

5.2 Objective -- PNNL's management systems are well-defined, aligned with the needs of the business and lead to accomplishment of objectives. (Jeff Smith) (20%)

Performance Indicator

- 5.2.1 Customer satisfaction with the quality and effectiveness of delivered products and services.

Description: Feedback from internal customers of the internal PNNL management systems will be obtained through the use of a set of questions that will be added to the Quality of Work Life (QWL) survey. The survey will utilize a 7 point Likert scale and will be administered in the 4th quarter of the fiscal year. This is the first year for this aspect of the survey and therefore, the specific questions have not yet been developed. The questions will be developed jointly with RL.

This indicator is defined as the mean score of all responses received to the questions that will make up the Management Systems Composite.

Baseline Information: Since this is the first year for this indicator, no directly related baseline information is available. However, the Achieving the Competitive Edge (ACE) cost diagnostic determined that 49% of the Laboratory's total cost was associated with activities that were rated by staff as having no, low, or medium value or efficiency.

Performance Expectation Related Assumptions: The best score anticipated is a mean of 4.5. The poorest score anticipated is a mean of 2.0. A reasonable expectation for this year is a mean score of 4.0, which would be considered excellent performance.

5.3 Objective -- Laboratory Leadership effectively uses the Integrated Assessment Program (IAP) to monitor performance and to drive needed improvements, enabling DOE to optimize oversight activities. (Jeff Smith) (20%)

Performance Indicators

- 5.3.1 Internal Oversight's annual averaged rating of the Divisions/Directorates self-assessment program performance.

Description: The PNNL Internal Oversight organization will evaluate a cross-section of Laboratory organizations on their effectiveness in implementing the Integrated Assessment Program. The evaluation will be conducted against requirements established within the Standards Based Management System. The evaluations will be qualified on a 5 point scale. The results of these Internal Oversight evaluations will be averaged to provide a measure of effectiveness of the Laboratory's implementation of the Integrated Assessment Program (IAP).

Baseline Information: This is the first year for this indicator. Therefore, no directly related

baseline information exists. However, during FY96, six PNNL organizations piloted the Integrated Assessment Program and RL review of that program found the overall Laboratory performance to be Good (an average of 3.0 rating on a 5 point scale).

Performance Expectation Related Assumptions: None identified.

5.3.2 DOE's satisfaction with the level of involvement in the development and execution of the plans, and communication of the results.

Description: DOE-RL counterparts of the major Laboratory organizations will be surveyed to determine their level of satisfaction with their Laboratory counterparts development and execution of FY97 Assessment Plans and communication of the results of the assessments conducted. The RL counterparts to be surveyed will be identified jointly by the PNNL Director of Quality and the RL Management & Economic Transition Office Director.

Baseline Information: This is the first year for this indicator. Therefore, no directly related baseline information exists. However, informal interviews have indicated that the current level of understanding and acceptance of self-assessment principles is low. Based on this, the best level of performance that can be expected during FY97 is 75% RL involvement at a satisfaction level of 3.0 on a 5 point scale.

Performance Expectation Related Assumptions: None identified.

5.4 Objective -- Provide effective and efficient program management. (Tom Baranouskas) (30%)

Performance Indicators

5.4.1 Average fully burdened charge-out rate for staff that charge direct to 1830 Operating Programs - Greg Turner

Description: This indicator will be based on the average fully-burdened chargeout rate of all staff that charge direct and will be reported in dollars/hour. The rate will be calculated using the actual number of hours charged direct in conjunction with the actual chargeout rate for those staff. Hours charged to capital projects will not be included.

Baseline Information: Historical performance data is readily available. All calculations will be in "then year dollars" for any comparison or trending purposes. FY91 = \$82.48, FY92 = \$83.63, FY93 = \$86.34, FY94 = \$87.62, FY95 = \$85.37, FY96 = \$84.18, FY97 = \$87.50

Performance Expectation Related Assumptions:

1. Base Salary escalation will be about 3.4% in FY97.
2. The benefit rate will increase 3.0% points in FY97 to 27.2%.

5.4.2 Research to support labor cost ratio - Greg Turner

Description: This indicator is a ratio of research labor dollars (defined as labor charges to projects, including capital projects, LDRD projects, and the imputed direct/LDRD portion of service center labor dollars) to support labor dollars (defined as all other labor dollars such as those charged to lab level overheads, organizational overheads, and the imputed indirect portion of service center labor dollars).

Baseline Information: Historical performance data is readily available.

FY91	1.18:1
FY92	1.27:1
FY93	1.33:1
FY94	1.39:1
FY95	1.41:1
FY96	1.56:1
FY97	1.54:1

Performance Expectation Related Assumptions:

1. Research FTE's are estimated at 1832, down from 1965 in FY96.
2. Support FTE's are estimated at 1372 in FY96.
3. LDRD expenditures will remain constant with FY96.

Critical Outcome Performance Rating

Figures 5A, 5B, 5C and 5D document the associated agreements on performance expectations in the form of contingency functions. The overall performance rating for this outcome will be determined by the following tables. The sum of the effectiveness scores (taken from the Contingency Diagrams) will be added on Table 5.1 and normalized to Value Points using Table 5.2. The totals from individual objectives will be shown on Table 5.3 and the normalized total will be compared to the rating scale in Table 5.4 to determine the overall rating.

LEADERSHIP and MANAGEMENT CRITICAL OUTCOME

Objective 5.1: PNNL's leaders/managers create a work environment that is supportive of innovation.

Performance Indicator		SCALES															
1	TGM Leadership	4.5	4.6	4.7	4.8	4.9	5.0	5.1	5.2	5.3	5.4	5.5					
2	ALD Performance	3.5	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5					
3	Perf. Feedback	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.8	4.9	5.0		
4	Diversity	3.6	3.7	3.8	3.9	4.0	4.1	4.2	4.3	4.4	4.5	4.6	4.7	4.75			

Figure 5A. Objective 5.1 Contingency Diagram

Rev. 0, 2/21/97

The graph plots Effectiveness Score against Performance. The Y-axis ranges from -95 to 110 in increments of 5. The X-axis represents Performance, with labels 1 and 5.2.1. A single curve, labeled '1', starts at approximately (-48, 1) and rises steeply to approximately (90, 5.2.1).

Performance	
Curve	Indicator
1	5.2.1

Performance Indicator		SCALE																							
1	Cust. Satisfaction	2.0				2.5					3.0					3.5					4.0				

Rev. 0, 1/25/97

LEADERSHIP and MANAGEMENT CRITICAL OUTCOME

Objective 5.3: Laboratory leadership effectively uses the Integrated Assessment Program to monitor performance and to drive needed improvements enabling DOE to optimize oversight activities.

- Performance Indicator
- 1 I.O. Annual Ave. Rating
 - 2 DOE Satisfaction

SCALES																	
2.0				2.5				3.0				3.5				4.0	4.5
	20	25	30	35	40	45	50	55	60	65	70	75	80				

Figure 5C. Objective 5.3 Contingency Diagram

Rev. 0, 2/5/97

LEADERSHIP and MANAGEMENT CRITICAL OUTCOME

Objective 5.4: Provide effective and efficient research program management.

Performance Indicator		SCALES																						
1	Avg Charge-Out Rate	90.00						89.00						88.00			87.50			87.00				
2	Research/Support Ratio	1.48				1.50		1.51			1.52			1.53			1.54		1.55		1.56			1.57

Figure 5D. Objective 5.4 Contingency Diagram

Rev. 0, 1/25/97

ELEMENT	Performance Level	Effectiveness Score	Value Points
5. Leadership and Management			
5.1 PNNL's Leaders/managers create a work environment that is supportive of innovation			
5.1.1 Composite evaluation of . . . FY96 QWL survey.			
5.1.1.1 TGMs leadership mean score. . .			
5.1.1.2 Associate Lab Director (ALD) mean score. . .			
5.1.1.3 Manager's performance in providing performance feedback. . .			
5.1.1.4 The satisfaction of women and people of color (Diversity) . . .			
	Objective 5.1 Total		
5.2 PNNL's management systems are well- defined, aligned with the needs of business. . .			
5.2.1 Customer satisfaction with the quality and effectiveness of delivered products and services.			
5.3 Use of the Integrated Assessment Program to monitor performance and drive needed improvements.			
5.3.1 Internal Oversight's annual averaged rating of the Divisions/Directorates self-assessment program . . .			
5.3.2 DOE's satisfaction with the level of involvement in the development and execution of the plans, . . .			
	Objective 5.3 Total		
5.4 Provide effective/efficient program management.			
5.4.1 Average fully burdened charge-out rate. . .			
5.4.2 Research to support labor cost ratio			
	Objective 5.4 Total		

Table 5.1. Leadership and Management Critical Outcome Performance Rating Development

Objective 5.1	Objective 5.2	Objective 5.3	Objective 5.4	Value Points
290	100	175	175	5
268 to 279	93 to 99	167 to 174	162 to 174	4.9
246 to 267	87 to 92	159 to 166	149 to 161	4.8
224 to 245	80 to 86	151 to 158	136 to 148	4.7
202 to 223	73 to 79	143 to 150	123 to 135	4.6
180 to 201	67 to 72	137 to 142	110 to 122	4.5
165 to 179	60 to 66	129 to 136	99 to 109	4.4
149 to 164	53 to 59	121 to 128	88 to 98	4.3
134 to 148	47 to 52	113 to 120	77 to 87	4.2
118 to 133	40 to 46	105 to 112	66 to 76	4.1
103 to 117	33 to 39	97 to 104	55 to 65	4
87 to 102	27 to 32	89 to 96	44 to 54	3.9
72 to 86	20 to 26	81 to 88	33 to 43	3.8
56 to 71	13 to 19	73 to 80	22 to 32	3.7
41 to 55	7 to 12	65 to 72	11 to 21	3.6
25 to 40	0 to 6	57 to 64	0 to 10	3.5
15 to 24	(-2) to (-1)	49 to 56	(-8) to (-1)	3.4
5 to 14	(-4) to (-3)	41 to 48	(-16) to (-9)	3.3
(-6) to 4	(-6) to (-5)	33 to 40	(-24) to (-17)	3.2
(-16) to (-7)	(-8) to (-7)	25 to 32	(-32) to (-25)	3.1
(-25) to (-16)	(-10) to (-9)	17 to 24	(-40) to (-33)	3
(-35) to (-26)	(-12) to (-11)	9 to 16	(-48) to (-41)	2.9
(-45) to (-36)	(-14) to (-13)	0 to 8	(-56) to (-49)	2.8
(-55) to (-46)	(-16) to (-15)	(-11) to (-1)	(-64) to (-57)	2.7
(-65) to (-56)	(-18) to (-17)	(-23) to (-12)	(-72) to (-65)	2.6
(-75) to (-66)	(-20) to (-19)	(-35) to (-24)	(-80) to (-73)	2.5
(-87) to (-76)	(-22) to (-21)	(-48) to (-36)	(-92) to (-81)	2.4
(-100) to (-88)	(-24) to (-23)	(-60) to (-49)	(-104) to (-93)	2.3
(-112) to (-101)	(-26) to (-25)	(-71) to (-61)	(-116) to (-105)	2.2
(-125) to (-113)	(-28) to (-27)	(-83) to (-72)	(-128) to (-117)	2.1
(-137) to (-126)	(-30) to (-29)	(-95) to (-84)	(-140) to (-129)	2
(-150) to (-138)	(-32) to (-31)	(-106) to (-96)	(-152) to (-141)	1.9
(-162) to (-151)	(-34) to (-33)	(-117) to (-107)	(-164) to (-153)	1.8
(-175) to (-163)	(-36) to (-35)	(-128) to (-118)	(-176) to (-165)	1.7
(-187) to (-176)	(-38) to (-37)	(-141) to (-129)	(-188) to (-177)	1.6
(-200) to (-188)	(-40) to (-39)	(-152) to (-142)	(-200) to (-189)	1.5
(-218) to (-201)	(-42) to (-41)	(-164) to (-153)	(-210) to (-201)	1.4
(-236) to (-219)	(-44) to (-43)	(-176) to (-165)	(-220) to (-211)	1.3
(-254) to (-237)	(-46) to (-45)	(-189) to (-177)	(-230) to (-221)	1.2
(-272) to (-255)	(-48) to (-49)	(-202) to (-190)	(-240) to (-231)	1.1
(-290) to (-273)	(-50)	(-215) to (-203)	(-250) to (-241)	1

Table 5.2. Leadership and Management Critical Outcome Score Normalization Table

Determining Overall Leadership & Management Performance Rating			
	Value Points (from Table 5.2)	Weight	Weighted Points
Objective 5.1		30%	
Objective 5.2		20%	
Objective 5.3		20%	
Objective 5.4		30%	
		Total Score	

Table 5.3. Leadership and Management Critical Outcome Weighted Score

Total Score	5.0 - 4.5	4.4 - 3.5	3.4 - 2.5	2.4 - 1.5	1.4 - 1.0
Final Rating	Outstanding	Excellent	Good	Marginal	Unsatisfactory

Table 5.4. Leadership and Management Critical Outcome Final Rating

6. ECONOMIC DEVELOPMENT (5%) - Adrian Roberts (PNNL)/Joe Wiley, Dan Sours (DOE)

Critical Outcome: We will create new businesses, expand existing businesses, and attract outside businesses to the Tri-Cities to support transition of the Hanford site to the post-cleanup era.

6.1 Objective – Create and sustain technology-based business growth in Tri-Cities area.**Performance Indicators****6.1.1 The number of new businesses started in the area. Adrian Roberts**

Description: The number of new businesses started in the local area*, where PNNL had a role in their establishment through one of PNNL's economic development programs. These programs include the Entrepreneurial Program, the Small Business Technical Assistance Program, the Targeted Support Program, and the Technical Partnerships Program.

New businesses to be tracked for purposes of measuring this performance indicator will have clear future market potential and will be backed by sound business plans. They will be technology-based, growth-oriented partnerships, joint ventures, entrepreneurial spin-offs, or businesses recruited to the Tri-Cities area in which PNNL was involved in their recruitment.

Baseline Information: PNNL historical performance data is available and spans the past three years. This data was used in establishing the contingency function for this indicator.

Performance Expectation Related Assumptions: None identified other than those reflected in the contingency function for this indicator.

* Note: The "local area" is defined as "the ten county region surrounding the Hanford Site".

6.1.2 The number of businesses started in prior years that are sustained through the subsequent fiscal year. Adrian Roberts

Description: This indicator measures the number of new businesses that were created in FY95 and FY96 and sustained operations throughout FY97, where PNNL had a role in their establishment through one of PNNL's economic development programs. These programs include the Entrepreneurial Program, the Small Business Technical Assistance Program, and the Technical Partnerships Program.

Baseline Information: The three year average of new businesses created is 5.3; only five businesses have been in operation for more than one year as of September 30, 1996.

Performance Expectation Related Assumptions: NA

6.2 Objective -- Grow existing technology-based, local area businesses.**Performance Indicators****6.2.1 The number of local area firms* assisted. Adrian Roberts**

Description: Collect information on the number of local firms that were assisted by one or more of PNNL's technical assistance programs during FY97.

Baseline Information: The Laboratory provided technical assistance to 23 local area* firms in FY95, and 43 local area firms in FY96. This represents an average of 33 local firms assisted per year over the two year period. All of these businesses are classified as small businesses (i.e., less than 500 employees).

Performance Expectation Related Assumptions: NA

* Note: The "local area" is defined as "the ten county region surrounding the Hanford Site".

6.2.2 Survey of local firms* on the value of PNNL assistance with respect to jobs retained or added. Adrian Roberts

Description: This indicator will measure the level of satisfaction of local firms assisted by one or more of PNNL's technical assistance programs with respect to jobs retained or added. Data for this measure will come from Questions 1, 2 and 3 (following) of DOE's Technical Assistance Program Survey.

1. Overall, how would you rate your working relationship with PNNL?
2. Please rate PNNL's level of performance in providing technical services.
3. Overall, how would you rate the interaction process with PNNL?

This survey is mailed to the partners as part of the Program. Local business partners are as defined under the Program. Satisfaction will be measured on a five point scale where:

- 1 = Very Dissatisfied
- 2 = Dissatisfied
- 3 = Neutral
- 4 = Satisfied
- 5 = Very Satisfied

The specific measurement will involve the percentage of partners with a response of satisfied or very satisfied (4 and 5 of the 5 point scale). The percentage for each question will be determined, then an average percentage will be calculated for use in the contingency function for the indicator.

Baseline Information: Selected data captured through the DOE Technical Assistance Program survey provided the baseline. FY95 was the first year for the survey, therefore the baseline only spans two years.

Performance Expectation Related Assumptions: None other than those identified in the contingency function established for this indicator.

6.3 Objective -- Support the local community in attracting new technology-based businesses to the area.

Performance Indicators

- 6.3.1 Feedback from local economic development organizations on the value of PNNL support with respect to their economic development goals. Adrian Roberts

Description: This indicator will measure the effect of PNNL assistance with respect to their economic development goals. The following seven economic development organizations will be surveyed.

1. The cities of: Richland, Kennewick, and Pasco
2. The Ports of: Benton, Kennewick, and Pasco
3. The Tri-City Industrial Development Council

Data for this measure will come from Questions 1, 2 and 3 of DOE's Technical Assistance Program Survey (following).

1. Overall, how would you rate your working relationship with PNNL?
2. Please rate PNNL's level of performance in providing technical services.
3. Overall, how would you rate the interaction process with PNNL?

This survey is mailed to the partners as part of the Program. Local business partners are as defined under the Program. Satisfaction will be measured on a five point scale where:

- 1 = Very Dissatisfied
- 2 = Dissatisfied
- 3 = Neutral
- 4 = Satisfied
- 5 = Very Satisfied

The specific measurement will involve the percentage of partners with a response of satisfied or very satisfied (4 and 5 of the 5 point scale) to these three questions. The percentage for each question will be determined, then an average percentage will be calculated for use in the contingency function for the indicator.

Baseline Information: The data captured through the DOE Technical Assistance Program survey provide the baseline. FY 95 was the first year for the survey, therefore the baseline only spans two years (FY95 and FY96).

Performance Expectation Related Assumptions: None other than those identified in the

contingency function established for this indicator.

Critical Outcome Performance Rating

Figure 6A, documents the associated agreements on performance expectations in the form of contingency functions for all of the performance indicators.. The overall performance rating for this outcome will be determined by the sum of the Effectiveness scores for each of the Performance Indicators as found in Table 6.1 and compared to the rating schedule in Table 6.2.

ECONOMIC DEVELOPMENT CRITICAL OUTCOME

EFFECTI VENESS

Performance Indicator		SCALES																												
1	New Businesses	0	1			2			3			4			5			6			7			8			9			10
2	Sustained Businesses			0						1					2									3						4
3	Local Firms Assisted	0	10			15			20			25			30			35			40			45			50			55
4	Value of PNNL Assist.		0%			10			20			30			40			50			60			70			80			90%
5	Survey Econ Dev Orgs		0%			10			20			30			40			50			60			70			80			90%

Figure 6A. Contingency Diagram

Rev. 0, 1/30/97

ELEMENT	Performance Level	Effectiveness Points	Value Points
6. Economic Development			
6.1 Create and sustain technology-based business growth in the local area			
6.1.1 The number of new businesses started in the area.			
6.1.2 The number of businesses that are sustained through the subsequent fiscal year.			
6.2 Grow existing technology-based, local area businesses.			
6.2.1 The number of local firms assisted.			
6.2.2 Survey of local firms on the value of PNNL assistance with respect to jobs retained or created.			
6.3 Support the local community in attracting new technology-based businesses to the area.			
6.3.1 Feedback from local economic development organizations on the value of PNNL support. . .			
		Total	

Table 6.1. Economic Development Critical Outcome Performance Rating Development

Total Score	Value Points
260	5
250 to 259	4.9
240 to 249	4.8
230 to 239	4.7
220 to 229	4.6
210 to 219	4.5
197 to 209	4.4
184 to 196	4.3
171 to 183	4.2
158 to 170	4.1
145 to 157	4
132 to 144	3.9
119 to 131	3.8
106 to 118	3.7
93 to 105	3.6
80 to 92	3.5
68 to 79	3.4
46 to 67	3.3
24 to 45	3.2
2 to 23	3.1
(-20) to 1	3
(-42) to (-21)	2.9
(-64) to (-43)	2.8
(-86) to (-65)	2.7
(-108) to (-87)	2.6
(-130) to (-109)	2.5
(-146) to (-131)	2.4
(-162) to (-147)	2.3
(-178) to (-163)	2.2
(-194) to (-179)	2.1
(-210) to (-195)	2
(-226) to (-211)	1.9
(-242) to (-227)	1.8
(-258) to (-243)	1.7
(-274) to (-259)	1.6
(-290) to (-275)	1.5
(-322) to (-291)	1.4
(-354) to (-323)	1.3
(-386) to (-355)	1.2
(-418) to (-387)	1.1
(-450) to (-419)	1

Table 6.2. Conversion of the total Effectiveness score to Value Points

Total Score	260 - 210	209 - 80	79 - (-130)	(-131) - (-290)	(-291) - (-450)
Value Points	5.0 - 4.5	4.4 - 3.5	3.4 - 2.5	2.4 - 1.5	1.4 - 1.0
Final Rating	Outstanding	Excellent	Good	Marginal	Unsatisfactory

Table 6.2. Economic Development Critical Outcome Final Rating

III. SELF-ASSESSMENT

RL and PNNL view self-assessment as the mechanism to determine if the organization is accomplishing agreed-to critical outcomes and doing so in a manner that is acceptable. In addition, RL uses the Laboratory's self-assessment as a primary tool for evaluating the overall performance of the Laboratory.

The Laboratory is required to deliver a Self-Assessment Plan to RL within the first quarter of FY97.

The Laboratory is required to provide monthly updates on the performance indicators, a formal status briefing at mid-year, and a formal self-evaluation report at year-end with specific dates to be agreed upon by the Laboratory Director and the RL Assistant Manager for Science & Technology.

In addition, the year-end report must provide:

- an overall summary of performance for FY97,
- performance ratings for each critical outcome and the Laboratory overall, and
- a summary of key strengths and weaknesses identified as part of the Division/Directorate level self-assessment activities.

Division and Directorate-level self-evaluation reports are required to be submitted to the Laboratory's Director of Quality as part of the Integrated Self-Assessment Program. These reports are not required deliverables to RL, but they should be made available to the appropriate RL counterparts for purposes of assisting RL with their management and oversight responsibilities.

The Laboratory's Independent Oversight organization has specific responsibility for evaluating the overall effectiveness of the Division/Directorate's self-assessment efforts. The specific results of this evaluation are incorporated as part of the Leadership and Management Critical Outcome, however, a formal report providing additional detail on these evaluations will be available to RL in October, 1997.

RL will conduct an annual performance review in October, 1997. This review will provide RL with a formal opportunity to followup on any specific issues associated with the critical outcomes or Division/Directorate level self-assessment activities. However, RL and PNNL intend for routine interactions around the Laboratory's ongoing self-assessment activities to enable RL to reduce the scope and scale of this review. Using the Laboratory's year-end self-evaluation report, knowledge gained through daily interactions and the annual performance review, RL will provide the Laboratory with a written performance appraisal in November, 1997.

IV. PERFORMANCE BASED FEE

Discussions regarding FY97 fee are still ongoing at this time. This document will be revised to include the fee agreements when they are finalized.