

**Environmental Molecular
Sciences Laboratory**



**Operations
Manual**



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EMSL Operations Manual

Contact: Nancy Foster-Mills

May 3, 2012
Rev 4.24

Prepared for the U.S. Department of Energy's Office of Biological and
Environmental Research under Contract DE-AC05-76RL01830

Pacific Northwest National Laboratory
Richland, Washington 99352



EMSL Policy Change Request Form

EMSL Policy Change Request the EMSL Operations Manual Form (v2.0 5/1/2012)									
1. Change Request Number (to be filled in by Operations Manual Steward):	4. Impact <input type="checkbox"/> Correction <input type="checkbox"/> Update/Revision <input type="checkbox"/> Create new section <input type="checkbox"/> Delete section <input type="checkbox"/> Other _____								
2. Date of Request:									
3. Name of Requestor:									
5. Title of Change Request:									
6. Title of Section Affected (if new – provide a title):									
7. Brief description of change & why:									
8. Remarks: NA									
9. Filename(s):									
10. PNNL Approvals:	11. Client Approvals and/or Notifications:								
<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="border-bottom: 1px solid black; width: 80%;"></td> <td style="text-align: right; width: 20%; border-bottom: 1px solid black;">Date</td> </tr> <tr> <td>EMSL COO</td> <td></td> </tr> <tr> <td style="border-bottom: 1px solid black;"></td> <td style="text-align: right; border-bottom: 1px solid black;">Date</td> </tr> <tr> <td>EMSL Director</td> <td></td> </tr> </table>		Date	EMSL COO			Date	EMSL Director		Is DOE/PNSO notified required? <input type="checkbox"/> yes <input type="checkbox"/> no Date of Notification: _____ Is DOE/PNSO approval required <input type="checkbox"/> yes <input type="checkbox"/> no Date of DOE/PNSO approval: _____
	Date								
EMSL COO									
	Date								
EMSL Director									
12. Disposition (to be filled out by Operations Manual Steward)									
_____ Version of Operations Manual affected	_____ Date new version posted								
_____ Version of new Operations Manual	_____ Date Email sent to staff								
_____ TRIM #s									

Change Control Record

Section	Date	Change	TRIM Record #	Owner
Entire Book	2/9/2011	<ul style="list-style-type: none"> Updated the Review Dates on sections that did not require updates Changed Capability Steward to Capability Lead (in chapters, not in CCR) Changed POC on Sections 17, 18, and 19 from Staci West to Don Baer Updated Nancy Foster-Mills' title to Product Line Manager Updated Don Baer's title to Interim Lead Scientist 	EREC.836131 r2	Nancy Foster-Mills
Change Control Request Form	5/3/2012 3/17/2009	<ul style="list-style-type: none"> Updated Form (removed some signatures) Original Form 		Nancy Foster-Mills
1.0 Introduction	10/21/2009 6/2006	<ul style="list-style-type: none"> Operations Manual v4.4 Original Document = EMSL Operations Manual Rev 3 (PNNL-15828). Note – this required legal review. Do not edit this section without legal review. 	EREC.369907 EREC.268650	Nancy Foster-Mills
2.0 Mission*	4/15/2010 8/23/2005 8/23/2005	<ul style="list-style-type: none"> Level 1 approval changed from formal correspondence to informal email. Footnote added. Same Policy – new TRIM # created for future updates Original Document = EMSL Action Plan 2005: WBS 1.03.01; EMSL Mission Statement. 	EREC.693680 EREC.693987 EREC.523207 EREC.268653	Allison Campbell
3.0 Science Themes*	4/15/2010 2/19/2010 10/23/2009 3/10/2008	<ul style="list-style-type: none"> Level 1 approval changed from formal correspondence to informal email. Footnote added. Updated Science Themes Changed POC from Felmy to Baer Science Themes were last updated before the 2008 Call for Proposals. 	EREC.693680 EREC.693987 EREC.523211 r3 NA EREC.523211 r2	Don Baer

Section	Date	Change	TRIM Record #	Owner
	12/28/2005	<ul style="list-style-type: none"> Original Document = EMSL Action Plan 2005: WBS 1.02.02; Science Themes. 	<p>EREC.523211 r1 EREC.523209</p>	
4.0 Definition of an EMSL User*	8/11/2010	<ul style="list-style-type: none"> Clarify REMOTE User 	EREC.523212 r7	Terry Law
	8/16/2010	<ul style="list-style-type: none"> Added “user” in front of “facility” to clarify that the definition doesn’t refer to just the EMSL building, but wherever EMSL user operations take place 	EREC.523212 r6	
	4/15/2010	<ul style="list-style-type: none"> Level 1 approval changed from formal correspondence to informal email. 	EREC.693680 EREC.693987	
	9/27/2006	<ul style="list-style-type: none"> Starting in FY07, the definition was changed to “An individual who makes use of the facility as part of an active user proposal in the EMSL Usage System is considered an EMSL user”. 	EREC.523212 r5	
	10/3/2005	<ul style="list-style-type: none"> Original Document = EMSL Action Plan 2005: WBS 1.02.074; User Definition. Thus in FY06, the definition was changed to “Any individual not in the EMSL line organization who makes use of the facility as part of an active user proposal in the EUS, the EMSL user proposal system is considered an EMSL user.” Note – through FY05, all participants on active proposals were counted as users. 	EREC.268646	

Section	Date	Change	TRIM Record #	Owner
5.0 EMSL Proposal Types, Review Process, and Peer Review Criteria * (Note the * only applies to the Peer Review Criteria)	3/15/2012	<ul style="list-style-type: none"> Separates Rating Descriptions from section 5.3, Peer Review Criteria, to clearly delineate the Level 1 document, and revises language under Rating Descriptions to provide better guidance to reviewers regarding review scores. 	EREC.519479 r7	Terry Law
	1/27/2012	<ul style="list-style-type: none"> Section 5.3, Criterion 2, Potential Considerations was updated. 	EREC.519479 r6	
	9/6/2011	<ul style="list-style-type: none"> The section was revamped again. Title changed to “5.0 EMSL Proposal Types, Review Process, and Peer Review Criteria”. The current section records primarily the 3-step review of science theme proposals. The review section (which is not part of the Level 1 document) has been revamped to include descriptions of all proposal types with their respective review processes. The peer review criteria and descriptions (Level 1 document) have been moved to the end (Section 5.3) for better flow of information, and have not been changed except for the section heading of “Overall Rating Descriptions”. Since we no longer ask reviewers for an “overall” rating, we removed it from the section title. 	EREC.519479 r5	
	8/19/2011	<ul style="list-style-type: none"> The section (which is not part of the Level 1 document for peer review criteria) has been revamped to include descriptions of all proposal types and their review process. The peer review criteria and descriptions (which are a Level 1 document) have been moved to the end for better flow of information. 	EREC.519479 r4	
	4/15/2010	<ul style="list-style-type: none"> Level 1 approval changed from formal correspondence to informal email. 	EREC.693680 EREC.693987	

Section	Date	Change	TRIM Record #	Owner
	2/12/2010	<ul style="list-style-type: none"> Change title to reflect new proposal type; Add new section title: EMSL Proposal Evaluation Process; Replace current criteria (1-5) and rating levels (Excellent – Poor) with revised verbiage and ratings for improved calibration and consistency among reviewers. 	EREC.519479 r3	
	1/21/2009	<ul style="list-style-type: none"> BER was notified that the external proposal evaluation process will change. External reviewers will respond to 2 criteria. The remaining 3 criteria will be scored by an internal Science Review Panel. No change was made to the criteria verbiage, although they were renumbered. The potential considerations were slightly modified. Note: only the criteria (questions) are a Level 1 document. 	EREC.519479 r2	
	1/21/2009	<ul style="list-style-type: none"> Same Review Criteria – new TRIM # created for future updates 	EREC.523213	
	4/14/2006	<ul style="list-style-type: none"> As of 4/14/2006, in general, all proposals started going through peer review using the 5 review criteria questions. 		
	10/6/2005	<ul style="list-style-type: none"> Original Document = EMSL Action Plan 2005: WBS 1.02.04; User Proposal Review Criteria. 	EREC.268642	
6.0 Utilization Policy*	9/6/2011	<ul style="list-style-type: none"> Add ability to negotiate special utilization agreements with EMSL-owned resources when it benefits the User Program by sharing space or adding sought-after capabilities not currently available to the User Program. 	EREC.724275 r4	Ray Teller
	6/23/2010	<ul style="list-style-type: none"> Revised to 1) Expand use of the 5% available instrument time to include collaborative work in addition to EMSL staff member's projects as PI or co-PI; and 2) update EMSL staff 5% proposal approvals to include any EMSL Associate Director. 	EREC.724275 r3	
	4/15/2010	<ul style="list-style-type: none"> Level 1 approval changed from formal correspondence to informal email 	EREC.693680 EREC.693987	

Section	Date	Change	TRIM Record #	Owner
	12/28/2005	<ul style="list-style-type: none"> • Original Document = EMSL Action Plan 2005: WBS 1.02.02; EMSL Utilization Plan. 	EREC.268665	
7.0 Science Advisory Committee Charter*	4/15/2010	<ul style="list-style-type: none"> • Level 1 approval changed from formal correspondence to informal email. 	EREC.693680 EREC.693987	Allison Campbell
	12/30/2005	<ul style="list-style-type: none"> • Original Document = EMSL Action Plan 2005: WBS 1.02.04; Charters and Committees. 	EREC.268625	
8.0 User Executive Committee Charter*	3/31/2011	<ul style="list-style-type: none"> • Changed title from “User Advisory Committee Charter” to “User Executive Committee Charter” • Updating to “at least 14 members” • All parties subscribed to EMSL’s listserve will be eligible to vote • All members are expected to members w/in the last 5 years • The Chair and EMSL Director may appoint members directly if gaps in expertise are identified following election results. 	EREC.708492 r3	Allison Campbell
	5/10/2010	<ul style="list-style-type: none"> • Moving from a specific number of committee members to a minimum number; changing facilities to capabilities; adding a focus of giving advice on capital investments and strategy 	EREC.708492 r2	
	4/15/2010	<ul style="list-style-type: none"> • Level 1 approval changed from formal correspondence to informal email. 	EREC.693680 EREC.693987	
	10/6/2005	<ul style="list-style-type: none"> • Original Document = EMSL Action Plan 2005: WBS 1.02.04; Charters and Committees. 	EREC.268626	
9.0 Charging Guidance for EMSL User Facility Staff	8/11/2011	<ul style="list-style-type: none"> • Removed redundancy of User Definition 	EREC.522875 r6	Peter Smith
	7/7/2011	<ul style="list-style-type: none"> • Updates/Additions: <ul style="list-style-type: none"> • Changed Capability Steward to Capability Lead. • Changed Instrument Time Allocation Committee to Resource Allocation Committee (RAC). 	EREC.522875 r5	

Section	Date	Change	TRIM Record #	Owner
	10/6/2009	<ul style="list-style-type: none"> Added the EMSL and EED joint occupancy and collaboration in PSF 3410 building. Added EMSL unallowable charging guidance. 	EREC.522875 r4	
	6/1/2009	<ul style="list-style-type: none"> Significantly updated – clarified text and include new text on deployment of EMSL Capabilities 	EREC.522875 r3	
	2/28/2007	<ul style="list-style-type: none"> Minor: changed facility to capability and facility lead to capability steward; deleted sentence; corrected the definition of user. 	EREC.522875 r2	
	10/6/2005	<ul style="list-style-type: none"> Original Document = Appendix C of the 2006 Operations Manual 	EREC.522875 r1	
10.0 Space Policy	11/28/2011	<ul style="list-style-type: none"> Added information on space charging 	EREC.516400 r4	Joy Rosscup
	6/3/2010	<ul style="list-style-type: none"> Updated Policy and terminology. 	EREC.516400 r3	
	2/3/2009	<ul style="list-style-type: none"> Last updated for the Operations Manual (Feb 2009). No significant changes, mainly updating terminology. 	EREC.516400 r2	
	May 2006	<ul style="list-style-type: none"> Original Document = Staff Resource Guide May 2006. 	EREC.516400 r1	
11.0 Guidance and Examples regarding designation of User(s) in ERS bookings (formally known as Who is a User Memo)	2/9/2011	<ul style="list-style-type: none"> Updated and moved to Section 12.2. Section 11 is now empty with a note indicating text is in 12.2 	EREC.517611 r3	Ray Teller
	3/18/2009	<ul style="list-style-type: none"> Updated User Definition and Title (per Sect.4). No other changes. 	EREC.517611 r2	
	5/27/2007	<ul style="list-style-type: none"> Original Document 	EREC.517611 r1	
12.0 Usage Types	2/9/2011	<ul style="list-style-type: none"> Update Usage Type Definitions to reflect reduced categories and requirements for comments. Also reformatting section to mimic the appearance of categories on the Usage Breakdown report. Moved Section 11 to 12.2 and updated it. 	EREC.522858 r4	Terry Law

Section	Date	Change	TRIM Record #	Owner
	2/24/2009	<ul style="list-style-type: none"> Revision to show EMSL 5% as new usage type. Note: Participants selecting EMSL 5% will not be counted as users as of FY09. 	EREC.522858 r3	
	10/31/2006	<ul style="list-style-type: none"> Revision to clarify and give examples. 	EREC.522858 r2	
	June 2006	<ul style="list-style-type: none"> Original document in June 2006 Operations Manual 	EREC.522858 r1	
13.0 User Agreements	3/21/2011	<ul style="list-style-type: none"> New subsection added Section 13.4: Bilateral DOE Laboratory Utilization Agreement 	EREC.883546 EREC.860211 r2	Terry Law
	2/19/2010	<ul style="list-style-type: none"> 1) Change section title from “non-proprietary use agreements and appendices” to “User Agreements”; 2) add intro to document roll-out of electronic signature process; 3) replace previous NPUA form with new User Agreement approved for use by DOE in FY2009 and mandatory by March 31, 2010; 4) In FY2009, DOE implemented new user agreements, including one that can be used for proprietary research requests (PUAs). 	be below	
		<ul style="list-style-type: none"> NPUA PUA – Full Advance PUA – Partial Advance 	EREC.639134 EREC.644808 EREC.644813	
	10/1/1998	<ul style="list-style-type: none"> NPUA 		
	10/1/1999	<ul style="list-style-type: none"> Appendix A 		
	7/12/2006	<ul style="list-style-type: none"> Appendix B – updated to include "PNNL/EMSL research staff are often listed as co-authors on publications resulting from User research performed in EMSL due to their significant scientific contribution. If PNNL/EMSL staff are listed as co-authors, you are required to notify the staff member prior to submission so that the publication can be reviewed and processed through PNNL's clearance system" in Section 6. 		

Section	Date	Change	TRIM Record #	Owner
	10/1/1998	<ul style="list-style-type: none"> • Appendix C 		
14.0 EMSL Staff 5% Proposals Implementation and Utilization	8/15/2011	<ul style="list-style-type: none"> • Revised purpose of proposals to remove limiting language that staff must be PIs or co-PIs and instead allow independent or collaborative research. • Updated review process to match new workflow of proposals. • Added Wiley Research Fellows to the EMSL Staff 5% policy to document their ability to use the proposal category to request “special time allocations” as listed under 18.3 Benefits section of the Research Fellow program. 	EREC.518296 r1	Terry Law
	2/24/2009	<ul style="list-style-type: none"> • Original document. 	EREC.518296	
15.0 Appeal Process	11/12/2009	<ul style="list-style-type: none"> • 1) Clarified that appeals are to address errors submitted in original documentation or respond to reviewer comments, not to restate how much a user needs access; 2) established a deadline for submitting appeals ; 3) clarified that Appeals Committee makes recommendation to EMSL Director; 4) added that USO will coordinate appeals with committee. 	EREC.522905	Terry Law
	3/17/2009	<ul style="list-style-type: none"> • Revised text – increased the number of paragraphs (from 1-2 to 2-3), and decreased the response time (from 8 to 4 weeks). 	EREC.522905	
	5/27/2008	<ul style="list-style-type: none"> • Original – as posted on website 	EREC.522905 – see general notes	
16.0 EMSL Scientific Partner Proposals for Capability Development Process	7/18/2011	<ul style="list-style-type: none"> • Updated members of review Panels to include AD for MSC 	EREC.519323 r5	Dave Koppenaal
	4/7/2011	<ul style="list-style-type: none"> • Minor updates: change requirement from “2” to “1-2” pages • Added info regarding periodic reviews. • Clarified proposal requirements 	EREC.519323 r4	
	2/18/2010	<ul style="list-style-type: none"> • Changed title of “Partner Proposals” to “Scientific Partner Proposals” per PNNL Legal request. Added requirements for annual progress 	EREC.519323 r3	

Section	Date	Change	TRIM Record #	Owner
	3/4/2009	reports. Minor edits. <ul style="list-style-type: none"> • Original 	EREC.519323 r1	
17.0 Wiley Visiting Scientist Program – Official Policy and Procedure	2/8/2011	<ul style="list-style-type: none"> • Changed POC from West to Baer 	EREC.836131	Don Baer
	3/4/2010	<ul style="list-style-type: none"> • Changed POC from Showalter to West 	NA	
	10/23/2009	<ul style="list-style-type: none"> • Changed POC from Felmy to Showalter 	NA	
	4/23/2009	<ul style="list-style-type: none"> • Original – as posted on EMSL website 	EREC.540337	
18.0 Wiley Research Fellow Program – Official Policy and Procedure	2/8/2011	<ul style="list-style-type: none"> • Changed POC from West to Baer 	EREC.836131	Don Baer
	3/4/2010	<ul style="list-style-type: none"> • Changed POC from Showalter to West 	NA	
	10/23/2009	<ul style="list-style-type: none"> • Changed POC from Felmy to Showalter 	NA	
	4/23/2009	<ul style="list-style-type: none"> • Original – as posted on EMSL website 	EREC.540336	
19.0 William Wiley Post Doctoral Fellowship – Official Policy and Procedure	6/17/2011	<ul style="list-style-type: none"> • Slight change in 1st paragraph 	EREC.540339 r4	Ray Teller
	2/9/2011	<ul style="list-style-type: none"> • Changed dates to be generic for any given year. 	EREC.540339 r3	
	10/6/2009	<ul style="list-style-type: none"> • Updated for FY10 Call 	EREC.540339 r2	
	4/27/2009	<ul style="list-style-type: none"> • Original – as posted on EMSL website 	EREC.540339 r1	
20.0 MT Thomas Award for Outstanding Postdoctoral Achievement – Official Policy and Procedure	3/16/2012	<ul style="list-style-type: none"> • Updated Rules and Eligibility 	EREC.540335 r3	Don Baer
	2/8/2011	<ul style="list-style-type: none"> • Changed POC from West to Baer 	EREC.836131	
	3/4/2010	<ul style="list-style-type: none"> • Changed POC from Showalter to West 	NA	
	1/11/2010	<ul style="list-style-type: none"> • Updated dates 	EREC.540335 r2	
	10/23/2009	<ul style="list-style-type: none"> • Changed POC from Felmy to Showalter 	NA	
	4/28/2009	<ul style="list-style-type: none"> • Original – as posted on EMSL website 	EREC.540335 r1	

Section	Date	Change	TRIM Record #	Owner
21.0 Policy for Requesting EMSL Capital Funds and Request Form	5/3/2012	<ul style="list-style-type: none"> Updated form (removed reviewers and changed approvers to CTO, and COO). 	EREC.596780 r9	Dave Koppenaal
	3/20/2012	<ul style="list-style-type: none"> Made minor changes to clarify text. 	EREC.596780 r8	
	7/22/2011	<ul style="list-style-type: none"> Updated form 	EREC.596780 r7	
	3/1/2011	<ul style="list-style-type: none"> Made minor changes to clarify text. Added EMSL Business Manager to committee list. 	EREC.596780 r6	
	2/21/2011	<ul style="list-style-type: none"> Updated form 	NA	
	7/29/2010	<ul style="list-style-type: none"> Updated form 	NA	
	3/4/2010	<ul style="list-style-type: none"> Updated form 	EREC.596780 r3	
	10/21/2009	<ul style="list-style-type: none"> Original 	EREC.596780 r2	
22.0 Engagement with BER and PNSO	8/8/2011	<ul style="list-style-type: none"> Updated Table 22-1 	EREC.596786 r4	Nancy Foster-Mills
	2/16/2011	<ul style="list-style-type: none"> Updated Table 22-1 	EREC.596786 r3	
	7/29/2010	<ul style="list-style-type: none"> Fixed error in Table 22-1 	EREC.596786r2	
	10/20/2009	<ul style="list-style-type: none"> Original 	EREC.596786 r1	
23.0 EMSL Research and Capability Development Projects	8/20/2010	<ul style="list-style-type: none"> New Section 	EREC.738744 r1	Don Baer
24.0 Divestiture “Sunsetting” of Equipment Resources	1/25/2012	<ul style="list-style-type: none"> New Section 	EREC.1126821	Dave Koppenaal
* Requires Level 1 approval	4/14/2010	<ul style="list-style-type: none"> BER, PNSO, and EMSL are going to handle approval of Level 1 changes informally via e-mail as opposed to sending hard-copy letters through the formal correspondence process. 	EREC.693680 EREC.693987	

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1.0 Introduction

EMSL - Environmental Molecular Sciences Laboratory, a national scientific user facility, provides integrated experimental and computational resources for discovery and technological innovation in the environmental molecular sciences to support the needs of the U.S. Department of Energy (DOE) and the nation. EMSL's vision is to develop and integrate, for use by the scientific community, world-leading capabilities that transform understanding in the environmental molecular sciences and accelerate discoveries relevant to DOE's missions. This is accomplished through multidisciplinary collaborations between an engaged user community and expert scientists and staff.

This manual is a general resource tool to assist EMSL users and Laboratory staff within EMSL locate official policy, practice and subject matter experts. It is not intended to replace or amend any formal Battelle policy or practice. Users of this manual should rely only on Battelle's How Do I (HDI) for official policy. No contractual commitment or right of any kind is created by this manual. Battelle management reserves the right to alter, change, or delete any information contained within this manual without prior notice.

2.0 Mission

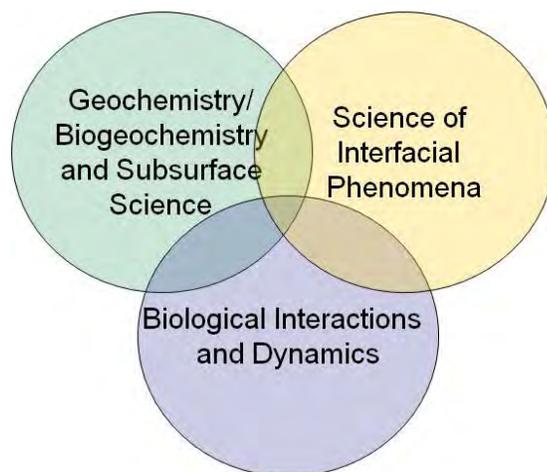
EMSL, a U.S. Department of Energy national scientific user facility located at Pacific Northwest National Laboratory provides integrated experimental and computational resources for discovery and technological innovation in the environmental molecular sciences to support the needs of DOE and the nation.

3.0 EMSL Science Themes

3.1 EMSL Science Themes

The vision that directed the development of the Environmental Molecular Sciences Laboratory (EMSL) has led to significant scientific progress. During its second decade of operation, EMSL plans to optimize scientific productivity by focusing attention and capability development on specific high-priority research topics within three EMSL Science Themes.¹ The goal of Science Themes is to provide strategic direction for critical investments in the development of new technologies to enable innovative research as well as prioritization of user access. These themes were originally developed in collaboration with the scientific community, DOE's Office of Biological and Environmental Research (BER) leadership, and our Science Advisory Committee, and were further refined in 2009 with the assistance of Science Theme Advisory Panels. They help define and direct development of key capabilities and collections of user projects that will enhance scientific progress in the areas of environmental molecular science most critical to DOE and the nation, such as environmental pollution, global warming, and sustainable energy production. These Science Themes do not exclude other valid scientific questions that can make use of EMSL's capabilities.

Although each Science Theme focuses on science drivers important to that field of science, there are significant overlapping and linked areas of common scientific interests, including the common need to understand the impacts of complexity and the importance of many types of interfaces. Thus, the scope of a research project in EMSL may impact all three Science Themes. The ability to combine experimentation with high-end computing provides users with a unique opportunity to address research challenges within, among, and beyond these Science Themes. Such linkages can drive research on microbial communities, aerosol chemistry, complex interfaces, and the interactions of materials (including nanoparticles) with biological systems.



3.2 Biological Interactions and Dynamics

Recent advances in genome-wide sequencing of a variety of organisms and improvements in high-throughput instrumentation have contributed to a rapid transition of the biological research paradigm towards understanding biology at a systems level. As a result, biology is evolving from a descriptive to a quantitative, ultimately predictive science where the ability to collect and productively use large amounts of biological data is crucial.

Understanding how changes in gene expression patterns in cells give rise to biological outcomes is fundamental to systems biology. However, there is considerable heterogeneity in cell responses because of intrinsic variation in their composition as well as their microenvironment. Understanding the nature and sources of cellular heterogeneity is essential for building models that can predict how changes at the genetic level can alter population behavior. Understanding how different types of cells interact is also crucial for building models of complex communities. Modeling of biological systems will require new technologies and approaches to measure the composition of cellular communities and to track the temporal and spatial disposition of their components. Understanding and optimizing the response of biological

¹ The Science of Interfacial Phenomena theme supports a strong component of aerosol chemistry. EMSL continues to evaluate this area in collaboration with BER as a potential fourth Science Theme.

systems to their environment can have a significant impact on achieving viable solutions to several problems of national concern. For example, a deep knowledge of anaerobic microbial metabolism can improve national efforts in environmental cleanup and site stewardship, and help provide clean and secure energy. Molecular-level measurements of biochemical processes provide foundational insights toward building predictive computational models that improve our ability to use microbes effectively and safely as an approach to mitigate the environmental and human health impacts of energy-production activities and to extend basic scientific research.

To facilitate the development of biology as an increasingly quantitative science, we encourage user research that focuses on the following key topical areas:

- The dynamics of cellular composition as well as the localization and assembly of macromolecular complexes
- Protein modifications and how they impact cell regulatory networks
- Molecular mechanisms that define and control the interactions between and within prokaryotic and eukaryotic cell communities
- Understanding mechanisms of phenotypic heterogeneity in cell populations and the relative roles of genetic versus environmental factors
- Characterizing and linking inter- and intra-cellular regulatory networks from the cell to the population level, especially those that control the response of cells to their environment.

Work in these topical areas can utilize current EMSL capabilities and ideally extend these capabilities into new technical areas. For example, a full understanding of the structure, function, and dynamics of multi-protein complexes and a detailed metabolite profiling of many cells will require extending current EMSL capabilities in high-throughput mass spectrometry and NMR. Work is also currently underway to enhance EMSL capabilities in the analysis of cellular heterogeneity and cellular interactions through new technologies, including microbial flow cytometry and multimodal and multispectral microscopy, as well as transcriptional profiling and surface nonlinear spectroscopy.

3.3 Geochemistry/Biogeochemistry and Subsurface Science

Molecular level processes, such as aqueous complexation, adsorption to different mineral phases, or microbial reduction of redox active metals, often control the transport and fate of contaminants in the natural environment. These processes occur in chemically and physically heterogeneous subsurface environments. Understanding the structure, chemistry, and nanoscale geometric properties of the mineral/water and microbe/mineral interfaces is critical to a mechanistic understanding of subsurface reactivity and contaminant transport. As a result, molecular-level studies of interfacial geochemistry and biogeochemical reactions have been an active area of research for more than a decade. Unraveling these phenomena at the molecular level to determine their impact on contaminant migration and transformation is a key objective of this Science Theme.

Research in this Science Theme addresses some of the most challenging issues confronting the nation, including the safe and cost-effective management of environmental pollutants, the safe disposal of energy production by-products, nuclear waste and green house gases. Solutions to these issues are critical both for deploying new energy technologies for the nation and for maintaining a sustainable natural environment.

This Science Theme will focus EMSL's scientific resources on the following key topical areas:

- Linking molecular-scale processes to reactive transport. This topic area is focused on molecular to microscale processes principally related to how advection or diffusion at the microscale impacts mineral dissolution rates, cell growth and biofilm formation, and particle aggregation and transport.
- Defining the interplay between geochemistry and the structure and activities of microbial communities. There is a need to understand how microbial community structures vary in space and time and how such changes relate to changes in geochemical conditions and microbial interactions with earth materials and environmental contaminants, including radionuclides.
- Biogeochemical transformations of organic contaminants and natural organic matter. This topical area focuses on the transformations and transport of refractory organic compounds in the environment. Research centers on both the release of anthropogenic organic compounds into the subsurface environment, including sequestration of greenhouse gases, as well as the study of fate and transport of natural, refractory organics.
- Nano-sensing for *in situ* characterization. This topic area is focused on both the development of nanoprobes to ascertain chemical conditions in geochemical or microbial microenvironments and their applicability to sensing field-scale conditions.
- Chemical and biological interactions at complex interfaces. This topic area includes interactions that may lead to contaminant sequestration at the microbe-mineral interface, determination of reaction rates in natural geochemical systems, and metal/ligand exchange dynamics at interfaces. An overall emphasis is placed on moving the current predictive capabilities from equilibrium-based assumptions to a more reaction rate approach based upon the underlying molecular phenomena.

Research in the area of biogeochemistry and subsurface science is well established at EMSL and will be expanded by creating advanced capabilities to determine the chemical form of contaminants, including radionuclides, in complex subsurface materials; developing a fundamental understanding of dynamic interfacial processes and their impact on observed reactivity; and improving the linkage of fundamental studies of molecular geochemistry/biogeochemistry to field-scale transport processes.

3.4 Science of Interfacial Phenomena

Fundamental understanding of the physical and chemical properties of interfaces in natural and engineered materials is a critical component of environmental and energy-related research, understanding and controlling global warming, and the development of technologies important to the mission of DOE and society. The importance of interfaces has been highlighted in DOE science workshops on topics that include geosciences, solid-state lighting, solar energy, and advanced nuclear energy systems.

Tailored or designed surfaces and interfaces are important as model systems for detailed study of processes that occur on natural heterogeneous materials present in atmospheric or subsurface environments and for developing materials with new properties for energy production, catalysis, and numerous other applications. The behaviors of complex heterogeneous materials in the environment (such as aerosol photochemistry or contaminant migration) will never be fully understood without model systems that allow specific aspects of that complexity to be examined in detail. Likewise, material systems with interfaces optimized with specific properties are essential for developing technologies needed for a stable environment and a secure energy future. Understanding complex interfaces requires methods to characterize naturally

3.3

complex materials and minerals found in the environment and to understand increasingly complex materials designed and synthesized for a desired functionality. These science issues complement and naturally intersect those of the biological and geoscience science themes.

Two of the significant scientific challenges related to advancing interfacial science are: i) developing (and verifying) predictive models for interfacial processes with energy and environmental implications, and ii) advancing the understanding of structure-function relationships in complex multi-component interfacial systems. The Science of Interfacial Phenomena science theme is focused on research activities that address these two scientific challenges in specific areas with high environmental or energy impact, such as:

- Nucleation and growth in multiphase and multicomponent systems (e.g., aerosols, materials synthesis, carbon sequestration, and geochemical processes)
- Phase separation and transformation (e.g., dissolution, precipitation, deliquescence, efflorescence, and ice formation)
- Charge and mass transport processes at interfaces that influence chemical transformations and energy production or storage as relevant to catalysis and photocatalysis, photovoltaics and solid-state lighting, aerosol interactions in the environment, and fuel cells and batteries
- Rational synthesis of materials and interfaces optimized for energy production, energy storage, sensing, catalysis, solid-state lighting and bio-compatibility.

Fields and technologies that will be impacted by the improved understanding and control of molecular-level structural, dynamic, and transport properties of interfaces include the following:

- New generations of selective catalysts
- Solid-oxide fuel cells and energy storage
- Thin-film solar cells
- Solid-state lighting
- Hydrogen production and storage
- Models of the impact of aerosol chemistry on global warming and atmospheric contamination
- Prediction and mediation of contaminant migration in groundwater.
- Carbon sequestration
- Chemical sensors and radiation detectors
- Materials for next-generation nuclear reactors
- Biomaterials for medical devices and drug delivery.

Research capabilities and expertise at EMSL enable the design and characterization of a variety of material systems with specialized atomic, electronic, and ionic transport and interfacial properties. EMSL's unique blend of capabilities and staff expertise makes it a premier laboratory for the study of oxide materials and mineral surfaces.

4.0 Definition of an EMSL User

To accomplish reliable and consistent reporting to DOE on the research community using EMSL facilities, an agreed-upon EMSL user definition is necessary.

User Definition: An individual who makes use of the user facility as part of an active user proposal in the EMSL Usage System is considered an EMSL user. Each user will be categorized as a/an:

- **Onsite User** – individuals who are physically present at EMSL, at least once during the reporting period, to conduct their research.
- **Remote User**– individuals who remotely access EMSL by logging onto EMSL’s network to operate a piece of research instrumentation or by sending or receiving samples.

User Counts: Users are counted once per fiscal year.

Reporting: Reports will be generated quarterly and will contain year-to-date counts.

5.0 EMSL Proposal Types, Review Process, and Peer Review Criteria

The User Support Office (USO) is responsible for delivering a world-class integrated user program supporting EMSL's vision and mission. From issuing calls for proposals to facilitating the reviews, scheduling training, arranging access, and collecting and reporting results, the USO works closely with users and management to provide streamlined and safe access to EMSL's unique capabilities for researchers from around the world through a competitive, peer-review process.

A variety of different proposal options are available to facilitate researchers' access to the facility based on their needs and to confirm EMSL capabilities are used to address cutting-edge science questions. Options include user proposals that are open to all researchers and proposals that are restricted to EMSL staff or PNNL staff who own or co-own resources that are located in EMSL's user program.

5.1 Proposal Types

To maximize the impact of EMSL research, the following proposal types currently are available or still active in the EMSL Usage System (EUS). Preference is given to user proposals submitted in response to announced calls for proposals, although user proposals requesting one year of access or less may be submitted at any time during the year. Although a limited amount of access may be available for proprietary research, most research conducted at EMSL is non-proprietary with results disseminated to the scientific community through publications in open literature or conference presentations and papers.

In addition to the user proposal types available, EMSL also tracks research performed on equipment that is owned or co-owned by PNNL or other research programs, as well as research performed by EMSL staff to further their own expertise. All proposals are submitted via EMSL's User Portal and undergo management and technical or peer reviews.

5.1.1 User Proposal Types

Science Theme Proposals: Science Themes define and direct the development of key capabilities and collections of growing user activities associated with environmental molecular scientific challenges that address topics of societal importance. Especially encouraged are proposals that couple experiments with theory, modeling, or simulation; innovatively cross multiple Science Themes; or are computationally intensive, requiring large-scale parallel calculations that scale efficiently with both the number of processors and the size of problem. Science Theme proposals are submitted in response to an annual Call, which is usually issued in the early spring. They are valid for one year and may be extended twice, subject to favorable review, for a total period of three years.

Research Campaign Proposals: To encourage application of a wide range of EMSL capabilities to accelerate scientific progress, EMSL identifies specific areas or topics where application of multiple methods and approaches that combine appropriately designed experimental and computational research efforts and advanced data integration to tackle important problems. These integrated Research Campaigns typically are larger in size than most Science Theme proposals and likely involve partnerships between EMSL users and EMSL staff to combine measurements, computation, and/or data in ways not previously possible. These proposals are submitted in response to periodic calls, and are valid for one year with multiple extensions possible based on the call. Typically, five-page letters of intent are used to initiate a discussion with EMSL's Chief Science Officer (CSO). Investigators with successful letters of intent will be asked to submit a full proposal (6-page maximum) that undergoes external peer and management reviews.

Capability-Based Proposals: Capability-based proposals are occasionally sought when capabilities are not fully subscribed or when new capabilities are brought online. Although the details of access can vary according to the call, capability-based proposals typically are awarded for one year with one extension possible for a total period of two years.

Computationally Intensive Research (CIR) Proposals: Although no longer offered, CIR proposals replaced the Computational Grand Challenge Proposals in 2008 and were a focus area in the 2009 call. In 2010, these large computational proposals were no longer called out as a separate proposal type but were fully integrated into the Science Theme call and review process. However, CIR proposals were valid for one year with two extensions possible for a total period of three years, and the last of the CIR proposals from the 2009 call will close in September 2012.

General Proposals: These proposals may be submitted at any time throughout the year and are valid for only one year. They provide an ideal mechanism for users to get preliminary data or try new ideas in preparation for a Science Theme proposal.

Rapid Access Proposals: In limited cases, users may seek access to EMSL capabilities where a quick turnaround of data is required for a specific deadline (e.g., response to requested data for finalizing thesis work or paper publication or preliminary data needed for proposal preparation) or a proof-of-principle experiment is required before proceeding with the development of a full proposal. Rapid access proposals may be submitted at any time throughout the year and, if approved, grant up to one month of EMSL access. The proposal must clearly justify why rapid access is warranted. Proposals are not externally peer reviewed but undergo expedited management and technical peer reviews (usually one to two weeks).

Proprietary Proposals: EMSL facilities can be used for proprietary research. The U.S. Department of Energy (DOE) requires that non-federal proprietary projects pay full-cost recovery of the facilities used, which includes, but is not limited to, labor, equipment usage, consumables, materials, and EMSL staff travel. Proprietary proposals may be submitted at any time throughout the year and, if approved, are valid for one year. Proposals containing proprietary information will be reviewed under a restricted access process to maintain confidentiality, but still undergo management and technical peer reviews.

Scientific Partner Proposals: These proposals may be submitted at any time throughout the year by individuals or groups who wish to partner with EMSL staff to develop and build unique capabilities that enhance EMSL's user program. Scientific Partner proposals pool resources, expertise, and other assets and build upon EMSL's capabilities in instrument development. In return for co-development, EMSL Scientific Partner users have priority access to the new capability once it is completed for a negotiated period. Two-page letters of intent are used to initiate a discussion with EMSL's Chief Technology Officer (CTO) on potential impact, total cost, development time, resource sharing, need for the capability, project teams, and partner access requirements. Scientific Partner users with successful letters of intent will be asked to submit a full proposal that undergoes external peer and management reviews. Proposals are valid based on the agreed-upon scope, but are reviewed annually for progress by the Partner Panel. For full details of this program, see Chapter 16.

5.1.2 Staff Proposal Types

Resource Owner Proposals: EMSL's experimental and computational instrumentation (resources) are funded from a variety of sources. The majority of the capabilities are 100% owned by the EMSL User Program, although some capabilities were purchased or co-purchased using funding from PNNL or other research programs. Resources that are owned or co-owned by other programs are available for use based on EMSL's Utilization Policy (see Chapter 6). Researchers requesting to use the programmatically-owned capabilities must submit Resource Owner proposals, which

are subject to internal management and safety reviews and utilization tracking. Proposals from researchers that are not listed as the Point of Contact for the programmatically-owned time on the capability must also be approved by the Point of Contact. Resource Owner proposals are valid for one year with two extensions possible for a total period of three years. New proposals are required to verify the scope of work is kept current and undergoes appropriate management and safety reviews.

EMSL Staff 5% Proposals: Up to 5% of the available instrument time is made available for EMSL staff members to help advance their scientific careers through independent or collaborative research. This research is expected to result in EMSL staff publications or externally funded programs. To utilize this benefit, staff must submit EMSL Staff 5% proposals, which are subject to internal management and safety reviews, as well as peer review on EMSL’s five criteria and approval by an EMSL Associate Director. Requests are prioritized based on research that advances EMSL’s mission, and utilization is tracked in accordance with the Utilization Policy. Proposals are valid for one year. For more details, see Chapter 14.

EMSL Staff Intramural Proposals: These proposals are submitted under a competitive internal research and capability development program that allows staff to propose ideas that would enhance both their professional visibility and add important capability or expertise to EMSL. Calls for proposals are issued internally by EMSL’s CSO, who oversees the peer review and selection process. Selected proposals are submitted via the User Portal for management and safety reviews and utilization tracking. Proposals are valid for one year with two extensions possible for a total of three years. For more details, see Chapter 23.

Table 5.1. Available Proposal Options.

	Science Theme	Research Campaign	Capability-Based	Scientific Partner	General	Rapid	Proprietary	Resource Owner	EMSL Staff 5%	EMSL Intramural
Duration	1 year	1 year	1 year	Varied	1 year	1 month	1 year	1 year	1 year	1 years
Extensions	Up to 2	Varied	Up to 1	Varied	0	0	0	2	0	Up to 2
Periodic Call	Yes	Yes	Yes	No	No	No	No	No	No	Yes (internal only)
External Peer Review	Yes	Yes	Yes	Yes	Yes	No	No	No	No	No
Special Notes	Bulk of resources given to these proposals. As of 2010, computationally intensive proposals are submitted under the appropriate Science Theme.			Available only with approved Letter of Intent	Resources limited	Requires compelling justification in request; no external review due to time constraints	Limited; cannot interfere with nonproprietary access; no external review to protect intellectual property (IP) issues		Requires AD approval.	Staff and capability development program administered by the Chief Science Officer

5.2 Submitting a Proposal

All proposals are submitted online via the EMSL User Portal (<http://eus.emsl.pnl.gov/Portal>). Applicants complete the required information; attach a description of the proposed work (with a description of the computing approach if compute cycles are requested); and supplemental information, which is limited to 1) references (if used in the project description), 2) curricula vitae for the Principal Investigator (PI) and key investigators, 3) a table of resource requests, and 4) a list of potential reviewers (optional). Each proposal is assigned a unique number for tracking purposes, and the USO receives notification to initiate the screening and review process.

5.2.1 Proposal Screening and Technical Review

Upon submittal, all proposals are screened by USO staff to determine if the required information is present and the proposal package adheres to the published guidance for page length and formatting. After the initial screening, the USO assigns the proposal based on the scope of work to a Capability Lead, who reviews the proposal to verify EMSL has the requested capabilities, that any extreme hazards are identified, and that the work is technically feasible. The Capability Lead may utilize the expertise of other scientific consultants in this review step. If the proposal passes this step, the Capability Lead becomes the Host for the duration of the proposal's life cycle.

5.2.2 Proposal Review

EMSL follows a graded management and peer review process based on the proposal type and scope of the project as identified by the author when completing the proposal request form (Table 5.2). Proposals may be denied at any point during the review process, at which point users receive electronic notification of the reasons for denial along with instructions for resubmitting the proposal if the concerns identified in the review are addressed.

5.2.2.1 Internal Management Review

Once the proposal has passed the screening and technical review, concurrent internal management reviews occur. All proposals are reviewed by qualified individuals in the following EMSL support offices:

- **Business:** All research conducted in EMSL is done under a fully executed DOE user agreement or other contracting mechanism, such as a CRAA, Work for Others, or subcontract. These agreements must be in place prior to Business office approval. For details regarding the DOE user agreements, see Chapter 13. Proprietary work is assessed for appropriate cost reimbursement, etc.
- **Environment, Safety, and Health:** All proposals are assessed for hazards and approved as appropriate not only for EMSL's operating envelope, but for the specific EMSL space in which the proposed work will occur.

In addition, depending on the scope of the project, the following subject matter experts may be asked to evaluate the proposal:

- **Animal and/or Human Subjects:** Proposals with these items are reviewed and approved by the Animal Care and Use Committee and/or the Institution Review Board (IRB) for Human Subjects.
- **Radiological:** Proposals involving radiological samples are reviewed and approved by EMSL's radiological engineer as appropriate for the operating envelope for EMSL space. In addition, although not a formal reviewer, EMSL's Research Operations Manager is notified of the proposal request.

- **Product Line:** All proposals that involve radiological hazards, unbound nanomaterials, human biological samples, use of animals, and/or human subjects are reviewed by the EMSL Product Line Manager to confirm the project risks are appropriately managed in EMSL’s operating envelope.

Table 5.2. EMSL Proposal Process

Proposal Process										
Screening and Review Steps	Proposal Type									
	Science Theme	Research Campaign	Capability-based	Scientific Partner	General	Rapid Access	Proprietary	Resource Owner	EMSL Staff 5%	EMSL Intramural
Letter of Intent or Proposal Screening CSO/CTO/USO	USO	CSO	USO	CTO	USO	USO	USO	USO	USO	CSO
Technical Review: Capability Lead, Full Panel	CL	FP	CL	FP	CL	CL	CL	CL	CL	FP
Peer Review (Science, Team criteria) External, Capability Lead, Associate Director	Ext	Ext	Ext	Ext	Ext	CL	None	None	AD	Ext
Cut-off Scores Used Science/Capability Leads	Yes	No	No	No	Yes	No	No	No	No	No
Peer Review of Mission, Theme, Resources Full Panel , Science Lead, Capability Lead	FP	FP	SL	FP	SL	CL	CL	None	AD	FP
Allocation Review: Capability Lead, Full Panel	FP	FP	FP	FP	CL	CL	CL	CL	CL	FP
Utilization Tracked in ERS	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Special Notes	Bulk of resources given to these proposals. As of 2010, computationally intensive proposals are submitted under the appropriate Science Theme.				Resources limited	Requires compelling justification in request; no external review due to time constraints	Limited; cannot interfere with nonproprietary access; no external review to protect intellectual property (IP) issues	Proposals by researchers other than Point of Contact require POC approval		Internal Call only issued by CSO

5.2.2.2. Peer Review

User Proposal Review

All user proposals undergo peer review on a graded approach, which balances the effort of assessment against the impact on EMSL resources. Depending on the proposal type, some proposals require both external and internal peer review; others require internal peer review only. To expedite these reviews, EMSL maintains a large pool of external reviewers from around the world who volunteer their time to review user proposals. Currently, there are 408 active reviewers, representing 167 institutions from 45 states in the United States, and 29 institutions from 16 countries. For Fiscal Year 2011, almost 50% of this review pool participated in the evaluation process. In addition, EMSL currently works with almost 50 PNNL staff who provide their expertise as internal reviewers on the technical merits and feasibility of proposals. The following details the peer review requirements for each proposal type.

Rapid Access Proposals: To respond to users' needs for truly rapid access on a limited project scope, external review is not required for these proposal types. However, all rapid-access proposals undergo an internal peer review to assess the technical scope and expected outcomes of the request. Reviewers complete the peer-review form using EMSL's five review criteria.

Proprietary Proposals: Due to the sensitive nature of these projects and to protect the intellectual property discussed in the project description, these proposals do not undergo external peer review and internal access to these proposals is strictly limited to a need-to-know basis. The Capability Lead evaluates the impact to existing staff and resource availability, and obtains additional technical or peer review of the proposed work as needed to assess the scope.

Scientific Partner Proposals: Due to the strategic scope of these projects, a unique process is followed for peer review. The Letter of Intent is submitted to EMSL's CTO and reviewed by an internal panel, composed of the CTO, the CSO, EMSL's Science Theme Leads, and the EMSL Associate Directors. In addition to EMSL's established criteria, proposals are reviewed for strategic alignment with the EMSL User Program, user/scientific impact and need, and resource and time requirements. If requested, full proposals are submitted through the User Portal and undergo management and safety reviews, as well as external review by members of the Science Advisory Committee (SAC) or User Executive Committee (UEC) for scientific merit and impact on EMSL's future directions.

Research Campaign Proposals: Because integrated research campaigns are typically larger in size and involve partnerships between EMSL users and EMSL staff, a unique process is followed for peer review. The Letter of Intent is submitted to the EMSL CSO and reviewed by a Panel consisting of the CSO, EMSL's Science Theme Leads and EMSL's Associate Directors for impact to EMSL's mission, science themes, and resource availability. If requested, full proposals are reviewed externally by members of the SAC, UEC, and identified experts in the scientific field for scientific merit and team qualifications.

Science Theme Proposals: These multi-year proposals undergo a bilateral peer review by independent external members of the scientific community for scientific quality and a Science Panel for strategic direction. The Science Panel is composed of one or more of each of the following: Science Theme Leads, other EMSL Science Leads, EMSL Associate Directors and Capability Leads, and external members selected by the Science Theme Leads. Science Theme proposals are rigorously reviewed by a full Panel that includes external members to verify the proposal process provides a fairness of opportunity and resource allocation is justified for the expected scientific impact.

To evaluate the scientific merit and quality of the proposed research, the Capability Leads assign independent, external members of the scientific community to review the proposal. External reviewers are asked to rate the proposal against the following two scientific quality criteria:

- Criterion 1. Scientific merit and quality of the proposed research
- Criterion 2. Qualifications of the proposed research team to achieve proposal goals and contribute to high-impact science.

A reasonable effort will be made to get at least two external reviews for each proposal. If the two reviewers' scores are separated by two or more points, every effort is made to obtain a third review. If the required number of reviews cannot be obtained by the time of the Panel meetings, an external member of the Science Panel will be asked to serve as the additional reviewer and provide scores and comments for the scientific quality criteria.

Prior to the full Panel meeting, the Capability Leads and assigned Science Theme Lead evaluate the independent external review scores and comments and identify a cut-off score at the point where there is an obvious drop in external peer review scores—typically in the lower fifth percentile of proposals received. Proposals that fall below this cut-off score are not forwarded to the full Science Panel for consideration unless the evaluation identified apparently erroneous, suspect, or contradictory comments and scores by the external reviewers or the proposal did not receive the required number of reviews prior to the Panel meetings.

Science Panels are asked to rate the following three criteria specific to EMSL's operation:

- Criterion 1. Relevance of the proposed research to EMSL's mission
- Criterion 2. Impact of the proposed research on one or more EMSL Science Themes
- Criterion 3. Appropriateness and reasonableness of the request for EMSL resources for the proposed research.

In addition to reviewing new proposals, Science Panels evaluate progress on active proposals that are requesting a second annual extension, and make recommendations to approve or deny those extensions. Proposals requesting second annual extensions will be evaluated against incoming proposals based on their use and scientific progress from the prior year.

Science Panels combine their review scores with the external review scores to establish a weighted composite score, based on published guidance for the annual Call. Using this composite score, Science Panels provide a ranked list of all proposals, including proposals requesting their second annual extension, to the Resource Allocation Committee (see 5.2.3). Although preference will be given to proposals related to the specific topics within the Science Theme call, Panels may also identify high-quality proposals that do not fit within the Call's themes and recommend these for consideration at the EMSL Director's discretion.

Proposals requesting their first annual extension will be reviewed separately by the Capability Leads in consultation with the Science Theme Leads. Proposals will be evaluated based on their use of allocated resources and progress against the three-year goal. The Capability Leads' recommendations to approve or deny the extensions will be incorporated into the Science Panel's ranked list and provided to the Resource Allocation Committee.

General Proposals: These proposals are evaluated using the same general principles and criteria of scientific excellence and relevance to EMSL's mission and capabilities. Such proposals utilize EMSL resources to a lesser degree than proposals in response to Calls, and do not warrant consideration by a full Science Panel.

At least two external peer reviews will be sought for the scientific quality of General proposals, following the process outlined above for Science Theme proposals. If the required number of external reviews cannot be obtained within an acceptable timeframe to allow a timely response to the user, the Capability Lead can request that the reviews received be accepted with the evaluation and concurrence of an EMSL Associate Director.

In lieu of a full Science Panel evaluation of the three criteria specific to EMSL's operation, the assigned Science Theme Lead, in consultation with the Capability Leads, completes the review.

Staff Proposal Review

Resource Owner Proposals. These proposals do not undergo peer review.

EMSL Staff 5% Proposals. These proposals undergo peer review by an EMSL Associate Director, who reviews the proposal against EMSL's five criteria and submits a peer review via the User Portal. In addition, the Associate Director evaluates the impact of the proposed research on the staff member's career and assigned user projects.

EMSL Staff Intramural Proposals. Intramural proposals follow a unique process for peer review. The CSO issues a Call at the beginning of the fiscal year, and proposals are reviewed by a panel consisting of EMSL's CSO, Science Theme Leads and Science Leads for impact to EMSL's mission, science themes, and resources. Authors of the top ranked proposals are required to make a presentation and defend their proposal in front of the panel. The top proposals after the defense are sent out for external peer review by members of the SAC, UEC, and identified experts in the scientific field for scientific merit and team qualifications.

5.2.3 Allocation of Resources

Resources are allocated to user proposals based on the proposal type. The majority of EMSL's resources to support user proposals, including time on each resource, staff availability, and funding for staff to support user research, is allocated on a fiscal-year basis to proposals received in response to calls. Due to the size of these proposal requests, a Resource Allocation Committee (RAC) is used to allocate the resources across these proposals. The committee is composed of the Capability Leads, the EMSL Associate Directors, and the USO Manager, and meets after the Science Panel reviews are completed.

User proposals that are received at any time throughout the year, such as Rapid Access and General proposals, are handled on a case-by-case basis within each Capability Lead's existing budget and staff/resource availability. Specifics related to the allocation step for each proposal type is provided below.

Science Theme Proposals: The RAC receives the ranked list of recommended proposals from the Science Panels. Each Capability Lead is responsible for evaluating the scope of the project against the resource request to refine the request and make allocations of both instrument and staff time. This often involves discussions with the proposal authors to fine tune the scope for the first year of the proposal. The Capability Leads' allocations are then combined to establish the total resource allocation and staff costs for supporting each proposal. At the RAC meeting, the committee reviews the combined costs to determine if allocations are reasonable and appropriate to achieve the proposed science. Following committee consensus of the resource allocation, the EMSL Associate Directors prepare a recommendation based on the RAC's decisions for the EMSL Director's concurrence. Concurrence by the EMSL Director serves as the Record of Decision for the EMSL Business Manager to distribute the User Support budget to the Capability Leads and for the USO to issue decision notifications.

Research Campaigns and Scientific Partner proposals: The review panels for these proposals work with the Wiley Research Fellows and Capability Leads to identify the full scope of resources needed to accomplish the project. EMSL's CSO or CTO is responsible for the budgets for these proposals, and works with the Capability Leads to allocate the resources for the approved proposals.

General and Rapid Access Proposals: A full committee review is not required for these proposal types because awards are smaller and managed within existing budgets and resource availability. Instead, the Capability Lead, in consultation with the Science Theme Lead as necessary, assesses the proposal request and allocates resources.

Staff Proposal Allocation

Resource Owner and EMSL Staff 5% Proposals. No staff support is provided to researchers on these proposals. Resource time is allocated by the Capability Lead based on the Utilization Policy and availability.

EMSL Staff Intramural Proposals. EMSL's CSO is responsible for the budgets to support staff on these proposals, and works with the Capability Leads to allocate the resources for the approved proposals.

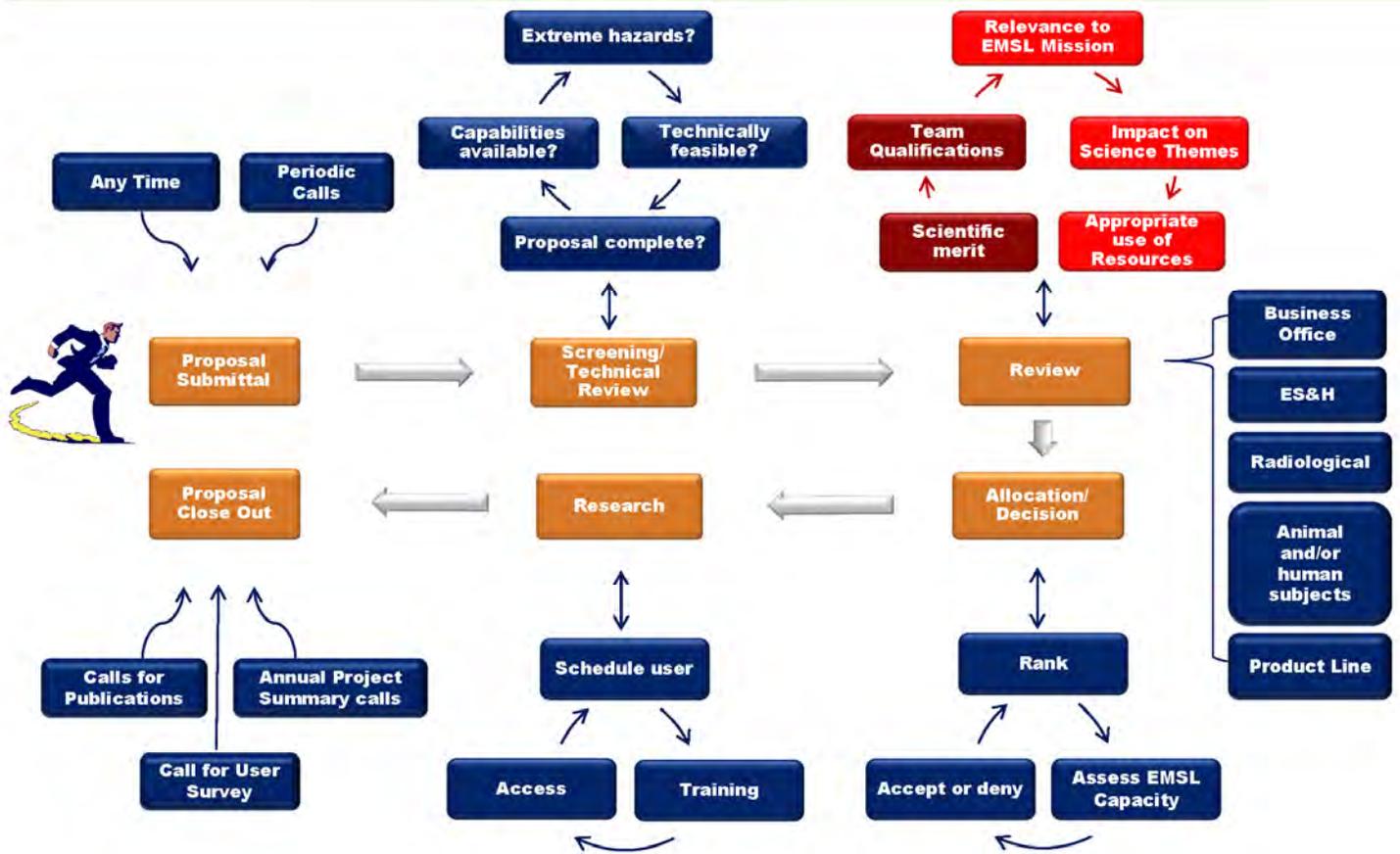
5.2.4 Notification, Appeals, and Proposal Usage

The USO issues decisions to the PIs, including specific instrument time allocations for approved proposals and brief reasons for denied proposals. Peer reviewer comments for all proposals are made available to the proposal team on the EMSL User Portal.

Users with approved proposals work with the Capability Lead and USO to arrange visits or remote access. Prior to any direct access, users must complete required training and access requirements.

Appeals may be submitted following the process in Section 15 of this Operations Manual.

Figure 5.3 Proposal Life Cycle



5.3 Peer Review Criteria

Reviewers are asked to fill out a proposal review form providing ratings and comments, answering a subset of the following questions to ensure that the proposed research is of high quality and an appropriate use of EMSL's resources. Descriptions of EMSL's rating scores are provided below to help provide consistency among reviewers.

Criterion 1. Scientific merit and quality of the proposed research

- **Potential considerations:** How important is the proposed activity to advancing knowledge and understanding within its own field or across different fields? To what extent does the proposed activity suggest and explore creative and original concepts? How well conceived and organized is the proposed activity?

Criterion 2. Qualifications of the proposed research team to achieve proposal goals and contribute to high-impact science

- **Potential considerations:** Does the proposal team, combined with relevant EMSL staff expertise, possess the appropriate breadth of skill/knowledge to successfully perform the proposed research and drive progress in this science area? If successful, would the proposed research deliver high-impact products (for example, be publishable in high-impact journals)?

Note: Impact factors are a measure of the average number of citations per published articles. Journals with higher impact factors reflect a higher average of citations per article and are considered more influential within their scientific field.

Criterion 3. Relevance of the proposed research to EMSL's mission

“EMSL, a national scientific user facility at Pacific Northwest National Laboratory, provides integrated experimental and computational resources for discovery and technological innovation in the environmental molecular sciences to support the needs of DOE and the nation.”

- **Potential considerations:** What is the relationship of the proposed research to EMSL's mission? Does the research project significantly advance the mission goals? To what level are both experimental and computational resources synergistically utilized to address the proposed research?

Criterion 4. Impact of the proposed research on one or more EMSL science theme

- **Potential considerations:** Will the proposed research advance scientific and/or technological understanding of issues pertaining to a particular EMSL science theme? To what extent does the proposed research suggest and explore creative and original concepts related to a particular EMSL science theme? If the proposal is in response to a Call, how strongly does it relate to the Call's focused topics? Will it advance EMSL along the directions specifically outlined in the Call?

Criterion 5. Appropriateness and reasonableness of the requested EMSL resources for the proposed research

- **Potential considerations:** Are EMSL capabilities and resources essential to performing this research? Are the proposed methods/approaches optimal for achieving the scientific objectives of the proposal? Do the methods represent a unique or innovative application of EMSL resources? Are the requested resources reasonable and appropriate for the proposed research? Does the complexity and/or scope of effort justify the duration of the proposed project—including any modifications to EMSL equipment to carry out research? Is the specified work plan practical and achievable for the proposed research project? Is the amount of time requested for each piece of equipment clearly justified and appropriate?

5.4 Rating Descriptions

See next page.

5.4 Rating Descriptions

Extraordinary (5): The proposal deserves the highest priority for support, and I would personally advocate strongly for it. The proposal involves highly innovative research of great importance. It is a project that will either launch a new direction for the research area or will clearly impact one of the field's outstanding problems. The proposal team has an excellent track record in their current field of expertise, and the results obtained are very likely to have high impact. Multiple or unique applications of EMSL capabilities are essential to perform the research.

Excellent (4): The proposal presents a well-conceived, original, research project with a strong potential for making an important contribution to the field of research, and I would be willing to support this. The proposal team has an excellent track record in their current field of expertise, and the results obtained are likely to have high impact. Multiple or unique applications of EMSL capabilities are important to perform the research.

Good (3): The proposal is not necessarily groundbreaking, but is likely to produce significant results. It may be an extension of a project that has already had significant impact, and should be considered if resources are available. The need for EMSL resource(s) is evident.

Fair (2): The proposal describes routine measurements in a well-worked area of research. The results from the research, although useful, are not likely to have high impact. Some of EMSL resources are required.

Poor (1): Serious doubt exists regarding the potential impact and/or feasibility of the project. There is no evident need for the use of EMSL's resources.

6.0 EMSL Utilization Policy

6.1 Background

EMSL, a national scientific user facility, provides integrated experimental and computational resources for discovery and technological innovation in the environmental molecular sciences to support the needs of DOE and the nation. The User Program is housed primarily within the EMSL building, a 200,000 square-foot research facility that is funded by BER, although it also includes capabilities housed in other PNNL facilities (e.g., radiological capabilities in the PSF building).

6.2 Policy

This plan outlines the policies and procedures for using EMSL and is focused on maximizing the benefit to the User Program. All research performed in EMSL or utilizing EMSL capabilities must provide benefit to the User Program and will be managed by an active user proposal in the EMSL Usage System (EUS). Access to all major systems, as defined by EMSL management and BER, are tracked by the EUS and reported to the EMSL and PNNL directors and BER. Analyses of these data are used to determine the level of continued support and schedule for retirement of capabilities. Lab space for all activities in the EMSL facility is subject to the EMSL Space Policy as detailed in the Operations Manual.

6.3 Research Capabilities

EMSL's experimental and computational instrumentation (resources) are funded from a variety of sources. The majority of the capabilities are 100% purchased by the EMSL User Program. Some capabilities are purchased using non-User Program funding and this equipment is owned by PNNL or other research programs. Additionally, some capabilities are co-purchased by the User Program and PNNL or other research programs. The EMSL User Program participates in co-purchasing research capabilities and allows other programs to place capabilities within the walls of EMSL only when benefit to the User Program is clearly demonstrated. Regardless of ownership, the User Program provides significant support to all research performed in the facility, which may include:

- EMSL infrastructure support
 - Computer and network support
 - Machine shop access
 - Waste management costs
 - ES&H support
- Laboratory space and the associated costs
- Support by EMSL scientific consultants through the EMSL User Program.

To ensure benefit to the user community, access to instrumentation is defined below by funding source. Available time is defined as all time that the equipment is not undergoing maintenance, upgrades, repair, or capability development.

- **100% User Program-purchased research capabilities:**

- At least 95% of the available time is allotted for users through EMSL’s user program review and selection process.
- Up to 5% of the available instrument time is made available for EMSL staff members to help advance their scientific careers through independent or collaborative research. This research is expected to result in EMSL staff publications or externally funded programs. Requests will be submitted through EUS for internal review and tracking purposes. Access is subject to review and approval by an EMSL Associate Director and will be prioritized based on research that advances EMSL’s mission.
- On an exception basis, EMSL may negotiate special utilization agreements between EMSL and PNNL or other research programs on a specific EMSL capability when it benefits the User Program and advances EMSL’s mission, vision, and science themes.
 - Each special utilization agreement will be approved by the EMSL Director, the appropriate PNNL Division Director or Associate Laboratory Director, the BER program manager for EMSL, and if applicable, a Division Director from any other affected Office of Science program.
 - The special utilization agreement will be documented: 1) in a formal Memorandum of Agreement (MOA), and 2) in EUS by capability (or system of capabilities).
 - The special utilization MOA will identify the subject EMSL capability, the utilization agreement time period, the principal points of contact in the EMSL organization and in the other PNNL organization or research program for carrying out the agreement, the scope of activities or purpose for which the agreement is being established, and the percentage of time that it will be made available to each of the parties.
 - While a new MOA can be established at any time, all special utilization MOAs will be reviewed and reapproved annually at the beginning of each fiscal year by the EMSL Director, the appropriate PNNL Division Director or Associate Laboratory Director, the BER program manager for EMSL, and if applicable, a Division Director from any other affected Office of Science program, and whenever a major upgrade of the capability occurs.

- **100% Other Program-purchased research capabilities:**

- 20% of the available time will be made available for users through the user proposal process unless a separate agreement is developed with the EMSL Director.
- The balance of the time is dedicated to the program that purchased the systems. “Resource Owner” proposals will be submitted through EUS for internal management and safety reviews and tracking purposes. The utilization agreement is documented by instrument (or system of instruments) in the EUS and revisited whenever a major upgrade of the system occurs or every three years, whichever is less.

- **Co-purchased research capabilities:**

- Users submitting a user proposal are given priority on the portion of the instrument purchased by the User Program. For example, if the User Program paid half the cost of the system, then half of the access is made available to users.
- Of this user portion, up to 5% of the available instrument time will be made available to EMSL staff members to advance their scientific careers through independent or collaborative research. This research is expected to result in EMSL staff publications or externally funded programs. Requests will be submitted through EUS for internal review and tracking purposes. Access is subject to approval by an EMSL Associate Director and will be prioritized based on research that advances EMSL's mission.
- The remaining time will be allocated to the program that co-purchased the research capabilities. The utilization agreement will be documented 1) in a Memorandum of Agreement (MOA) between EMSL management and the system owner or delegate and 2) in the EUS by instrument (or system of instruments).
- All MOAs will be stored in EMSL's project record file in TRIM (FLD-00179.-8.22860).

7.0 Science Advisory Committee Charter

7.1 Committee Function and Objectives

The Science Advisory Committee (Committee or SAC) of the William R. Wiley Environmental Molecular Sciences Laboratory (EMSL) is chartered by the EMSL Director and reports to the Pacific Northwest National Laboratory Director. The SAC is chartered to render advice, guidance, and counsel on the effective management and strategic objectives of EMSL. The SAC serves as the EMSL Director's key external advisor and advocate of EMSL strategy, operations, and scientific relevance and quality. The SAC does not perform management functions nor does it direct the EMSL Director or his/her management team how to operate and manage EMSL.

7.2 Membership

7.2.1 Size of Committee and Selection Process

The members are appointed by the EMSL Director. The membership will consist of at least 10 external (non-PNNL/non-Battelle) advisors with knowledge of and influence in the major research and development areas that EMSL serves. No more than 2 members of the full committee may be Battelle/ PNNL employees. Members of the Committee may propose nominees for consideration at any time by submitting the names and supporting information to the EMSL Director. The Chair of EMSL's User Advisory Committee is an ex-officio member of the Committee.

7.2.2 Qualifications

Members of the Committee and its subcommittees should possess the highest personal and professional ethics, integrity, and values, and be committed to representing the long-term interests of EMSL and the EMSL mission. They must also have an inquisitive and objective perspective, practical wisdom, and mature judgment. The Committee and its subcommittees should contain diverse experience in business, government, education, and science and technology, and in areas that are relevant to EMSL's mission and national and international activities.

Members must be willing to devote sufficient time to carry out their duties and responsibilities effectively, and should be committed to serve on the Committee and its subcommittees for the entire term. Members should offer their resignation in the event of any significant change in their personal circumstances, including a change in their principal job responsibilities. Members may be removed from the Committee for cause by the EMSL Director with concurrence from the PNNL Director.

7.2.3 Terms of Service

Committee members will serve a four-year term. Terms will be sufficiently staggered to permit continuity of operation and institutional knowledge. The EMSL Director will appoint a Chair and Vice-Chair from the Committee's external membership, with the Vice-Chair succeeding the Chair at the end of each Chair's term. A member serving as Chair may be granted a one-year extension of membership, in no case to exceed a total of five years of service on the Committee.

7.2.4 EMSL Staff Coordinator

The EMSL Director will appoint a staff member to provide staff support to the committee, which includes organizing the meetings, taking meeting minutes for the committee, maintaining a list of candidates to fill committee vacancies, and other duties as assigned by the EMSL Director.

7.3 Governance Principles

EMSL's business is conducted by Battelle employees, managers and executives, under the direction of the EMSL Director to enhance the long-term value of EMSL for the Department of Energy, Pacific Northwest National Laboratory, and the public.

7.3.1 Role of Management

The operations and management of EMSL are vested in the EMSL Director and his/her management team. The management team is responsible for assuring that the objectives of EMSL are accomplished within the policies, DOE prime contract and legal environment within which PNNL operates. The management team is responsible for assuring that the assets of PNNL and DOE are protected.

7.4 Committee Activities and Duties

7.4.1 Frequency of Meetings

The Committee will meet annually at EMSL. In addition, each member is encouraged to have at least one additional annual visit to EMSL in order to gain in-depth knowledge of relevant activities.

7.4.2 Quorum

The Committee may conduct business where a quorum of its members is present; such quorum shall consist of at least fifty (50) percent of the members, and shall include the Committee Chair or Vice-Chair. During each scheduled meeting, the Committee shall review and discuss reports by management on the performance of EMSL, its plans and prospects, as well as immediate issues facing EMSL. Committee members are expected to prepare for and attend all scheduled meetings of the Committee and any subcommittees on which they serve. Delegates are not permitted.

7.4.3 Setting Committee Agenda

Prior to each Committee meeting, the EMSL Director will discuss the planned agenda items for the meeting with the Committee's Chair. The EMSL Director and the EMSL Staff Coordinator shall determine the nature and extent of information that shall be provided to the members in advance of each scheduled Committee meeting. Members are urged to make suggestions for agenda items, or additional pre-meeting materials, to the EMSL Director, the Committee Chair, or the EMSL Staff Coordinator at any time.

7.4.4 Formation of Subcommittees

The Committee may create new subcommittees or terminate existing subcommittees as it deems necessary and appropriate. The chair of each subcommittee shall be a member of the SAC, and shall be nominated and approved by the Committee. Subcommittee members are appointed by the subcommittee chair, and may include members of the SAC, UAC, EMSL management or staff, or other PNNL or non-PNNL qualified persons. Subcommittee duties are non-delegable. Subcommittee members may participate by telephone or videoconference.

Each subcommittee may conduct business where a quorum of its members is present; such quorum shall consist of at least fifty (50) percent of the members, and shall include the subcommittee chair. Committee members who are not members of a particular subcommittee are welcome to attend meetings of any subcommittee in a non-voting status. Subcommittee minutes will be prepared as directed by each subcommittee chair.

The subcommittee chairs report the minutes of their meetings, including recommendations for Committee approval, to the full SAC following each meeting of the respective subcommittees. The subcommittees may hold meetings in conjunction with the full Committee.

7.4.5 Self-Assessment

The Committee should perform an annual self-assessment in the form of a survey questionnaire. The survey questions will be formulated by the Committee Chair and Vice-Chair with the assistance of the EMSL Staff Coordinator, and will ask for evaluations of the effectiveness of the Committee and subcommittees, and the responsiveness of EMSL to SAC recommendations. The survey will be sent sufficiently in advance of the annual meeting to allow time for the responses to be summarized by the Vice-Chair for presentation to the Committee at the meeting. The assistance of an independent expert/consultant may be utilized every other year.

7.4.6 Reimbursement or Honoraria for Committee Members

The EMSL Director has the responsibility for setting the reimbursement or honoraria available to non-Battelle members of the Committee. In discharging this duty, the EMSL Director will be guided by two goals: reimbursement or honoraria should be fairly applied to members for work or costs incurred to support the Laboratory, and the structure should be simple, transparent, and easy for stakeholders to understand.

7.4.7 Access to EMSL Management

Committee members are encouraged to contact senior managers of EMSL as necessary to fulfill their duties. Meetings should be coordinated through the EMSL Director's office or the Committee's EMSL Staff Coordinator.

7.4.8 Committee Member Orientation

The EMSL Director and the EMSL Staff Coordinator are responsible for providing an orientation for Committee members, and for periodically providing materials or briefing sessions for members on subjects that would assist them in discharging their duties. Each new member to the Committee will be invited to spend a day at EMSL for personal briefing by senior management on EMSL's strategic plans and its key policies and practices.

8.0 User Executive Committee Charter

8.1 Committee Function and Objectives

The User Executive Committee (UEC or Committee) is an independent body charged with providing objective, timely advice and recommendations to the leadership of the William R. Wiley Environmental Molecular Sciences Laboratory (EMSL) with respect to the user experience. The Committee reports directly to the EMSL Director and serves as the official voice of the user community in its interactions with EMSL management. This charter defines the membership, responsibilities, and structure of the UEC.

8.2 Membership

8.2.1 Size of Committee and Selection Process

The UEC shall have at least 14 members consisting of the Chair, Vice-Chair and 12 other members; no more than two members shall be from the same institution. The members shall be elected by the EMSL user community, using electronic ballot or other method as deemed appropriate by the UEC. All parties subscribed to EMSL's listserv will be eligible to vote. Terms for members shall begin on January 1 following an election in the fall. In order to ensure representation from all the EMSL scientific capabilities, there shall be at least 1 member representing each capability. Remaining positions, not assigned as specific capability representatives, shall be considered "member-at-large" positions. Election of members shall be by simple pluralities of votes cast. The Chair will fill vacant UEC positions by initiating a call for nominations using a means he/she deems appropriate. The Chair and EMSL Director may appoint members directly if gaps in expertise are identified following the election results. Maintaining representation for each of the EMSL capabilities will be the responsibility of the Chair. When a member representing a capability is replaced, the Chair will select nominees that are qualified for the position before a full vote is cast by the user community.

The Chair and Vice-Chair may not be PNNL staff members. The UEC Chair has an ex officio seat on the EMSL Science Advisory Committee.

8.2.2 Qualifications

Members of the Committee and its subcommittees should possess the highest personal and professional ethics, integrity and values, and be committed to representing the long-term interests of EMSL and the EMSL mission. They must also have an inquisitive and objective perspective, practical wisdom and mature judgment. The Committee and its subcommittees should contain diverse experience in business, government, education, science and technology, and areas that are relevant to EMSL's mission and national and international activities.

All members are expected to have been active users of the facility within the last five years.

Members must be willing to devote sufficient time to carrying out their duties and responsibilities effectively, and should be committed to serve on the Committee and its subcommittees for the entire term. Members should offer their resignation in the event of any significant change in their personal circumstances, including a change in their principal job responsibilities.

Members may be removed from the Committee for cause by the EMSL Director.

8.2.3 Terms of Service

Committee members will serve four-year terms. Elections will be held every other year to elect new members. Staggering of the terms will permit continuity of operation and institutional knowledge. The UEC shall have a Chair and a Vice-Chair, each serving two-year terms. Subsequent to the election of new UEC members, the UEC shall select a Vice-Chair from among the members of the Committee. The Vice-Chair shall serve during the ensuing two-year period and succeed to Chair after the following election. If the office of Chair becomes vacant, the Vice-Chair shall assume the position of Chair and an interim Vice-Chair shall be chosen to serve until the following election only.

Neither the Chair nor Vice-Chair shall be an employee of PNNL or Battelle.

8.2.4 EMSL Staff Coordinator

The EMSL Director will appoint a staff member to provide staff support to the UEC, which includes organizing the meetings, taking meeting minutes for the Committee, and other duties as assigned by the UEC Chair.

8.3 Governance Principles

EMSL's business is conducted by Battelle employees, managers and executives, under the direction of the EMSL Director, to enhance the long-term value of EMSL for the Department of Energy, Pacific Northwest National Laboratory, and the public.

8.3.1 Role of Management

The operations and management of EMSL are vested in the EMSL Director and his/her management team. The management team is responsible for assuring that the objectives of EMSL are accomplished within the policies, DOE prime contract, and legal environment within which PNNL operates. The management team is responsible for assuring that the assets of PNNL and DOE are protected.

8.3.2 Role of the User Executive Committee

The UEC provides input to the EMSL Director regarding user concerns, provides a forum for keeping the community informed about issues impacting users at EMSL, offers advice on capital investments and strategies, and serves as an advocacy group for environmental molecular science. The responsibilities of the UEC include, but are not limited to, the following:

- a. Provide advice and recommendations to the EMSL Director on how to facilitate the effective use of EMSL. This may also include user interests in access, proposal review, equipment status, and equipment renewal, time allotment, strategic investments, as well as recommendations for integration of the various demands on EMSL equipment and staff resources to optimize utilization and impact.
- b. Provide a clear channel for the exchange of information and advice between the investigators who perform research at EMSL and the facility's management.
- c. Provide a formal vehicle for EMSL users to transmit concerns and recommendations to the EMSL Director regarding matters affecting the user community.
- d. Actively participate in the design of the Users Meeting.

- e. Nominate active users for future membership on the Committee.
- f. Provide advice on other matters affecting EMSL at the request of the EMSL Director.

8.4 Committee Activities and Duties

8.4.1 Frequency of Meetings

The Committee will meet one time each year at EMSL. If deemed necessary by the UEC Chair, additional meetings may be called.

8.4.2 Quorum

The Committee may conduct business where a quorum of its members is present; such quorum shall consist of at least fifty (50) percent of the members, and shall include the Committee Chair or Vice Chair. Committee members are expected to prepare for and attend all scheduled meetings of the Committee and any subcommittees on which they serve.

8.4.3 Setting Committee Agenda

Prior to each Committee meeting, the EMSL Director will discuss the agenda items for the meeting with the UEC Chair. The UEC Chair and the EMSL Staff Coordinator shall determine the nature and extent of information that shall be provided to the members in advance of each scheduled Committee meeting. Members are urged to make suggestions for agenda items or additional pre-meeting materials to the EMSL Director, the UEC Chair, or the EMSL Staff Coordinator at any time.

8.4.4 Formation of Subcommittees

The Committee may create new subcommittees or terminate existing subcommittees as it deems necessary and appropriate. The chair of each subcommittee shall be a member of the UAC, and shall be nominated and approved by the Committee. Subcommittee members are appointed by the subcommittee chair, and may include members of the SAC, UAC, EMSL management or staff, or other PNNL or non-PNNL qualified persons. Subcommittee duties cannot be delegated. Subcommittee members may participate by telephone or videoconference.

Each subcommittee may conduct business where a quorum of its members is present; such quorum shall consist of at least fifty (50) percent of the members (including telephone or videoconference), and shall include the subcommittee chair. Committee members who are not members of a particular subcommittee are welcome to attend meetings of any subcommittee. Subcommittee minutes will be prepared as directed by each subcommittee chair.

The subcommittee chairs report the minutes of their meetings, including recommendations for Committee approval, to the full Committee following each meeting of the respective subcommittees. The subcommittees may hold meetings in conjunction with the full Committee.

8.4.5 Self-Assessment

The Committee should perform an annual self-assessment in the form of a survey questionnaire. The survey questions will be formulated by the UEC Chair and Vice-Chair with the assistance of the EMSL Staff Coordinator, and will ask for evaluations of the effectiveness of the Committee and subcommittees, and the responsiveness of EMSL to UEC recommendations. The survey will be sent sufficiently in advance of the annual meeting to allow time for the responses to be summarized by the Vice-Chair for presentation to the Committee at the meeting. The assistance of an independent expert/consultant may be utilized every other year.

8.4.6 Reimbursement or Honoraria for Committee Members

The EMSL Director has the responsibility for setting the reimbursement or honoraria available to non-Battelle members of the Committee. In discharging this duty, the EMSL Director will be guided by two goals: reimbursement or honoraria should be fairly applied to members for work or costs incurred to support EMSL, and the structure should be simple, transparent, and easy for stakeholders to understand.

8.4.7 Access to EMSL Management

Committee members are encouraged to contact senior managers of EMSL as necessary to fulfill their duties. Meetings should be coordinated through the EMSL Director's office or the EMSL Staff Coordinator.

8.4.8 Committee Member Orientation

The EMSL Director and the EMSL Staff Coordinator are responsible for providing an orientation for Committee members, and for periodically providing materials or briefing sessions for members on subjects that would assist them in discharging their duties. Each new member to the Committee will be invited to spend a day at EMSL for personal briefing by senior management on EMSL's strategic plans and its key policies and practices.

9.0 Charging Guidance for EMSL User Facility Staff

This section provides EMSL organization staff and other PNNL staff supporting the EMSL User Project with information for determining when to charge non-proprietary work to the EMSL Operations project and when to charge to other projects that are using EMSL resources. A guiding principle is that users are treated equitably with respect to charging. Charging user support activities to the EMSL Operations project (see below) will apply the same logic whether the user is from PNNL or is an external (non-PNNL) user. However, on-site users are treated differently than remote users. Onsite users may be charged for some support where remote users generally are not.

EMSL defines a User in Section 4 of this manual.

The Department of Energy's Office of Biological and Environmental Research provides programmatic funding for the operation and maintenance of EMSL as a user facility, frequently referred to as the EMSL Operations budget. Users located at the PNNL campus are always considered onsite users for charging purposes.

9.1 Support Activities Charged to the EMSL Project

The EMSL Operations budget is managed through a work breakdown structure (WBS), which captures costs in a consistent manner across EMSL user facility. This section provides guidance on appropriate charging within the EMSL Operations project's WBS.

- **Management** (Work that crosscuts individual proposals) — Capability Lead and administrator labor when providing management and oversight for the capability, and to support proposal calls and proposal reviews, user outreach.
- **Core/Maintenance** (Work to keep the equipment/facility in a ready-to-use status) — Equipment maintenance agreements, consumables, performing routine maintenance, instrument calibration, managing laboratory space.
- **User Support** (Anything that can be specifically assigned to a single or limited group of user proposals) — All administrative processing, including Capability Lead and administrator labor, processing users for entry into and use of EMSL and its resources; user training; and assisting users during experiments (e.g. in preparing samples); assembling, configuring, and disassembling equipment; evaluating and monitoring the progress of user research.
 - Working with onsite users – the EMSL project should be charged when working with a user who is physically present with the scientific consultant.
- **Capability Development** (Work to create new capability or improve current capability)— New equipment, etc., which are approved through proposals to the Director's Office.

Approval of an EMSL User Proposal does not, by itself, entitle users to expenditures on their behalf under the EMSL Operations budget.

9.2 Support Activities Charged to other projects

9.2.1 Staff Charging

EMSL staff should charge to the benefiting project or pool, other than EMSL Operations budget, when they are asked for technical support by a user who is—or whose team members are--qualified to operate the instrument independently or to perform any other support that does not qualify for Operations project funding as outlined above. Staff support on resources that require specialized training for which a user is unqualified will be provided by EMSL Operations funding up to the amount of time allocated by the Resource Allocation Committee (RAC).

Examples of activities that shall be charged to the user's project:

- On-site user requests for EMSL staff to run samples, perform analyses, or contribute to a report that the user is able to perform but chooses not to do.

Note: On-site user is defined as being on the PNNL campus, or in certain cases where EMSL-owned equipment is taken to a remote location for field work.

- EMSL staff travel to a conference at the user's request to present information specific to non-EMSL projects (i.e., other programmatic funded research), and the conference provides limited outreach opportunity or EMSL capability discussions (i.e. it primarily benefits the programmatic funded research).

9.2.2 Proprietary Proposals

Support for properly approved proprietary proposals require full cost recovery, and as such are charged accordingly.

9.2.3 Utilization Policy

EMSL houses resources that were not fully purchased with the EMSL Operations funding. In these cases, a minimum of 20% of this resource is made available to the user community or the percentage purchased by the EMSL Operations funding, whichever is larger. Research performed on the percentage of these resources not owned or made available to EMSL users, is not supported by EMSL Operations funding. The USO maintains the Agreements for all resources documenting the "% EMSL Owned". A full description of the EMSL Utilization Policy can be found in the EMSL Operations Manual – Chapter 6.

9.2.4 EMSL Radiochemistry Annex in Building 3410

EMSL and the Materials and Structures Performance Group of the Energy and Environmental Directorate (EED) jointly occupy and formed a scientific collaboration in the Physical Sciences Facility (PSF) 3410 building. EMSL pays the space charge for labs it occupies (1604, 1606, 1501, and 1502), and EED pays the space charge for labs it co-occupies (1401, 1403, and 1405).

9.3 Deployment of EMSL Capabilities

9.3.1 Background

EMSL commonly receives proposals from users who intend to make use of EMSL's capabilities at EMSL, and less commonly, proposals from users who would like to remove one or more of EMSL's capabilities from the EMSL building or other related EMSL supported satellite labs at PNNL and use it/them for field work (termed a "field campaign"). A field campaign proposal not only involves removing one or more EMSL capabilities from the building to an off-site location, but often, one or more EMSL scientists/support staff are required to conduct the scope of work outlined in the proposal.

9.3.2 Charging Guidance

As per the guidance above, regardless of whether a user intends to make use of the EMSL equipment on-site or for a field campaign, the EMSL User Program's operating budget is used to pay for managing the user proposal review process, training users, providing technical support to users who operate the equipment themselves, and equipment maintenance. In turn, all non-proprietary.¹ EMSL users are expected to pay for their own labor, travel, and EMSL scientific consultant support in cases when they choose to not operate or participate in operation of EMSL equipment in the conduct of their own research work. EMSL's philosophy is to support proposals that plan to use EMSL equipment and personnel when the experiment is conducted onsite (within identified EMSL spaces on the PNNL campus).

Field campaign proposals, however, incur costs that are above-standard and require special consideration and support. Above-standard costs typically include:

- preparation time to mobilize and demobilize equipment (disassembly, pack, set up, receive back and unpack, and return to normal configuration);
- equipment shipping costs;
- travel and per diem expenses for support staff, including recorded staff labor during travel between EMSL and the off-site location;
- labor costs incurred by support staff at the off-site location for the field campaign;
- any other incremental costs that arise from the field campaign (e.g., minor equipment damage or destabilization of the capability within EMSL).

9.3.3 External Deployment of EMSL Capabilities

For approved user proposals that require field campaigns, the requesting user will be expected to provide funds for the above-standard costs. The above standard costs are summarized below:

- EMSL staff effort (100%)
- Equipment shipping and preparation -100%
- EMSL staff travel and per diem – 100%
- Additional above-standard activities – 100%

¹ Defined at: <http://www.emsl.pnl.gov/access/terms.jsp>.

Exceptions to this policy can occur if EMSL defines and issues a Call for Proposals around a specified scope for a field campaign.

The EMSL Resource System (ERS) will be used to schedule the use of the equipment requested in a field campaign to ensure its use does not conflict with other approved research in the facility.

This guidance only applies to non-proprietary work where the user has agreed to disclose and disseminate information and results associated with work performed in EMSL (as defined in the EMSL User Facility policy 8.6.8 in PNNL’s Finance Manual). In the case of proprietary work, full cost is charged to the user (as described in DOE Order 522.1, Pricing of Departmental Materials and Services).

9.4 EMSL Unallowable Charging Guidance

9.4.1 General

Staff not on travel status, are generally not reimbursed for business meals, as directed by DOE’s contract with Battelle PNNL. However, the EMSL Director may on occasion decide to use EMSL Directorate unallowable budget with advance approval, and for reasonable cost. As guidance on reasonableness, the Tri-Cities area 2011 per diem meal amount is dinner \$23, lunch \$11, and breakfast \$7.

9.4.2 EMSL Recruiting interview Meals Reimbursed by Directorate Unallowable Budget

<u>Position</u> <u>Opening</u>	Max # Candidates per Opening	<u>External Candidates</u> Max # Interviewers/Candidate			<u>Internal Candidates</u> Max # Interviewees/Opening		
		<u>Breakfast</u>	<u>Lunch</u>	<u>Dinner</u>	<u>Breakfast</u>	<u>Lunch</u>	<u>Dinner</u>
Level 2***	3	1*	3*	3*	0	2* + 1**	1**
Level 3****	3	0	3*	2*	0	2* + 1**	0
Staff*****	3	0	3*	2*	1	2* + 1**	0
Staff	3	0	2*	1*	0	1**	0

Notes/Assumptions:

*PNNL Interviewers

-Except for Level 2, only 1 PNNL interviewer may be provided lunch, plus separately interview the candidate.

**Interviewees

-External candidates are to pay for their own meals so cost will be allowable and reimbursed thru their TER, or coordinate the interviewee’s TER to not allow interview meals, then charge allowable up to per diem.

-Internal candidate meals are unallowable (unless on travel status).

***Level 2 is direct report to EMSL Director.

****Level 3 is a direct report to a Level 2, i.e., Group Lead is Level 3.

*****Staff above Sci/Eng-D, Spec-D, Mgr-A.

No Post Docs.

Subject to availability of EMSL Directorate unallowable budget.

Exceptions require EMSL Director approval.

References

- DOE Order 522.1 pg 7 11-3-04, under k. Use of Facilities, I. Office of Science User Facilities, (3) “When facilities are operated for special circumstances, such as running the facility outside the normal operating mode or schedule, the user will be charged a fee that recovers the incremental costs.” (<http://www.directives.doe.gov/pdfs/doe/doetext/neword/522/o5221.pdf>).
- DOE Order 522.1, Pricing of Departmental Materials and Services (<http://www.directives.doe.gov/cgi-bin/explhcgi?qry1007871844;doe-307>).
- Cost Accounting Standard (CAS) 418 (i.e., Allocation of Direct and Indirect Costs) has provision for exclusion of special purpose facilities which should apply in this extension of a national user facility, as long as it is within the approved work scope of the EMSL National User Facility. (<http://fast.faa.gov/archive/v1198/pguide/98-30C14.htm>).
- PNNL Finance Manual, Section 8.6.8, EMSL User Facility policy (<https://business.pnl.gov/finance-manual/08-06-08.pdf>).

10.0 EMSL Space Policy

An assumption in the formulation of EMSL's space policy is that all facility space, regardless of space chargeback designation, is owned by the DOE Office of Biological and Environmental Research and managed by the EMSL Director's Office, and that all space allocation is governed by the policies designated below.

EMSL, as a national user facility, is funded and operated to provide state-of-the-art scientific capabilities to the national and international user community in the areas of EMSL's four science themes. Due to the unique nature of this facility, priority must be given to those capabilities and individuals that significantly support the EMSL mission. Likewise, those capabilities and individuals that currently occupy the facility and are determined to not directly and significantly support EMSL's mission may be directed to relocate to other PNNL facilities. Costs associated with moving existing occupants are the responsibility of the occupant's organization. (This requirement is appropriate as long as the EMSL Operations Project pays for half of the space chargeback of all laboratory type space in the EMSL Facility.)

10.1 Laboratory Space

To be eligible for EMSL laboratory space, an individual and/or capability must be engaged in research that reflects the primary mission of EMSL:

EMSL, a national scientific user facility at Pacific Northwest National Laboratory, provides integrated experimental and computational resources for discovery and technological innovation in the environmental molecular sciences to support the needs of DOE and the nation.

Priority for laboratory space is based on the level of support the individual or capability brings to the EMSL mission. The following criteria are used to measure the level of support:

- Is the individual's research or capability in demand by EMSL users? (Capabilities that are in minimal demand by external users will not rank as highly in priority as those in more demand.)
- Has the individual's research or capability resulted, or does it have the potential to result, in high-impact publications, awards, and other external recognition?
- Is the individual's research or capability aligned with EMSL science themes?
- Is a capability being developed that has direct benefit to the user community?

Any equipment proposed to be brought into EMSL must comply with EMSL's equipment use policy.

The following criteria are used to prioritize capabilities when new requests for laboratory space are submitted:

- Priority 1: Capabilities that are owned by EMSL and directly support EMSL's user program and science themes.
Priority 2: Capabilities that are in high demand for supporting EMSL's user program and science themes, but that are not owned by EMSL.

Any capabilities (and staff) in EMSL who do not meet one of these two criteria will be requested to move from the building, when space needs dictate.

Using the EMSL Utilization and Space Policies, (Sections 6.0 and 10.0 of the EMSL Operations Manual) and the signed Memorandums Of Agreement (MOAs), if the majority of equipment/capability located in an EMSL User Facility lab was purchased with “other program funding” or the occupying organization is currently custodian/stewarding the equipment, the occupying org’s TMC pays 50% of the space chargeback to utilize the space, the remaining 50% will be paid by the EMSL program unless a separate agreement is developed with the EMSL Director.

10.1.1 Requesting EMSL Laboratory Space

Laboratory space requests are submitted to the EMSL Research Operations Office, who works with the space point of contact for the requesting research group to identify acceptable space. The requesting group must demonstrate how the individual’s research or capability supports EMSL’s mission and science themes and that it effectively and efficiently uses any existing EMSL space in relation to the activities and equipment in that space. The EMSL Director approves all laboratory space allocations.

10.2 Office Space

To be eligible for EMSL office space, an individual must be engaged in EMSL’s mission. Priority for office space will be given as follows:

- Priority 1: Staff members in the EMSL organization and their post-doctoral researchers and students.
- Priority 2: Non-PNNL staff members (external users) who have an approved user proposal for using EMSL research capabilities onsite.
- Priority 3: Non-EMSL staff and their students who occupy primary lab space or are directly supporting a lab space in EMSL.
- Priority 4: Matrixed staff who support the infrastructure of EMSL in support of its mission, including staff from PNNL’s Operational Systems Directorate; Environment, Health, Safety and Security; Communications; and Business Systems and other PNNL support organizations.

PNNL staff who do not meet any of these criteria will be directed to move from the building, when office and/or laboratory space needs dictate, with all move related costs paid by the occupant’s organization, unless approved otherwise by the EMSL Director and Research Operations Manager.

10.2.1 Requesting EMSL Office Space

Office space requests are submitted to the EMSL Research Operations Manager, who works with the space point of contact for the requesting research group to identify acceptable space.

The first solution is to place the occupant in space for which the requesting group already pays the space charge.

The requesting group must demonstrate that they effectively and efficiently use any existing EMSL space in relation to the activities and equipment in that space and the EMSL Facility.

If the requested space is already filled and other appropriate space cannot be identified, the requesting group can:

- identify space outside of EMSL for the new occupant, or move existing staff out of the building so that the new occupant can assume the space,
- request space from another EMSL group through the EMSL Research Operations Manager.

- Office space is paid for by the occupying organization unless a separate agreement is developed with the EMSL Director.

11.0 Guidance and Examples Regarding Designation of User(s) in ERS bookings

Note: This section is now 12.2 in the following chapter.

12.0 Usage Type Definitions

12.1 EMSL Resource System

The EMSL Resource System (ERS) is the tool in the EMSL Usage System (EUS) that records resource use, and the data is used by EMSL management for evaluating proposal use as well as for purposes of making budget decisions regarding enhancements, acquisitions, consolidation of capabilities, and strategic direction for capability growth. Instrument custodians are required to input usage data into the ERS on a weekly basis and by the end of each month. The data will be archived for reporting purposes at the end of the third day following month end. Changes made in ERS after the archive date will not be reflected in subsequent reports or statistical analyses. The following definitions are to be used when entering data into ERS. They fall into four main categories: 1) In Use, 2) Out of Service, Planned, 3) Out of Service, Unplanned, and 4) Available.

In Use

- **Onsite Usage**– Use by any individual who is part of an active EMSL proposal and who is physically present in EMSL conducting research at any time during this ERS reservation. NOTE: *PNNL* users and users on *Resource Owner proposals* are automatically recorded as onsite.
- **Remote Usage**– Use by any individual who is part of an active EMSL proposal and who is remotely using EMSL resources. Includes logging onto the EMSL network to operate a piece of research instrumentation, remote use of a computing system, and sending or receiving samples/data/calculations to or from EMSL. EXCEPTION: Users on a *Resource Owner proposal* are automatically recorded as onsite.
- **Capability Development** – Time allocated on a resource to develop a new capability or enhance an existing capability and bring it on line. Capability development activities may require extended booking of the instrument.
- **EMSL Staff 5%** – Use by any individual under an EMSL Staff 5% proposal in EUS. NOTE: Participants recording use on *EMSL 5% proposals* are automatically recorded as EMSL 5% and *will not be counted as users*.

Out of Service, Planned

- **Maintenance** – Resource is not available because periodic maintenance or modification of facility or equipment is being performed to keep the laboratory or resources at peak performance and readied for users. Includes vendor visits for periodic maintenance, *planned* power outages or *planned* operational restrictions by Facility and Operations. Enter comments to clarify this designation.*
- **Upgrade** – Resource is not available because an upgrade is being installed.
- **Unavailable, Staffing** – Resource is not available because staff are not available to operate the equipment. Includes vacation, holidays, travel, personal illness, other business commitments, or instrument not supported due to inadequate EMSL user program funds.
- **Unavailable, Other** – Resource is not available for reasons other than staff unavailability. This may include a time when, for instance, a sample must be contained under vacuum but no experiment is on-going, thus no one else can use the resource. Enter comments to clarify this designation.*

* Reports generated from these data are used to help EMSL management and DOE understand the needs of our user community. Inadequate comments may result in the need to seek additional information when these reports are analyzed.

Out of Service, Unplanned

- **Broken/Out of Service** – Resource is not available because it is broken or damaged to the point that it cannot be used until fixed, or because it is out of service due to unforeseen events such as an *unplanned* power failure, fire alarm, snow day, lacking essential supplies for operating the instrument, etc. Enter comments to clarify this designation.*

Available – any time not captured under any other Usage Type.

12.2 Guidance and Examples Regarding Designation of User(s) in ERS Bookings

This section provides guidance in determining which of the proposal participants are to be entered as “user(s)” in the ERS booking when PNNL staff are working on the proposal.

General Guidance:

The program covering the PNNL staff member’s time determines if the staff member is considered a consultant or a participant on the proposal. If the EMSL Project is paying for a PNNL staff member to work with a proposal participant, then the staff member is a consultant and the participant is designated as the “user” on the ERS booking. If any other project is paying for the PNNL staff member’s time, then the PNNL staff member is a “user” and should be selected on the ERS booking.

Examples:

1. The EMSL project pays Joe Black (a PNNL staff member) to work with Sarah Green (a participant) on an EMSL proposal. Joe is considered a *consultant* on the proposal, so Sarah is selected as the “user” in ERS. The Usage Type selection (remote or onsite) follows the definitions above.
2. A non-EMSL project pays Joe Black (a PNNL staff member) to work on an EMSL proposal. Joe is considered a *participant* on the proposal and is selected as the “user” in the ERS booking. Usage is automatically recorded as Onsite, following the definitions above. If other participants on the proposal are working with Joe at the same time, they also are selected as “users” in the ERS booking, and all usage is recorded as Onsite.

* Reports generated from these data are used to help EMSL management and DOE understand the needs of our user community. Inadequate comments may result in the need to seek additional information when these reports are analyzed

13.0 User Agreements

As a designated Federal User Facility for the Department of Energy, requests to use EMSL requires acceptance of a Non-Proprietary User Agreement (NPUA) by the home institution(s) of the proposal author and any participants listed on the proposal. The NPUA must be signed by a representative (e.g., Dean, Vice Provost, Director, legal office, etc.) of the institution who is authorized to sign on behalf of and legally bind the institution. With approval by PNNL, DOE, and PNSO, the execution of the NPUA was fully automated in FY 2010. In accordance with the approved electronic process, signed institutional agreements for approved EMSL proposals are stored in EUS, with the REPRESENTATIVE'S certification, signature date, and name, and the USO Manager's name and signature date. The NPUA ID in effect at the time of active proposals is stored in the proposal record for each user, and a printable version of the signed agreement is stored in TRIM in accordance with EMSL's Records Management Plan. Approval for the use of the electronic signature process can be found in TRIM.

13.1 NPUA – Non-proprietary User Agreement

*The Department of Energy has opted to utilize the following agreement for Designated Non-Proprietary User Facilities transactions. Because these transactions are widespread across Departmental facilities, uniformity in agreement terms is desirable. Except for the *** provisions, minor modifications to the terms of this agreement may be made by CONTRACTOR, but any changes to the *** provisions or substantive changes to the non *** provisions will require approval by the DOE Contracting Officer, WHICH WILL LIKELY DELAY YOUR ACCESS TO THE USER FACILITY. In instances where DOE Contracting Officer approval for substantive changes cannot be obtained, Work for Others (WFOs) and Cooperative Research and Development Agreements (CRADAs) may be more appropriate due to the increased flexibility such agreements afford. Where this Agreement is to be used as an umbrella agreement for multiple transactions it may be modified to reflect such usage.*

Non-Proprietary User Agreement

No. [insert NPUA number here]

BETWEEN

Battelle Memorial Institute, Pacific Northwest Division
(hereinafter "CONTRACTOR")
Operator of Pacific Northwest National Laboratory (hereinafter "Laboratory")
under U.S. Department of Energy (hereinafter "DOE")
Contract No. DE-AC05-76RL01830

AND

("USER")

(Collectively, "the Parties")

The obligations of the above-identified CONTRACTOR may be transferred to and shall apply to any successor in interest to said CONTRACTOR continuing the operation of the DOE Non-Proprietary User Facility involved in this User Agreement (hereinafter “Agreement”).

ARTICLE I. FACILITIES AND SCOPE OF WORK

CONTRACTOR will make available to employees, consultants and representatives of USER (hereinafter called “Participants”) certain Laboratory Non-Proprietary User facilities, which may include equipment, services, information and other material, with or without Laboratory scientist collaboration, for purposes as described in the research proposal accepted by CONTRACTOR and conducted by Participants at the designated Non-Proprietary User Facility during the effective period of this Agreement. Additional future research proposals referencing this Agreement may be submitted by USER for identified User Facilities and purposes during the term of this Agreement (see Article II). Such additional research proposals will be considered to be part of this Agreement upon acceptance by CONTRACTOR. Each accepted and approved research proposal shall set forth the Technical Scope of Work of a specific project, including deliverables, to be performed pursuant to this Agreement. The scope of work shall not be considered proprietary information and shall be publicly releasable. The Parties agree that an initial abstract of the work to be performed shall be a deliverable under this Agreement.

ARTICLE II. TERM OF THE AGREEMENT

This Agreement shall have a term of five (5) years from the effective date. The term of this Agreement shall be effective as of the date on which it is signed by the last of the Parties. Unless terminated in accordance with the terms herein, this Agreement shall automatically renew on a year-to-year basis after the initial five year term.

ARTICLE III: COST

Each Party will bear its own costs and expenses associated with this Agreement. No money will be transferred to or from either Party as consideration, in whole or in part, for this Agreement.

ARTICLE IV: ADMISSION REQUIREMENTS

USERS and Participants are subject to the administrative and technical supervision and control of CONTRACTOR; and will comply with all applicable rules of CONTRACTOR and DOE with regard to admission to and use of the User Facility, including safety, operating and health-physics procedures, environment protection, access to information, hours of work, and conduct. Participants shall execute any and all documents required by CONTRACTOR acknowledging and agreeing to comply with such applicable rules of CONTRACTOR. Participants will not be considered employees of CONTRACTOR for any purpose.

ARTICLE V: PROPERTY AND MATERIALS***

USER may be permitted by CONTRACTOR to furnish equipment, tooling, test apparatus, or materials necessary to assist in the performance of its experiment(s) at the User Facility. Such items shall remain the property of USER. Unless the Parties otherwise agree, all such property furnished by USER or equipment and test apparatus provided by USER will be removed by USER within sixty (60) days of termination or expiration of this Agreement or will be disposed of as directed by USER at USER's expense. Any equipment that becomes integrated into the User Facility shall be the property of the Government. USER acknowledges that any material supplied by USER may be damaged, consumed or lost. Materials (including residues and/or other contaminated material) remaining after performance of the work or analysis will be removed in their then condition by USER at USER's expense. USER will return User Facilities and equipment utilized in their original condition except for normal wear and tear.

CONTRACTOR shall have no responsibility for USER's property in CONTRACTOR's possession other than loss or damage caused by willful misconduct or gross negligence of CONTRACTOR or its employees.

Personal property produced or acquired during the course of this Agreement shall be disposed of as directed by the owner at the owner's expense.

ARTICLE VI: SCHEDULING***

USER understands that CONTRACTOR will have sole responsibility and discretion for allocating and scheduling usage of the User Facilities and equipment needed for or involved under this Agreement.

ARTICLE VII: INDEMNITY AND LIABILITY***

- A. **Personnel Relationships** - USER shall be responsible for the acts or omissions of Participants.
- B. **Product Liability** - To the extent permitted by U.S. and U.S. State law, if USER utilizes the work derived from this Agreement in the making, using, or selling of a product, process or service, then USER hereby agrees to hold harmless and indemnify CONTRACTOR and the United States Government, their officers, agents and employees from any and all liability, claims, damages, costs and expenses, including attorney fees, for injury to or death of persons, or damage to or destruction of property, as a result of or arising out of such utilization of the work by or on behalf of USER, its assignees or licensees.
- C. **General Indemnity** - To the extent permitted by U.S. and U.S. State law, USER hereby agrees to indemnify and hold harmless CONTRACTOR and the United States Government, their officers, agents and employees from any and all liability, claims, damages, costs and expenses, including attorney fees, for injury to or death of persons, or damage to or destruction of property, to the extent such liability, claims, or damages is caused by or contributed to the negligence or intentional misconduct of USER or its employees or representatives during the performance of the work under this Agreement.

- D. **Patent and Copyright Indemnity—Limited** - To the extent permitted by U.S. and U.S. State law, USER shall fully indemnify the Government and CONTRACTOR and their officers, agents, and employees for infringement of any United States patent or copyright arising out of any acts required or directed or performed by USER under this Agreement to the extent such acts are not normally performed at the User Facility.
- E. The liability and indemnity provisions in paragraphs B, C and D above shall not apply unless USER shall have been informed as soon as practicable by CONTRACTOR or the Government of the suit or action alleging such infringement, and such indemnity shall not apply to a claimed infringement that is settled without the consent of USER unless required by a court of competent jurisdiction.
- F. **General Disclaimer** -

THE GOVERNMENT AND CONTRACTOR MAKE NO EXPRESS OR IMPLIED WARRANTY AS TO THE CONDITIONS OF THE USER FACILITY FURNISHED HEREUNDER. IN ADDITION, THE GOVERNMENT, CONTRACTOR AND USER MAKE NO EXPRESS OR IMPLIED WARRANTY AS TO THE RESEARCH OR ANY INTELLECTUAL PROPERTY, GENERATED INFORMATION, OR PRODUCT MADE OR DEVELOPED UNDER THIS AGREEMENT, OR THE OWNERSHIP, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE OF THE RESEARCH OR RESULTING PRODUCT; THAT THE GOODS, SERVICES, MATERIALS, PRODUCTS, PROCESSES, INFORMATION, OR DATA TO BE FURNISHED HEREUNDER WILL ACCOMPLISH INTENDED RESULTS OR ARE SAFE FOR ANY PURPOSE INCLUDING THE INTENDED PURPOSE; OR THAT ANY OF THE ABOVE WILL NOT INTERFERE WITH PRIVATELY OWNED RIGHTS OF OTHERS. THE GOVERNMENT, CONTRACTOR AND/OR USER SHALL NOT BE LIABLE FOR SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES ATTRIBUTED TO USE OF SUCH FACILITIES, RESEARCH OR RESULTING PRODUCT, INTELLECTUAL PROPERTY, GENERATED INFORMATION, OR PRODUCT MADE OR DELIVERED UNDER THIS AGREEMENT.

ARTICLE VIII: PATENT RIGHTS***

A. Definitions

1. “Subject Invention” means any invention or discovery conceived or first actually reduced to practice in the course of or under this Agreement.
2. “USER Invention” means any Subject Invention of USER.
3. “CONTRACTOR Invention” means any Subject Invention of CONTRACTOR.
4. “Patent Counsel” means the DOE Counsel for Intellectual Property assisting the DOE Contracting activity.

B. Subject Inventions

CONTRACTOR and USER agree to disclose their Subject Inventions, which includes any inventions of their Participants, to each other, concurrent with reporting such Subject Inventions to DOE.

C. CONTRACTOR's Rights

Except as provided below in the case of joint inventions, CONTRACTOR Inventions will be governed by the provisions of CONTRACTOR's Prime Contract for operation of the User Facility.

D. USER's Rights

Subject to the provisions herein, USER may elect title to any USER Invention and in any resulting patent secured by USER within one year of reporting the Subject Invention to DOE. The USER shall file a U.S. patent application within a reasonable period of time. Where appropriate, the filing of patent applications by USER is subject to DOE security regulations and requirements.

E. Joint Inventions

For Subject Inventions conceived or first actually reduced to practice under this Agreement that are joint Subject Inventions made by CONTRACTOR and USER, each Party shall have the option to elect and retain title to its undivided rights in such joint Subject Inventions.

F. Rights of Government

1. USER agrees to timely assign to the Government, if requested, the entire right, title, and interest in any country to each USER Invention where USER:
 - a. Does not elect to retain such rights; or
 - b. Fails to timely have a patent application filed in that country on the USER Invention or decides not to continue prosecution or not to pay the maintenance fees covering the Invention; or
 - c. At any time, no longer desires to retain title.
2. USER shall provide the Government a copy of any patent application filed by USER promptly after such application is filed, including its serial number and filing date.
3. USER hereby grants to the Government a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States the USER Invention made under said project throughout the world.
4. USER acknowledges that the DOE has certain March-in Rights to any USER Inventions elected by the USER in accordance with 48 C.F.R. 27.304-1(g) and that the USER is subject to the requirements with respect to preference for U.S. industry pursuant to 35 U.S.C. § 204 to any USER Inventions elected by the USER.
5. The USER agrees to include, within the specification of any U.S. patent applications and any patent issuing thereon covering a USER Invention, the following statement: "The Government has rights in this invention pursuant to a USER Agreement (specify number) between (USER name) and Battelle Memorial Institute, Pacific Northwest Division, which manages and operates the Pacific Northwest National Laboratory for the U.S. Department of Energy."

6. USER agrees to submit on request periodic reports to DOE no more frequently than annually on the utilization of USER Inventions or on efforts to obtain such utilization that are being made by USER or its licensees or assignees.
7. Facilities License: USER agrees to and does hereby grant to the Government a nonexclusive, nontransferable, irrevocable, paid-up license in and to any inventions or discoveries, regardless of when conceived or actually reduced to practice or acquired by USER, which are incorporated in the User Facility as a result of this Agreement to such an extent that the User Facility is not restored to the condition existing prior to the Agreement (1) to practice or to have practiced by or for the Government at the User Facility, and (2) to transfer such licenses with the transfer of that User Facility. The acceptance or exercise by the Government of the aforesaid rights and license shall not prevent the Government at any time from contesting the enforceability, validity or scope of, or title to, any rights or patents herein licensed.

G. Invention Report and Election

USER shall furnish the Patent Counsel a written report concerning each USER Invention within six months after conception or first actual reduction to practice, whichever occurs first. If USER wishes to elect title to the USER Invention, a notice of election should be submitted with the report or within one year of such date of reporting.

ARTICLE IX: RIGHTS IN TECHNICAL DATA***

A. Definitions:

1. “Technical Data” means recorded information regardless of form or characteristic, of a scientific or technical nature. Technical Data as used herein does not include financial reports, costs analyses, and other information incidental to Agreement administration.
2. “Proprietary Data” means Technical Data which embody trade secrets developed at private expense, outside of this Agreement, such as design procedures or techniques, chemical composition of materials, or manufacturing methods, processes, or treatments, including minor modifications thereof, provided that such data:
 - a. Are not generally known or available from other sources without obligation concerning their confidentiality.
 - b. Have not been made available by the owner to others without obligation concerning their confidentiality, and
 - c. Are not already available to the CONTRACTOR or the Government without obligation concerning their confidentiality.
 - d. Are marked as “Proprietary Data.”
3. “Unlimited Rights” means right to use, duplicate, or disclose Technical Data, in whole or in part, in any manner and for any purpose whatsoever, and to permit others to do so.

B. Allocation of Rights

1. The Government shall have Unlimited Rights in Technical Data first produced or specifically used in the performance of this Agreement except as otherwise provided in this Agreement.
2. USER shall have the right to use for its private purposes, subject to patent, security or other provisions of this Agreement, Technical Data it first produces in the performance of this Agreement provided the data delivery requirements of this Agreement have been met as of the date of the private use of such data; and Technical Data first produced by CONTRACTOR, if any, under this Agreement. USER agrees that to the extent it receives or is given access to Proprietary Data or other technical, business or financial data in the form of recorded information from DOE or a DOE contractor or subcontractor, USER shall treat such data in accordance with any restrictive legend contained thereon, unless use is specifically authorized by prior written approval of the Contracting Officer.

C. Deliverables

1. USER agrees to furnish to DOE or CONTRACTOR those data, if any, which are (a) specified to be delivered in the research proposal, (b) essential to the performance of work by CONTRACTOR personnel or (c) necessary for the health and safety of such personnel in the performance of the work. Any data furnished to DOE or CONTRACTOR shall be deemed to have been delivered with unlimited rights unless marked as "Proprietary Data" of USER.
2. Upon completion or termination of the project, USER agrees to deliver to DOE and CONTRACTOR a nonproprietary report describing the work performed under this Agreement.

D. Legal Notice

The following legal notice shall be affixed to each report or publication resulting from this Agreement which may be distributed by USER:

DISCLAIMER NOTICE

This document was prepared by (USER name) as a result of research conducted at the U.S. Department of Energy (DOE) Environmental Molecular Sciences Laboratory (EMSL), which is located at the Pacific Northwest National Laboratory and managed by Battelle Memorial Institute, Pacific Northwest Division, acting under Contract No. DE-AC05-76RL01830. EMSL is sponsored by DOE's Office of Biological and Environmental Research. Neither Battelle Memorial Institute, Pacific Northwest Division, DOE, the U.S. Government, nor any person acting on their behalf: (a) make any warranty or representation, express or implied, with respect to the information contained in this document; or (b) assume any liabilities with respect to the use of, or damages resulting from the use of any information contained in this document.

E. Copyrighted Material

1. USER agrees to, and does hereby grant to the Government, and to its officers, agents, servants and employees acting within the scope of their duties:
 - a. A royalty-free, nonexclusive, irrevocable license to reproduce, translate, publish, use, and dispose of and to authorize others so to do, all copyrightable material first produced or composed in the performance of this

Agreement by USER, its employees or any individual or concern specifically employed or assigned to originate and prepare such material; and

- b. A license as aforesaid under any and all copyrighted or copyrightable works not first produced or composed by USER in the performance of this Agreement but which are incorporated in the material furnished or delivered under this Agreement, provided that such license shall be only to the extent USER now has, or prior to completion or final settlement of this Agreement may acquire, the right to grant such license without becoming liable to pay compensation to others solely because of such grant.
2. USER agrees that it will not knowingly include any copyrightable material furnished or delivered under this Agreement without a license as provided for in subparagraph 1(b) hereof, or without the consent of the copyright owner, unless it obtains specific written approval of the DOE Contracting Officer for the inclusion of such copyrighted materials.

F. Disclosure of Proprietary Data

All Proprietary Data shall be protected from disclosure for a period of three years from the date of execution of this Agreement or three years from CONTRACTOR acceptance of future research proposals where Proprietary Data is received under such future research proposals.

ARTICLE X. LABORATORY SITE ACCESS, SAFETY AND HEALTH***

As a precondition to using CONTRACTOR User Facility, Participants must complete all CONTRACTOR Site Access documents and requirements. USER and Participant shall take all reasonable precautions in activities carried out under this Agreement to protect the safety and health of others and to protect the environment. Participants must comply with all applicable safety, health, access to information, security and environmental regulations and the requirements of the DOE and CONTRACTOR, including the specific requirements of the User Facility covered by this Agreement. In the event that USER or Participant fails to comply with said regulations and requirements, CONTRACTOR may, without prejudice to any other legal or contractual rights, issue and order stopping all or any part of USER's activities at the User Facility.

ARTICLE XI. PERSONNEL RELATIONSHIPS***

Participants will remain employees or representatives of the USER at all times during their participation in the work under this Agreement, and shall not be considered employees of CONTRACTOR or DOE for any purpose. Participants shall be subject to the administrative and technical supervision and control of CONTRACTOR during and in connection with the Participant's activities under this Agreement.

ARTICLE XII: EXPORT CONTROLS***

USER acknowledges that the export of goods or Technical Data may require some form of export control license from the U.S. Government and that failure to obtain such export control license may result in criminal liability under the laws of the United States.

ARTICLE XIII: PUBLICATIONS***

- A. USER and CONTRACTOR will provide each other copies of articles of any publication of information generated pursuant to this Agreement for review and comment 14 days prior to publication.
- B. USER will not use the name of CONTRACTOR or the United States Government or their employees in any promotional activity, such as advertisements, with reference to any product or service resulting from this Agreement, without prior written approval of the Government and CONTRACTOR.

ARTICLE XIV: DISPUTES***

The Parties will attempt to jointly resolve all disputes arising under this Agreement. If the Parties are unable to jointly resolve a dispute within a reasonable period of time, either Party may contact the Laboratory's Technology Transfer Ombudsman (TTO) to provide assistance. The TTO may work directly to resolve the dispute or, upon mutual agreement of the Parties, contact a third party neutral mediator to assist the Parties in coming to a resolution. The costs of the mediator's services will be shared equally by the Parties. In the event that an agreement is not reached with the aid of the TTO or mediator, the Parties may agree to have the dispute addressed by neutral evaluation. The decision rendered by the neutral evaluator shall be nonbinding on the Parties, and any costs incurred there from shall be divided equally between the Parties. Upon mutual agreement, the Parties may request a final decision by the DOE Contracting Officer. Absent resolution, either Party may seek relief in a court of competent jurisdiction.

ARTICLE XV: CONFLICT OF TERMS***

This Agreement constitutes the primary document which governs the work described in the research proposal. In the event of any conflict between the terms of this document and any other document issued by either Party, the terms of this document shall prevail.

ARTICLE XVI: TERMINATION***

Either Party may terminate this Agreement for any reason at any time by giving not less than thirty (30) days prior written notice to the other Party. Notice will be deemed made as of the day of receipt. The obligations of any clause of this Agreement, which by their nature extend beyond its termination, shall remain in full force and effect until fulfilled.

FOR THE CONTRACTOR:

BY:
TITLE: User Support Office Manager
ADDRESS: EMSL, PO Box 999, K8-86, Richland, WA 99352
DATE:
TELEPHONE: 509/371-6003

FOR THE USER:

BY:
TITLE:
ADDRESS:
DATE:
TELEPHONE:

13.2 PUA – Proprietary User Agreement - Advance Option

*The Department of Energy has opted to utilize the following agreement for Designated Proprietary User Facilities transactions. Because these transactions are widespread across Departmental facilities, uniformity in agreement terms is desirable. Except for the *** provisions, minor modifications to the terms of this agreement may be made by CONTRACTOR, but any changes to the *** provisions or substantive changes to the non *** provisions will require approval by the DOE Contracting Officer, WHICH WILL LIKELY DELAY YOUR ACCESS TO THE USER FACILITY. In instances where DOE Contracting Officer approval for substantive changes cannot be obtained, Work for Others (WFOs) and Cooperative Research and Development Agreements (CRADAs) may be more appropriate due to the increased flexibility such agreements afford. Where this Agreement is to be used as an umbrella agreement for multiple transactions it may be modified to reflect such usage.*

C. Proprietary User Agreement

No. [insert PUA number here]

BETWEEN

Battelle Memorial Institute, Pacific Northwest Division

(hereinafter “CONTRACTOR”)
 Operator of Pacific Northwest National Laboratory (hereinafter “Laboratory”)
 under U.S. Department of Energy (hereinafter “DOE”)
 Contract No. DE-AC05-76RL01830

AND

 (hereinafter “USER”)

(Collectively, “the Parties”)

The obligations of the CONTRACTOR may be transferred and shall apply to any successor in interest to said CONTRACTOR continuing the operation of the DOE User Facility involved in this Proprietary User Agreement (hereinafter “Agreement”).

ARTICLE I. FACILITIES AND SCOPE OF WORK

Employee(s), consultant(s), and representative(s) of USER (hereinafter “Participant(s)”) shall be permitted to use Laboratory facilities for the purpose described in Proposal No. [insert Proposal No. here] (hereinafter “Proposal”) submitted by USER and approved by CONTRACTOR via the EMSL User Portal at <https://eus.emsl.pnl.gov>. Said Proposal is hereby incorporated into this Agreement by reference. This Proprietary User Agreement shall be incorporated by reference and apply to all such experiments authorized for performance at Laboratory facilities which are totally funded by USER. CONTRACTOR will retain its employees assigned to this work on its payroll and will be reimbursed by USER for the account of DOE in accordance with DOE’s pricing policy, which provides for full cost recovery.

User Facility: Environmental Molecular Sciences Laboratory (EMSL)

Scope of Work: As described in Proposal No. [insert Proposal No. here]

ARTICLE II. TERM OF THE AGREEMENT

This Agreement shall have a term that is coextensive with the active date corresponding to the Proposal. However, this Agreement shall not have a term that exceeds one calendar year from the effective date of this Agreement. The term of this Agreement shall be effective as of the latter date of (1) the date the Proposal is approved by the CONTRACTOR, (2) the date on which this Agreement is executed by the last of the Parties, or (3) the receipt of any advance payment required under Article III.

ARTICLE III. BILLING AND PAYMENT OF EXPENSES

A. The estimated cost of the work, described in Article I above is \$_____.

Full cost recovery rates are established at the beginning of each fiscal year and are subject to revision to reflect changing costs factors during the fiscal year. The minimum unit of charge at the User Facility is an 8 hour shift.

No work can begin until this advance payment is received by CONTRACTOR.

B. USER shall pay CONTRACTOR the following advance payment:

Advance Payment. USER shall advance the following amount at the time shown:

<u>Amount Due</u>	<u>Date Due</u>
\$ _____.	00/00/00

This is a full advance for the estimated cost.

All advance payments must be made in U.S. dollars. For foreign wire transfers, please add \$30 to the invoice amount to cover payment charges levied by USER's banking institution.

Monthly Expense Statements.

When work commences, monthly expense statements showing actual costs incurred for the month and the balance remaining in the account are mailed to USER for information only. The expense statements are not requests for payment.

If the estimated cost is increased during the project or the project is expected to be renewed, an additional advance may be requested of USER. CONTRACTOR is not obligated to continue the work unless it is holding an adequate advance.

Upon completion of the project there will be a reconciliation of the total costs incurred to total payments received and a final expense statement along with any remaining advance will be returned to USER.

D. Expense statements shall be sent to: (this information is mandatory)

USER Reference No. if applicable: _____

Contact Name: _____

Street Address: _____

City, State, Zip Code: _____

Country: _____

Telephone with area code: _____

Email: _____

Tax ID Number (TIN): _____

C. All costs of Experiments will be in accordance with DOE Order O 522.1, "Pricing of Departmental Materials and Services.

ARTICLE IV: RESERVED

ARTICLE V. PROPERTY AND MATERIALS***

USER may be permitted by the CONTRACTOR to furnish equipment, tooling, test apparatus, or materials necessary to assist in the performance of its experiment(s) at the User Facility. Such items shall remain the property of USER. Unless the Parties otherwise agree, all such property furnished by USER or equipment and test apparatus provided by USER will be removed by USER within sixty (60) days of termination or expiration of this Agreement or will be disposed of as directed by USER at USER's expense. Any equipment that becomes integrated into the User Facility shall be the property of the Government. USER acknowledges that any material supplied by USER may be damaged, consumed or lost. Materials (including residues and/or other contaminated material) remaining after performance of the work or analysis will be removed in their then condition by USER at USER's expense. USER will return User Facilities and equipment utilized in their original condition except for normal wear and tear.

CONTRACTOR shall have no responsibility for USER's property at the User Facility other than loss or damage caused by willful misconduct or gross negligence of CONTRACTOR or its employees.

Personal property produced or acquired during the course of this Agreement shall be disposed of as directed by the owner at the owner's expense.

ARTICLE VI: SCHEDULING***

USER understands that CONTRACTOR will have sole responsibility and discretion for allocating and scheduling usage of the User Facilities and equipment needed for or involved under this Agreement.

ARTICLE VII: INDEMNITY AND LIABILITY***

- A. Personnel Relationships** - USER shall be responsible for the acts or omissions of Participants.
- B. Product Liability** - To the extent permitted by U.S. and U.S. State law, if USER utilizes the work derived from this Agreement in the making, using, or selling of a product, process or service, then USER hereby agrees to hold harmless and indemnify CONTRACTOR and the United States Government, their officers, agents and employees from any and all liability, claims, damages, costs and expenses, including attorney fees, for injury to or death of persons, or damage to or destruction of property, as a result of or arising out of such utilization of the work by or on behalf of USER, its assignees or licensees.
- C. General Indemnity** - To the extent permitted by U.S. and U.S. State law, USER hereby agrees to indemnify and hold harmless CONTRACTOR and the United States Government, their officers, agents and employees from any and all liability, claims, damages, costs and expenses, including attorney fees, for injury to or death of persons, or damage to or destruction of property, arising out of the performance of this Agreement or arising out of the use of the services performed, materials supplied or information given hereunder by any

persons including the USER, and not directly resulting from the fault or negligence of the CONTRACTOR or the United States Government, or persons acting on their behalf.

D. Patent and Copyright Indemnity—Limited - To the extent permitted by U.S. and U.S. State law, USER shall fully indemnify the Government and CONTRACTOR and their officers, agents, and employees for infringement of any United States patent or copyright arising out of any acts required or directed or performed by USER under this Agreement to the extent such acts are not normally performed at the Facility.

E. The liability and indemnity provisions in paragraphs B, C and D above shall not apply unless USER shall have been informed as soon as practicable by CONTRACTOR or the Government of the suit or action alleging such liability or infringement, and such indemnity shall not apply to a claimed liability or infringement that is settled without the consent of USER unless required by a court of competent jurisdiction.

F. General Disclaimer -

THE GOVERNMENT AND CONTRACTOR MAKE NO EXPRESS OR IMPLIED WARRANTY AS TO THE CONDITIONS OF THE FACILITY FURNISHED HEREUNDER. IN ADDITION, THE GOVERNMENT, CONTRACTOR AND USER MAKE NO EXPRESS OR IMPLIED WARRANTY AS TO THE RESEARCH OR ANY INTELLECTUAL PROPERTY, GENERATED INFORMATION, OR PRODUCT MADE OR DEVELOPED UNDER THIS AGREEMENT, OR THE OWNERSHIP, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE OF THE RESEARCH OR RESULTING PRODUCT; THAT THE GOODS, SERVICES, MATERIALS, PRODUCTS, PROCESSES, INFORMATION, OR DATA TO BE FURNISHED HEREUNDER WILL ACCOMPLISH INTENDED RESULTS OR ARE SAFE FOR ANY PURPOSE INCLUDING THE INTENDED PURPOSE; OR THAT ANY OF THE ABOVE WILL NOT INTERFERE WITH PRIVATELY OWNED RIGHTS OF OTHERS. THE GOVERNMENT, CONTRACTOR AND/OR USER SHALL NOT BE LIABLE FOR SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES ATTRIBUTED TO USE OF SUCH FACILITIES, RESEARCH OR RESULTING PRODUCT, INTELLECTUAL PROPERTY, GENERATED INFORMATION, OR PRODUCT MADE OR DELIVERED UNDER THIS AGREEMENT.

G. Notice and Assistance Regarding Patent and Copyright Infringement

1. USER shall report to the Government, promptly and in reasonable written detail, each notice or claim of patent or copyright infringement based on the performance of this Agreement of which USER has knowledge.
2. In the event of any claim or suit against the Government on account of any alleged patent or copyright infringement arising out of the performance of this Agreement or out of the use of any supplies furnished or work or services performed hereunder, USER shall furnish to the Government when requested by the Government, all evidence and information in possession of USER pertaining to such suit or claim. Such evidence and information shall be furnished at the expense of the Government except where USER has agreed to indemnify the Government.

ARTICLE VIII. PATENT RIGHTS*****A. Definitions**

1. “Subject Invention” means any invention or discovery of USER conceived or first actually reduced to practice in the course of or under this Agreement.
2. “Patent Counsel” means the DOE Patent Counsel assisting the CONTRACTOR.

B. Rights of USER – Election to Retain Rights

With respect to any USER Subject Invention, which includes inventions of any Participants, reported and elected in accordance with paragraph (C) of this clause, USER may elect to obtain the entire right, title and interest in any patent application filed in any country on a Subject Invention and in any resulting patent secured by USER. Where appropriate, the filing of any patent application by USER is subject to DOE security regulations and requirements.

C. Invention Identification, Disclosures, and Reports

USER shall furnish the Patent Counsel a written report concerning each USER Subject Invention, which includes inventions of any Participants, within six months after conception or first actual reduction to practice, whichever occurs first. If USER wishes to elect title to the Subject Invention, a notice of election to the Subject Invention should be submitted with the report or within one year of such date of reporting of the Subject Invention.

D. Facilities License

g. USER agrees to and does hereby grant to the Government an irrevocable, nonexclusive paid-up license in and to any inventions or discoveries, regardless of when conceived or actually reduced to practice or acquired by USER, which at any time through completion of this Agreement are owned or controlled by USER and are incorporated in the Facility as a result of this Agreement to such an extent that the Facility is not restored to the condition existing prior to the Agreement (1) to practice or to have practiced by or for the Government at the Facility, and (2) to transfer such licenses with the transfer of that Facility. The acceptance or exercise by the Government of the aforesaid rights and license shall not prevent the Government at any time from contesting the enforceability, validity or scope of, or title to, any rights or patents herein licensed

E. ARTICLE IX. RIGHTS IN TECHNICAL DATA*****A. Definitions**

1. “Technical Data” means recorded information, regardless of form or characteristic, of a scientific or technical nature. Technical data as used herein does not include financial reports, cost analyses, and other information incidental to Agreement administration.
2. “Proprietary Data” means technical data which embody trade secrets, developed at private expense, such as design procedures or techniques, chemical composition of materials, or manufacturing methods, processes or treatments, including minor modifications thereof, provided that such data:

- a. are not generally known or available from other sources without obligation concerning their confidentiality,
 - b. have not been made available by the owner to others without obligation concerning their confidentiality,
 - c. are not already available to the Government without obligation concerning their confidentiality, and
 - d. are marked as “Proprietary Data.”
3. “Unlimited Rights” means rights to use, duplicate or disclose technical data, in whole or in part, in any manner and for any purpose whatsoever, and to permit others to do so.
- B.** USER agrees to furnish to DOE or CONTRACTOR those data, if any, which are (1) essential to the performance of work by DOE or CONTRACTOR personnel or (2) necessary for the health and safety of such personnel in the performance of the work. Any data furnished to DOE or CONTRACTOR shall be deemed to have been delivered with unlimited rights unless marked as “Proprietary Data” of USER.
- C.** USER agrees that it shall have the sole responsibility for identifying and marking all documents containing Proprietary Data which are furnished by USER or produced under this Agreement. USER further agrees to mark each such document by or before termination of this Agreement by placing on the cover page thereof a legend identifying the document as Proprietary Data of USER and identifying each page and portion thereof to which the marking applies. The Government and CONTRACTOR shall not disclose properly marked Proprietary Data of USER outside the Government and CONTRACTOR. The Government and CONTRACTOR reserve the right to challenge the proprietary nature of any markings on data.
- D.** USER is solely responsible for the removal of all of its Proprietary Data from the User Facility by or before termination of this Agreement. The Government shall have unlimited rights in any Technical Data (including Proprietary Data) which are not removed from the User Facility by or before termination of this Agreement. The Government shall have unlimited rights in any Technical Data (including Proprietary Data) which are incorporated into the User Facility under this Agreement to such extent that the User Facility or equipment is not restored to the condition existing prior to such incorporation.
- E.** Upon completion or termination of the project, USER agrees to deliver to DOE and CONTRACTOR a non-proprietary report describing the work performed under this Agreement.

ARTICLE X. LABORATORY SITE ACCESS, SAFETY AND HEALTH***

- F. As a precondition to using CONTRACTOR User Facility, Participants must complete all CONTRACTOR Site Access documents and requirements. USER and Participants shall take all reasonable precautions in activities carried out under this Agreement to protect the safety and health of others and to protect the environment. Participants must comply with all applicable rules of CONTRACTOR and DOE with regard to admission to and use of the User Facility, including safety, health, operating and health-physics procedures, access to information, security and environmental regulations, procedures, and the requirements of the DOE and CONTRACTOR, including the specific requirements of the User Facility covered by this Agreement. Participants shall execute any and all documents required by CONTRACTOR acknowledging and agreeing to comply with such applicable rules of CONTRACTOR. In the event that USER or Participant fails to comply with said regulations, procedures, and requirements, CONTRACTOR may, without prejudice to any other legal or contractual

rights, issue and order stopping all or any part of USER's or Participant's activities at the Designated Proprietary User Facility.

G. ARTICLE XI. PERSONNEL RELATIONSHIPS***

Participants will remain employees or representatives of USER at all times during their participation in the work under this Agreement, and shall not be considered employees of CONTRACTOR or DOE for any purpose. Participants shall be subject to the administrative and technical supervision and control of CONTRACTOR during and in connection with the Participants' activities under this Agreement.

ARTICLE XII: EXPORT CONTROLS***

USER acknowledges that the export of goods or Technical Data may require some form of export control license from the U.S. Government and that failure to obtain such export control license may result in criminal liability under the laws of the United States.

ARTICLE XIII. THIRD-PARTY CONTRACTS

H. Contracts between USER and third parties for work on CONTRACTOR premises including, but not limited to, construction, installation, maintenance, and repair, will be subject to prior approval by the DOE and CONTRACTOR. The DOE and CONTRACTOR may require the insertion of specific terms and conditions into such contracts.

ARTICLE XIV: DISPUTES***

The Parties will attempt to jointly resolve all disputes arising under this Agreement. If the Parties are unable to jointly resolve a dispute within a reasonable period of time, either Party may contact the Laboratory's Technology Transfer Ombudsman (TTO) to provide assistance. The TTO may work directly to resolve the dispute or, upon mutual agreement of the Parties, contact a third party neutral mediator to assist the Parties in coming to a resolution. The costs of the mediator's services will be shared equally by the Parties. In the event that an agreement is not reached with the aid of the TTO or mediator, the Parties may agree to have the dispute addressed by neutral evaluation. The decision rendered by the neutral evaluator shall be nonbinding on the Parties, and any costs incurred there from shall be divided equally between the Parties. Upon mutual agreement, the Parties may request a final decision by the DOE Contracting Officer. Absent resolution, either Party may seek relief in a court of competent jurisdiction.

ARTICLE XV. CONFLICT OF TERMS***

In the event of any conflict between the terms of this document and any other document issued by either Party, the terms of this document shall prevail.

ARTICLE XVI. TERMINATION***

Either Party may terminate this Agreement for any reason at any time by giving not less than thirty (30) days prior written notice to the other Party, provided that CONTRACTOR shall recover payment for the costs incurred by CONTRACTOR on behalf of USER prior to termination and for termination costs.

In witness whereof, the Parties hereto have executed this Agreement:

FOR THE CONTRACTOR:

BY:
TITLE:
ADDRESS:
DATE:
TELEPHONE:

FOR THE USER:

BY:
TITLE:
ADDRESS:
DATE:
TELEPHONE:

13.3 PUA – Proprietary User Agreement – Partial Advance Option

*The Department of Energy has opted to utilize the following agreement for Designated Proprietary User Facilities transactions. Because these transactions are widespread across Departmental facilities, uniformity in agreement terms is desirable. Except for the *** provisions, minor modifications to the terms of this agreement may be made by CONTRACTOR, but any changes to the *** provisions or substantive changes to the non *** provisions will require approval by the DOE Contracting Officer, WHICH WILL LIKELY DELAY YOUR ACCESS TO THE USER FACILITY. In instances where DOE Contracting Officer approval for substantive changes cannot be obtained, Work for Others (WFOs) and Cooperative Research and Development Agreements (CRADAs) may be more appropriate due to the increased flexibility such agreements afford. Where this Agreement is to be used as an umbrella agreement for multiple transactions it may be modified to reflect such usage.*

I. Proprietary User Agreement

No. [\[insert PUA number here\]](#)

BETWEEN

Battelle Memorial Institute, Pacific Northwest Division

(hereinafter “CONTRACTOR”)
 Operator of Pacific Northwest National Laboratory (hereinafter “Laboratory”)
 under U.S. Department of Energy (hereinafter “DOE”)
 Contract No. DE-AC05-76RL01830

AND

 (hereinafter “USER”)

(Collectively, “the Parties”)

The obligations of the CONTRACTOR may be transferred and shall apply to any successor in interest to said CONTRACTOR continuing the operation of the DOE User Facility involved in this Proprietary User Agreement (hereinafter “Agreement”).

ARTICLE I. FACILITIES AND SCOPE OF WORK

Employee(s), consultant(s), and representative(s) of USER (hereinafter “Participant(s)”) shall be permitted to use Laboratory facilities for the purpose described in Proposal No. [insert Proposal No. here] (hereinafter “Proposal”) submitted by USER and approved by CONTRACTOR via the EMSL User Portal at <https://eus.emsl.pnl.gov>. Said Proposal is hereby incorporated into this Agreement by reference. This Proprietary User Agreement shall be incorporated by reference and apply to all such experiments authorized for performance at Laboratory facilities which are totally funded by USER. CONTRACTOR will retain its employees assigned to this work on its payroll and will be reimbursed by USER for the account of DOE in accordance with DOE’s pricing policy, which provides for full cost recovery.

User Facility: Environmental Molecular Sciences Laboratory (EMSL)

Scope of Work: As described in Proposal No. [insert Proposal No. here]

ARTICLE II. TERM OF THE AGREEMENT

This Agreement shall have a term that is coextensive with the active date corresponding to the Proposal. However, this Agreement shall not have a term that exceeds one calendar year from the effective date of this Agreement. The term of this Agreement shall be effective as of the latter date of (1) the date the Proposal is approved by the CONTRACTOR, (2) the date on which this Agreement is executed by the last of the Parties, or (3) the receipt of any advance payment required under Article III.

ARTICLE III. BILLING AND PAYMENT OF EXPENSES

A. The estimated cost of the work, described in Article I above is \$ _____.

Full cost recovery rates are established at the beginning of each fiscal year and are subject to revision to reflect changing costs factors during the fiscal year. The minimum unit of charge at the User Facility is an 8 hour shift.

No work can begin until this advance payment is received by CONTRACTOR.

B. USER shall pay CONTRACTOR the following advance payment and monthly invoice payments:

Advance Payment. USER shall advance the following amount at the time shown:

<u>Amount Due</u>	<u>Date Due</u>
\$ _____.	00/00/00

This is a partial advance for the estimated cost. Once received, this advance will be held to pay for approximately the last four months of incurred costs on the project (or until the amounts on the month invoices plus the advance payment equals the contractual cost limitation level authorized under this Agreement).

All advance payments must be made in U.S. dollars. For foreign wire transfers, please add \$30 to the invoice amount to cover payment charges levied by USER’s banking institution.

Monthly Invoice Payments.

Once each month during the Agreement term CONTRACTOR shall invoice USER for costs incurred in the previous month. Payment for such costs shall be due upon receipt of the invoice.

CONTRACTOR is not obligated to continue the work unless it is holding an adequate advance and may stop work if the monthly invoices are not paid on a timely basis.

When the advance payment plus the amounts paid in response to the monthly invoices equals the contractual cost limitation, the advance payment will be applied to pay for the remaining costs incurred on the Agreement. From that time forth, monthly Expense Statements showing actual costs incurred for the month and the balance remaining in the Agreement are mailed to USER for information only. The expense statements are not requests for payment.

Upon completion of the project there will be a reconciliation of the total costs incurred to total payments received and a final expense statement along with any remaining advance will be returned to USER.

USER shall provide its Purchase Order number if applicable and the name, address, and other contact information, of the person or department who will be making the invoice payments. This information is mandatory.

USER Reference No. if applicable: _____

Contact Name: _____

Street Address: _____

City, State, Zip Code: _____

Country: _____

Telephone with area code: _____

Email: _____

Tax ID Number (TIN): _____

C. All costs of Experiments will be in accordance with DOE Order O 522.1, "Pricing of Departmental Materials and Services.

ARTICLE IV: RESERVED

ARTICLE V. PROPERTY AND MATERIALS***

USER may be permitted by the CONTRACTOR to furnish equipment, tooling, test apparatus, or materials necessary to assist in the performance of its experiment(s) at the User Facility. Such items shall remain the property of USER. Unless the Parties otherwise agree, all such property furnished by USER or equipment and test apparatus provided by USER will be removed by USER within sixty (60) days of termination or expiration of this Agreement or will be disposed of as directed by USER at USER's expense. Any equipment that becomes integrated into the User Facility shall be the property of the Government. USER acknowledges that any material supplied by USER may be damaged, consumed or lost. Materials (including residues and/or other contaminated material) remaining after performance of the work or analysis will be removed in their then condition by USER at USER's expense. USER will return User Facilities and equipment utilized in their original condition except for normal wear and tear.

CONTRACTOR shall have no responsibility for USER's property at the User Facility other than loss or damage caused by willful misconduct or gross negligence of CONTRACTOR or its employees.

Personal property produced or acquired during the course of this Agreement shall be disposed of as directed by the owner at the owner's expense.

ARTICLE VI: SCHEDULING***

USER understands that CONTRACTOR will have sole responsibility and discretion for allocating and scheduling usage of the User Facilities and equipment needed for or involved under this Agreement.

ARTICLE VII: INDEMNITY AND LIABILITY***

A. Personnel Relationships - USER shall be responsible for the acts or omissions of Participants.

- B. Product Liability** - To the extent permitted by U.S. and U.S. State law, if USER utilizes the work derived from this Agreement in the making, using, or selling of a product, process or service, then USER hereby agrees to hold harmless and indemnify CONTRACTOR and the United States Government, their officers, agents and employees from any and all liability, claims, damages, costs and expenses, including attorney fees, for injury to or death of persons, or damage to or destruction of property, as a result of or arising out of such utilization of the work by or on behalf of USER, its assignees or licensees.
- C. General Indemnity** - To the extent permitted by U.S. and U.S. State law, USER hereby agrees to indemnify and hold harmless CONTRACTOR and the United States Government, their officers, agents and employees from any and all liability, claims, damages, costs and expenses, including attorney fees, for injury to or death of persons, or damage to or destruction of property, arising out of the performance of this Agreement or arising out of the use of the services performed, materials supplied or information given hereunder by any persons including the USER, and not directly resulting from the fault or negligence of the CONTRACTOR or the United States Government, or persons acting on their behalf.
- D. Patent and Copyright Indemnity—Limited** - To the extent permitted by U.S. and U.S. State law, USER shall fully indemnify the Government and CONTRACTOR and their officers, agents, and employees for infringement of any United States patent or copyright arising out of any acts required or directed or performed by USER under this Agreement to the extent such acts are not normally performed at the Facility.
- E.** The liability and indemnity provisions in paragraphs B, C and D above shall not apply unless USER shall have been informed as soon as practicable by CONTRACTOR or the Government of the suit or action alleging such liability or infringement, and such indemnity shall not apply to a claimed liability or infringement that is settled without the consent of USER unless required by a court of competent jurisdiction.
- F. General Disclaimer** -
THE GOVERNMENT AND CONTRACTOR MAKE NO EXPRESS OR IMPLIED WARRANTY AS TO THE CONDITIONS OF THE FACILITY FURNISHED HEREUNDER. IN ADDITION, THE GOVERNMENT, CONTRACTOR AND USER MAKE NO EXPRESS OR IMPLIED WARRANTY AS TO THE RESEARCH OR ANY INTELLECTUAL PROPERTY, GENERATED INFORMATION, OR PRODUCT MADE OR DEVELOPED UNDER THIS AGREEMENT, OR THE OWNERSHIP, MERCHANTABILITY, OR FITNESS FOR A PARTICULAR PURPOSE OF THE RESEARCH OR RESULTING PRODUCT; THAT THE GOODS, SERVICES, MATERIALS, PRODUCTS, PROCESSES, INFORMATION, OR DATA TO BE FURNISHED HEREUNDER WILL ACCOMPLISH INTENDED RESULTS OR ARE SAFE FOR ANY PURPOSE INCLUDING THE INTENDED PURPOSE; OR THAT ANY OF THE ABOVE WILL NOT INTERFERE WITH PRIVATELY OWNED RIGHTS OF OTHERS. THE GOVERNMENT, CONTRACTOR AND/OR USER SHALL NOT BE LIABLE FOR SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES ATTRIBUTED TO USE OF SUCH FACILITIES, RESEARCH OR RESULTING PRODUCT, INTELLECTUAL PROPERTY, GENERATED INFORMATION, OR PRODUCT MADE OR DELIVERED UNDER THIS AGREEMENT.

G. Notice and Assistance Regarding Patent and Copyright Infringement

1. USER shall report to the Government, promptly and in reasonable written detail, each notice or claim of patent or copyright infringement based on the performance of this Agreement of which USER has knowledge.
2. In the event of any claim or suit against the Government on account of any alleged patent or copyright infringement arising out of the performance of this Agreement or out of the use of any supplies furnished or work or services performed hereunder, USER shall furnish to the Government when requested by the Government, all evidence and information in possession of USER pertaining to such suit or claim. Such evidence and information shall be furnished at the expense of the Government except where USER has agreed to indemnify the Government.

ARTICLE VIII. PATENT RIGHTS***

A. Definitions

1. “Subject Invention” means any invention or discovery of USER conceived or first actually reduced to practice in the course of or under this Agreement.
2. “Patent Counsel” means the DOE Patent Counsel assisting the CONTRACTOR.

B. Rights of USER – Election to Retain Rights

With respect to any USER Subject Invention, which includes inventions of any Participants, reported and elected in accordance with paragraph (C) of this clause, USER may elect to obtain the entire right, title and interest in any patent application filed in any country on a Subject Invention and in any resulting patent secured by USER. Where appropriate, the filing of any patent application by USER is subject to DOE security regulations and requirements.

C. Invention Identification, Disclosures, and Reports

USER shall furnish the Patent Counsel a written report concerning each USER Subject Invention, which includes inventions of any Participants, within six months after conception or first actual reduction to practice, whichever occurs first. If USER wishes to elect title to the Subject Invention, a notice of election to the Subject Invention should be submitted with the report or within one year of such date of reporting of the Subject Invention.

D. Facilities License

USER agrees to and does hereby grant to the Government an irrevocable, nonexclusive paid-up license in and to any inventions or discoveries, regardless of when conceived or actually reduced to practice or acquired by USER, which at any time through completion of this Agreement are owned or controlled by USER and are incorporated in the Facility as a result of this Agreement to such an extent that the Facility is not restored to the condition existing prior to the Agreement (1) to practice or to have practiced by or for the Government at the Facility, and (2) to transfer such licenses with the transfer of that Facility. The

acceptance or exercise by the Government of the aforesaid rights and license shall not prevent the Government at any time from contesting the enforceability, validity or scope of, or title to, any rights or patents herein licensed

ARTICLE IX. RIGHTS IN TECHNICAL DATA***

A. Definitions

1. "Technical Data" means recorded information, regardless of form or characteristic, of a scientific or technical nature. Technical data as used herein does not include financial reports, cost analyses, and other information incidental to Agreement administration.
2. "Proprietary Data" means technical data which embody trade secrets, developed at private expense, such as design procedures or techniques, chemical composition of materials, or manufacturing methods, processes or treatments, including minor modifications thereof, provided that such data:
 - a. are not generally known or available from other sources without obligation concerning their confidentiality,
 - b. have not been made available by the owner to others without obligation concerning their confidentiality,
 - c. are not already available to the Government without obligation concerning their confidentiality, and
 - d. are marked as "Proprietary Data."
3. "Unlimited Rights" means rights to use, duplicate or disclose technical data, in whole or in part, in any manner and for any purpose whatsoever, and to permit others to do so.

B. USER agrees to furnish to DOE or CONTRACTOR those data, if any, which are (1) essential to the performance of work by DOE or CONTRACTOR personnel or (2) necessary for the health and safety of such personnel in the performance of the work. Any data furnished to DOE or CONTRACTOR shall be deemed to have been delivered with unlimited rights unless marked as "Proprietary Data" of USER.

C. USER agrees that it shall have the sole responsibility for identifying and marking all documents containing Proprietary Data which are furnished by USER or produced under this Agreement. USER further agrees to mark each such document by or before termination of this Agreement by placing on the cover page thereof a legend identifying the document as Proprietary Data of USER and identifying each page and portion thereof to which the marking applies. The Government and CONTRACTOR shall not disclose properly marked Proprietary Data of USER outside the Government and CONTRACTOR. The Government and CONTRACTOR reserve the right to challenge the proprietary nature of any markings on data.

D. USER is solely responsible for the removal of all of its Proprietary Data from the User Facility by or before termination of this Agreement. The Government shall have unlimited rights in any Technical Data (including Proprietary Data) which are not removed from the User Facility by or before termination of this Agreement. The Government shall have unlimited rights in any Technical Data (including Proprietary Data) which are incorporated into the User Facility under this Agreement to such extent that the User Facility or equipment is not restored to the condition existing prior to such incorporation.

E. Upon completion or termination of the project, USER agrees to deliver to DOE and CONTRACTOR a non-proprietary report describing the work performed under this Agreement.

ARTICLE X. LABORATORY SITE ACCESS, SAFETY AND HEALTH***

As a precondition to using CONTRACTOR User Facility, Participants must complete all CONTRACTOR Site Access documents and requirements. USER and Participants shall take all reasonable precautions in activities carried out under this Agreement to protect the safety and health of others and to protect the environment. Participants must comply with all applicable rules of CONTRACTOR and DOE with regard to admission to and use of the User Facility, including safety, health, operating and health-physics procedures, access to information, security and environmental regulations, procedures, and the requirements of the DOE and CONTRACTOR, including the specific requirements of the User Facility covered by this Agreement. Participants shall execute any and all documents required by CONTRACTOR acknowledging and agreeing to comply with such applicable rules of CONTRACTOR. In the event that USER or Participant fails to comply with said regulations, procedures, and requirements, CONTRACTOR may, without prejudice to any other legal or contractual rights, issue and order stopping all or any part of USER's or Participant's activities at the Designated Proprietary User Facility.

ARTICLE XI. PERSONNEL RELATIONSHIPS***

Participants will remain employees or representatives of USER at all times during their participation in the work under this Agreement, and shall not be considered employees of CONTRACTOR or DOE for any purpose. Participants shall be subject to the administrative and technical supervision and control of CONTRACTOR during and in connection with the Participants' activities under this Agreement.

ARTICLE XII: EXPORT CONTROLS***

USER acknowledges that the export of goods or Technical Data may require some form of export control license from the U.S. Government and that failure to obtain such export control license may result in criminal liability under the laws of the United States.

ARTICLE XIII. THIRD-PARTY CONTRACTS

Contracts between USER and third parties for work on CONTRACTOR premises including, but not limited to, construction, installation, maintenance, and repair, will be subject to prior approval by the DOE and CONTRACTOR. The DOE and CONTRACTOR may require the insertion of specific terms and conditions into such contracts.

ARTICLE XIV: DISPUTES***

The Parties will attempt to jointly resolve all disputes arising under this Agreement. If the Parties are unable to jointly resolve a dispute within a reasonable period of time, either Party may contact the Laboratory's Technology Transfer Ombudsman (TTO) to provide assistance. The TTO may work directly to resolve the dispute or, upon mutual agreement of the Parties, contact a third party neutral mediator to assist the Parties in coming to a resolution. The costs of the mediator's services will be shared equally by the Parties. In the event that an agreement is not reached with the aid of the TTO or mediator, the Parties may agree to have the dispute

addressed by neutral evaluation. The decision rendered by the neutral evaluator shall be nonbinding on the Parties, and any costs incurred there from shall be divided equally between the Parties. Upon mutual agreement, the Parties may request a final decision by the DOE Contracting Officer. Absent resolution, either Party may seek relief in a court of competent jurisdiction.

ARTICLE XV. CONFLICT OF TERMS***

In the event of any conflict between the terms of this document and any other document issued by either Party, the terms of this document shall prevail.

ARTICLE XVI. TERMINATION***

Either Party may terminate this Agreement for any reason at any time by giving not less than thirty (30) days prior written notice to the other Party, provided that CONTRACTOR shall recover payment for the costs incurred by CONTRACTOR on behalf of USER prior to termination and for termination costs.

In witness whereof, the Parties hereto have executed this Agreement:

FOR THE CONTRACTOR:

BY:
TITLE:
ADDRESS:
DATE:
TELEPHONE:

FOR THE USER:

BY:
TITLE:
ADDRESS:
DATE:
TELEPHONE:

13.4 Bilateral DOE Laboratory Utilization Agreement

Bilateral DOE Laboratory Utilization Agreement

No. _____

BETWEEN

Battelle Memorial Institute, Pacific Northwest Division (“CONTRACTOR A”)

Facility Operator of **Pacific Northwest National Laboratory**

under U.S. Department of Energy (hereinafter “DOE”)

Contract No. DE-AC05-76RL01830

AND

_____ (“CONTRACTOR B”)

Facility Operator of _____ Laboratory

under DOE Prime Contract No. DE-AC _____

(Collectively, “the Parties”)

ARTICLE I. FACILITIES AND SCOPE OF WORK

A Contractor’s facilities (including equipment, services, information and other materials--(hereinafter “Host Facility”)) will be made available to employees and consultants (hereinafter “Participants”) of the other Party solely for carrying out the Prime Contracts of the Parties. An additional funding agreement (e.g., an Integrated Contractor Order) for funding transfer may be necessary if goods and services are provided by one Party at cost to the other Party.

ARTICLE II. TERM OF THE AGREEMENT

This Agreement shall have a term of five (5) years from the effective date. The term of this Agreement shall be effective as of the date on which it is signed by the last of the Parties. Unless terminated in accordance with the terms herein, this Agreement shall automatically renew on a year-to-year basis after the initial five-year term.

ARTICLE III. INTELLECTUAL PROPERTY RIGHTS

With regard to patent and technical data rights, Participants will follow their Party’s Prime Contract when working at a Host Facility. However, if the work performed by a Participant at the Host Facility is subject to an agreement with a third party (for example, WFOA or CRADA), the intellectual property provisions of that third party agreement shall supersede this section.

ARTICLE IV. LABORATORY SITE ACCESS, SAFETY AND HEALTH

As a precondition to using a Host Facility, Participants must complete all of the Host Facility's Site Access documents and requirements. Participants shall take all reasonable precautions in activities carried out under this Agreement to protect the safety and health of others and to protect the environment. Participants must comply, or risk immediate expulsion, with all applicable safety, health, access to information, security and environmental regulations and the requirements of the DOE and Host Facility.

FOR CONTRACTOR A:

FOR CONTRACTOR B:

BY: _____

BY: _____

TITLE: _____

TITLE: _____

DATE: _____

DATE: _____

14.0 EMSL Staff 5% Proposals Implementation and Utilization

This document formalizes the procedures for review and approval of EMSL Staff 5% proposals. The EMSL Utilization Policy states

Up to 5% of the available time is made available for EMSL staff members to help advance their scientific careers through independent or collaborative research. This research is expected to result in EMSL staff publications or externally funded programs. Requests will be submitted through EUS for internal review and tracking purposes. Access is subject to review and approval by an EMSL Associate Director, and will be prioritized based on research that advances EMSL's mission.

This policy was developed to provide an opportunity for EMSL line staff to pursue their own research outside of their roles as scientific consultants for users. EMSL staff can submit proposals to utilize EMSL resources using the EMSL 5% proposal mechanism. These proposals are subject to internal peer and management reviews only, and participants on EMSL 5% proposals will not be counted as Users. This mechanism does not replace user proposals by PNNL staff who pay EMSL staff to run the experiments on their behalf.

The EMSL Staff 5% proposal mechanism can also be used by Wiley Research Fellows, who are considered adjunct investigators (see Operations Manual, section 18.3) with special time allocation rights. Wiley Research Fellow requests will follow the same internal review process used for EMSL staff.

The following submission and review procedures will be followed:

- EMSL staff submit requests via the EUS, selecting the “EMSL Staff 5%” proposal type.
 - Because Wiley Research Fellows are not “staff”, requests must be submitted using the “General” proposal category with a comment indicating the EMSL Staff 5% option; the USO will convert the proposal in the database to the EMSL Staff 5% category.
- USO will assign the proposal to the appropriate Capability Lead, who will then assign the appropriate Associate Director as an internal reviewer, along with any other internal peer reviewers as deemed necessary.
- Note – the system is designed so PNNL staff can comment but not score proposals.
- The proposal will route through additional internal reviews as required (H&S, radiological, environment, animal studies, human studies, etc.).
- The proposal must be fully approved before work can proceed.
- EMSL 5% proposals can have non-EMSL staff as participants. All participants will be expected to accurately record their utilization on instruments in the ERS by selecting the appropriate proposal number.
- Usage by all participants on an EMSL 5% proposal will be reported in the Usage Breakdown (pie chart) and Utilization reports.

15.0 Appeals

Proposal authors may submit appeals regarding new proposals if they have substantive evidence to show that reviewers made a serious error or there was some flaw in the review process. Appeals of denied proposal extensions may be made if decisions appear to have been based on inadequate or incorrect information or if there are extenuating circumstances not noted in the progress summary or capability request. Appeals to reverse management decisions that are related to resource availability and funding will not be considered.

To submit an appeal, the proposal author should email the [User Support Office \(userservices@emsl.pnl.gov\)](mailto:userservices@emsl.pnl.gov) with a concise (2-3 paragraphs) summary of concerns as well as any supporting arguments for reversing the decision. Authors do not need to resubmit extension summaries or project descriptions. *Appeals must be submitted within 30 days from the date on the award decision notice.*

All appeals are reviewed by the Appeals Committee, chaired by EMSL's Chief Science Officer, and recommendations are sent to the EMSL Director. All decisions by the EMSL Director are considered final. The User Support Office will coordinate with the committee, and notify the user of the committee's decision within 8 weeks from receipt of the appeal for Call for Proposal awards and within 4 weeks from receipt of the appeal for off-cycle proposal awards.

16.0 EMSL Scientific Partner Proposals for Capability Development

16.1 Definition

Scientific Partner proposals are submitted by individuals or groups who wish to partner scientifically with EMSL staff to enhance an existing capability or develop and build unique new capabilities that enhance EMSL's user program. Capability development efforts that support environmental molecular sciences and which utilize collaborative multidisciplinary teams, pooled or leveraged resources, unique operating environments, or other resources which may be beyond those available to individual researchers or teams are encouraged. Scientific Partner proposals are intended to leverage expertise, capability, and resources that maximize impact for EMSL, the Scientific Partner, and future users. In return for co-development, EMSL's Scientific Partner users may have priority access to the new capability for a negotiated and specified period (subject to EMSL Advisory Committees review and approval). Proposals may be in response to a specific call or submitted at any time. The award and timing of EMSL Scientific Partner projects are contingent upon EMSL strategic needs and the availability of EMSL resources.

A 1-2 page Letter of Intent (LOI) is used to initiate a dialog with EMSL's Chief Technology Officer on suitability, interest, and strategic need for the capability. A Scientific Partner user is encouraged to work with appropriate EMSL Capability Leads or other technical contacts in preparing the Letter of Intent, which should include initial discussion of need, approach, resources, Scientific Partner contributions, impact, and proposed team.

Scientific Partner users with successful LOI's will be asked to interface and work with EMSL staff in refining and developing full proposals (6-page maximum) that meet identified EMSL capability needs and are consistent with EMSL strategy, science themes, and technology thrusts.

Scientific Partner users with approved proposals will be required to submit summaries of the work performed. For projects open for one year or less, the summaries are due when the project closes. For all others, summaries are due each year based on the date established by the Chief Technology Officer. Summaries should include a brief introduction of the project, a description of the results to date, a list of any publications, awards, or recognition resulting from the project, and (for multiple year projects) a detailed justification for any changes to the resources outlined in the original proposal. Periodic reviews of Scientific Partner Projects are also required and reviews will be done at least annually for each project; the Chief Technology Officer will call and direct such reviews.

16.2 Review Process – Letters of Intent

Letters of Intent will be submitted by the Scientific Partner user and will be reviewed by a panel consisting of the Chief Technology Officer, the Chief Science Officer, the Associate Director for Scientific Resources, the Associate Director for Molecular Science Computing, and the Lead Scientists. The User Support Office Manager will be a non-voting member and serve as Secretary for the meetings. Review criteria will include strategic alignment, user/scientific impact and need, and resource and time requirements. Interaction, deliberation, and refinement of concepts with the Committee and/or EMSL staff should be expected during the LOI review process. Upon review and approval, the Chief Technology Officer or delegate will contact the Scientific Partner user and request a full proposal, along with specific needs, considerations, or contacts to be addressed.

16.3 Review Process – Full Proposals

Full proposals are to be submitted to the EMSL User Portal (<https://eus.emsl.pnl.gov/Portal/>). Proposals should address scientific merit, uniqueness, and complement/fit of the proposed capability to current EMSL capabilities, Science Themes, and other strategy elements. Proposals should also detail the resource split/sharing between EMSL and partner resources. Proposals will be reviewed by (selected) members of EMSL's advisory committees (Scientific Advisory Committee, User Advisory Committee) and an EMSL panel consisting of the Chief Technology Officer, the Chief Science Officer, the Associate Director for Scientific Resources, the Associate Director for Molecular Science Computing, selected Lead Scientists, and other ad-hoc members as may be required for technical evaluation. The Lead Scientist(s) will be responsible for gathering input from appropriate Capability Steward(s) prior to the review panel meeting. The User Support Office manager will be a non-voting member and serve as Secretary for the meetings. Review criteria will include strategic alignment, user/scientific impact and need, and resource and time requirements. All meritorious proposals will be additionally be reviewed by the EMSL Chief Operations Officer as part of the approval process. The Chief Technology Officer will be responsible for communicating final approval decisions to the proposal author.

17.0 Wiley Visiting Scientist Program – Official Policy and Procedure

To facilitate major contributions to EMSL's user program by external researchers, EMSL announces the establishment of the Wiley Visiting Scientist Program. The purpose is to recognize, reward, and encourage distinguished scientists to come to EMSL for extended periods of time and make significant contributions to the EMSL user program by providing input to and recommendations on the path forward for EMSL. Two types of visits will be considered under this program: (1) Short term - for visits up to 3 months, with a minimum stay of 1 month, and (2) long term - for visits up to 1 year, with a minimum stay of 6 weeks.

17.1 Expectations

Wiley Visiting Scientists are expected to actively contribute to the success of EMSL as a user facility including support of EMSL and the user program beyond their own specific research projects. Examples include participation on partner proposals for development of new capabilities, mentoring EMSL staff, and assisting in long-term facility planning. Visiting scientists are also expected to interact with the EMSL scientific leadership team and attend and provide input, whenever possible, at meetings with the team.

17.2 Benefits

The Wiley Visiting Scientist program provides a mechanism to formally recognize the partnerships between EMSL and investigators making significant contributions to support the EMSL mission. These partnerships will be acknowledged whenever possible including in EMSL annual reports and on the EMSL website. In recognition of their efforts, visiting scientists will receive the formal title of Wiley Visiting Scientist, will be looked to for advice concerning the future of the EMSL facility, and can request special time allocations on high demand instrumentation that is normally reserved for EMSL staff. In addition, travel funding and per diem expenses are available.

17.3 Qualifications

The Wiley Visiting Scientist program is open to scientists worldwide who are working in the area of environmental molecular sciences and who are at least 5 years post doctorate. In addition to conducting their own research, applicants must be willing to participate in activities to enhance the EMSL user program.

17.4 Requirements

17.4.1 Short-Term Fellowships

- **Application.** Applicants should submit to the contact below a curriculum vitae and a short description of the proposed visit objectives, which should address their research efforts, the additional contributions being proposed to the user program and the desired funding request. Submittal of the application will normally be preceded by informal discussions with the EMSL Chief Science Officer or Scientific Leads.
- **Stipend.** Each awardee will receive reimbursement for the cost of round-trip transportation and an additional allowance for local expenses and per diem. Additional support may be provided on a case by case basis. No additional support will be provided for the travel expenses of persons accompanying the Visiting Scientist.

- **Deadlines.** Applications will be considered quarterly, with the following deadlines: January 31, April 30, July 31, and October 31 of each year. An applicant may propose a visit up to 1 year in advance.
- **Evaluation Criteria.** Each applicant will be evaluated using criteria that include the quality of the applicant's research program, relevance of activity to EMSL's strategic needs, and the availability of funds.

17.4.2 Long-Term Fellowships

- **Application.** Applicants should submit to the contact below a research plan describing what he/she hopes to accomplish during the visit, what special resources or facilities would be needed, and the value that the visit would provide to EMSL. In addition, the application must include three letters of reference, the applicant's curriculum vitae, and a letter of support from one of EMSL's Scientific Leads that confirms that the resources and facilities are available and describes the benefit of the visit to EMSL's research.
- **Stipend.** Each awardee will receive a stipend that includes an allowance for living expenses and additional allowance for local expenses at per diem. In addition, the Visiting Scientist will receive reimbursement for the cost of one round-trip airfare based on the cost of economy airfare to and from the visitor's home institution. Additional travel between EMSL and the Visiting Scientist's institution will be considered for stays at EMSL over 3 consecutive months. Additional support may be provided on a case by case basis. No additional support will be provided for the travel expenses of persons accompanying the Visiting Scientist.
- **Deadline.** Applications will be considered quarterly, with the following deadlines: January 31, April 30, July 31, and October 31 of each year. An applicant may propose a visit up to 1 year in advance.
- **Evaluation Criteria.** Each applicant will be evaluated using criteria that include the quality of the applicant's research program, the relevance of that research program to the EMSL user program and the availability of funds.

Applications to the EMSL Wiley Visiting Scientist program should be sent to:

Don Baer

Interim Chief Scientist

EMSL

Pacific Northwest National Laboratory

Email: don.baer@pnl.gov

Phone: (509) 371-6245

18.0 Wiley Research Fellow Program – Official Policy and Procedure

18.1 Program Overview

During the development and 10-year history of EMSL's operation, many researchers from throughout the nation have contributed to the important area of environmental molecular sciences and the success of the EMSL facility. The purpose of establishing the Wiley Research Fellow Program is to formally recognize researchers who are currently making significant contributions to EMSL outside their individual research efforts and provide them with a new venue for input to and recommendations on the path forward for EMSL.

18.2 Expectations

Wiley Research Fellows are expected to actively contribute to the success of EMSL as a user facility including support of EMSL and the user program beyond their own specific research projects. Examples include participation on EMSL advisory committees, participation on partner proposals for development of new capabilities, acting as a scientific consultant for users, advocacy for EMSL and its capabilities in the scientific community and assistance/support of a broad range of EMSL user activities. Wiley Fellows are also expected to interact with the EMSL scientific leadership team as plans are formulated and attend and provide input, whenever possible, at meetings with the team.

18.3 Benefits

Wiley Research Fellow appointments provide a mechanism to formally recognize the partnerships between EMSL and investigators making significant contributions to support the EMSL mission. These partnerships will be acknowledged whenever possible including in EMSL annual reports and on the EMSL website. In recognition of their efforts, adjunct investigators will receive the formal title of Wiley Research Fellow, will be looked to for advice concerning the future of the EMSL facility, and can request special time allocations on high demand instrumentation that is normally reserved for EMSL staff. In addition, travel funding may be made available to Wiley Research Fellows external to the Pacific Northwest National Laboratory to assist in their service to EMSL. PNNL staff external to the EMSL line organization will benefit by enhanced management recognition, increased visibility of their contributions, and additional justification for use of EMSL resources including EMSL occupancy.

18.4 Qualifications

Wiley Research Fellow positions are open to all EMSL users who are not part of the EMSL Organization.

18.5 Requirements

All Wiley Research Fellow positions will be evaluated on an annual basis for continued contributions and value to EMSL. Initial appointments require a resume and a one-page description of the researcher's contributions (past and planned) to the EMSL science themes and the EMSL user program. An annual summary of activities and plans for the following year will be required for retention.

Applications to the Wiley Research Fellow program should be sent to:

Don Baer

Interim Chief Scientist

EMSL

Pacific Northwest National Laboratory

Email: don.baer@pnl.gov

Phone: (509) 371-6245

19.0 William Wiley Post Doctoral Fellowship – Official Policy and Procedure

19.1 Purpose

To attract high-performing, newly graduated junior Ph.D. scientists who have the potential to become full time scientific staff at EMSL. The fellowship honors the distinguished career of Dr. William Wiley, the former director of the Pacific Northwest National Laboratory and visionary leader of EMSL.

19.2 Attributes of Successful Candidates

Candidates for the William Wiley Post Doctoral Fellowship must display superb ability in scientific research and must show definite promise of becoming outstanding leaders in the research they pursue, as illustrated by their application materials (below).

19.3 Terms of Appointment

Fellowships are awarded for a one-year term, with possible renewal up to three years total. The Fellowship carries a minimum stipend of \$70,000 per annum with an additional allocation of up to \$20,000 per year for research support and travel. The Fellows, who will be competitively selected by an EMSL fellowship committee, must collaborate with EMSL scientists in a research area that aligns with EMSL science themes.

19.4 How to Apply

Submit application materials online (<http://jobs.pnl.gov>). When submitting your resume for this position, you will need to upload ONE PDF file that includes the following components. Applications lacking these components will be declared ineligible:

- Current CV showing all research publications and experience
- Statement of Research Interest (not a formal research proposal)
- Copies of Unofficial Transcripts for all degrees

19.5 Selection Committee

The selection committee is chosen by the associate directors. This committee makes recommendations to the hiring manager, the EMSL director.

19.6 Timing

- Details of the William Wiley Postdoctoral Fellowship are online at http://www.emsl.pnl.gov/news/awards/post_doc.jsp
- The Call for Applications occurs in the last three months of the calendar year
- The review of applications and the selection process occurs in the first two months of the calendar year.

For questions, contact

Ray Teller

Associate Director for Scientific Resources

EMSL

Pacific Northwest National Laboratory

Email: raymond.teller@pnl.gov

Phone: (509) 371-6014

20.0 MT Thomas Award for Outstanding Postdoctoral Achievement – Official Policy and Procedure

20.1 Purpose

To acknowledge outstanding accomplishments by postdoctoral fellows who conduct their research in the EMSL.

The award is named in honor of Dr. M. Tom Thomas, who joined the EMSL project team in 1987 and served in various leadership capacities as the project progressed from conceptualization to realization. Tom served as the EMSL Project Manager from 1989 to 1991, and was the EMSL Operations Manager before retiring from Battelle in 1995.

20.2 Nature

The award consists of a commemorative plaque and a \$1000 cash award. The recipient is requested to deliver a seminar describing the outstanding accomplishment. A plaque that lists all recipients is displayed in the EMSL. Nominations are solicited each January.

20.3 Rules and Eligibility

This award is made to one postdoctoral fellow who has utilized EMSL capabilities to make significant contributions on projects relevant to the EMSL mission. Postdoctoral fellows from Pacific Northwest National Laboratory (PNNL) and outside of PNNL who have participated in research on an EMSL project are eligible for the award. A past recipient may not be nominated.

Selection of Recipient: Selection is based on significant scientific or technological accomplishment resulting from research performed by the postdoctoral fellow using EMSL resources. The nomination can cover accomplishments from the full postdoctoral appointment as long as the appointment term included a portion of calendar year 2011. The accomplishment must be documented by submission of a nomination package. A selection committee composed of PNNL scientific staff reviews all packages and makes its recommendation to the EMSL Director. The criteria used in the selection process are as follows:

- creativity towards solving technological or scientific problems,
- relevance to the EMSL mission: EMSL, a U.S. Department of Energy national scientific user facility located at Pacific Northwest National Laboratory (PNNL) in Richland, Washington provides integrated experimental and computational resources for discovery and technological innovation in the environmental molecular sciences to support the needs of DOE and the nation,
- productivity measured by technology developed (software, instruments, patents), publications of scientific results, and/or presentations at meetings of peers.
- consideration will also be given to the nominee's scientific leadership, which could include but not be limited to collaborating, taking the initiative and sharing of ideas.

20.4 Nominations

Nomination packages are to be coordinated by the appropriate University Advisor, or National Laboratory Technical Lead.

20.5 Nomination Package

Seven copies of the nomination package should be provided to the Selection Committee Chair, Robby Robinson. A nomination package must include the following:

- a cover sheet with the nominee's name, EMSL proposal #(s) associated with the research for which the individual is being nominated, and the nominator's contact information,
- a brief nominating statement from the University Advisor or National Laboratory Technical Lead (and co-sign by their appropriate management) outlining the nominee's accomplishments,
- nominee's curriculum vitae,
- three supporting letters from University Staff, National Laboratory staff, and/or other qualified external experts (see Guidelines for Supporting Letters below),
- a one to two page write-up by the nominee detailing their accomplishments,
- material that documents the accomplishment (e.g., manuscripts, publications [up to three significant papers], patents, presentation materials).

20.6 Guidelines for Supporting Letters

The following guidelines should be made available to the three individuals who write supporting letters for the nominee:

- Letters of support should address the evaluation criteria and be no longer than 500 words.
- Specific identification of the work to be recognized and an evaluation of the nominee's accomplishment should be included.
- Supporting material should be identified.
- For collaborative work, the nominee's contribution should be specified.
- Letters of support should be sent directly to the nominator for inclusion in the nomination package.

20.7 Timetable for Nominations and Award

While sending a letter-of-intent is not required, sending an email is encouraged for planning and follow-up purposes. Nominations are due to the Selection Committee Chair, Robby Robinson (509-371-6341) by 5pm West Coast time May 17, 2012. The date for the seminar and award presentation will occur as soon as it can be conveniently schedule.

Contact:

Don Baer

Interim Chief Scientist

EMSL

Pacific Northwest National Laboratory

Email: don.baer@pnl.gov

Phone: (509) 371-6245

21.0 Policy for Requesting EMSL Capital Funds

21.1 Policy

EMSL Capital funds (>\$500K for new equipment or any amount for additions to existing equipment originally purchased by capital funds) maybe requested by any EMSL staff member through a EMSL Capability Lead in response to a Call or at any time throughout the year by contacting the Chief Technology Officer.

The EMSL Chief Technology Officer heads the EMSL Capital Committee, which consists of the following:

- EMSL Chief Technology Officer, chair
- EMSL Chief Science Officer
- EMSL Chief Operating Officer
- EMSL ADs
- EMSL Science Leads
- One Capability Lead Representative
- EMSL Business Manager (non-voting)
- EMSL Capital Coordinator (non-voting)

The EMSL Capital Committee meets as necessary to evaluate and approve requests for tactical and/or strategic requests. Major strategic capital items are prioritized by the Committee, which are then presented to the EMSL Director for review and approval.

Once approved, the EMSL Chief Technology Officer authorizes funds and sends a Record of Decision (email) to the EMSL Capital Coordinator, who works with the program specialists to initiate the ECER/procurement process. The ECER process consists of filling out the EMSL Capital Funds Request form (on next page). The ECER form is then reviewed by listed management and staff for cognizance and relevant operational and/or technical impacts or needs.

Approved Capital budgets are expected to stay within budget. If additional funds are required to complete the procurement/ installation/testing due to unforeseen issues, an additional EMSL Capital Funds Request form must be submitted, with appropriate rationale and justification.

21.2 EMSL Capital Equipment Request Form

	EMSL CAPITAL EQUIPMENT REQUEST (ECER) FORM	v14.0: May 1, 2012
Form must be typed; please respond fully to all queries.		
Requestor's Name	Date	Capability Group
Acquisition Cost <small>(incl Freight, Fab. Cost, Sales Tax)</small>	Check one: <input type="checkbox"/> Strategic <input type="checkbox"/> Tactical <input type="checkbox"/> Additional \$ request <input type="checkbox"/> Other	Check one: <input type="checkbox"/> New: will it go into ERS? <input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> Replacement: ERS #: _____ <small>whole new system</small> <input type="checkbox"/> Upgrade: ERS #: _____ <small>part of a system</small>

Installation Costs		

Labor Costs		

Other Costs		

Overhead Cost		

Total Cost \$		
Long name of capability:		

Short name of capability:		

Brief reason for purchase:		

Detailed listing of capability requested:		

Detailed Description of all the costs:		

Benefit to EMSL User Facility & Strategic Goals:		

Where will equipment be located (building/room) ?		

What is the footprint of the equipment (floor and/or bench) and how does it affect the current lab layout?		

What facility modifications will be required (water, power, etc) ? (If none, please explain).		

Who will be responsible for the procurement, installation, and acceptance testing?		

Who will be the Science POC expert for this instrument? If a current Staff Member - how will his/her job duties be affected? If a new hire is needed, has this been discussed w/ one of the ADs?		

Estimated delivery time (from placement of order or contract award; weeks or months):		

Estimated time for installing and acceptance testing (days or weeks):		

APPROVALS		
EMSL COO	Date:	Comments/Concerns:
Signature signifies that space is available and necessary modifications will be made.		

EMSL CTO	Date:	Comments/Concerns:
Signature signifies that funding is available, and that equipment fits into EMSL Strategy.		

22.0 Engagement with BER and PNSO

EMSL management works closely with both BER and PNSO staff to ensure that the user facility is meeting performance expectations and to address issues and future opportunities. BER has established an EMSL Management Team comprised of the BER Director, Chief Scientist, and Operations Manager as well as members of BER's two divisions. The EMSL Director and a member from PNSO travel to BER's location quarterly to brief the management team on EMSL status and progress. On occasion, BER staff travel to EMSL to meet with EMSL staff to obtain a more detailed understanding of operations. Finally, monthly teleconferences are held between the EMSL and BER.

In addition to teleconferences and visits to BER, EMSL management provides, at BER's request, various reports either monthly, quarterly, or annually. Table 22-1 outlines these reports and interactions.

Table 22-1. Formal Reports Provided by EMSL to BER at BER's Request.

Monthly	Quarterly	Biannually	Annually
EMSL Capital ^(a)	Operating Hours ^(a)	User Survey Summary ^(b)	List of Major Resources ^(b)
MSC Status Sheet & Dashboard ^(d)	Proposal and User Statistics ^(b)	EMSL User Facility Financial Profile ^(c)	Cost of EMSL Resources by Funding Agency ^(b)
MSC Capital Planning and Investment Control (CPIC) Report ^(d)	EMSL Dashboard ^(a)	Resource Usage Report ^(b)	Field Work Proposal ^(c)
		Resource Summary Report ^(b)	Hours per Quarter Estimate, and Planned Outages ^(a)
			MSC Archive Storage Analysis ^(d)
			OMB Exhibit 300 ^(d)
			MSC Operational Assessment ^(d)

The letter in parentheses indicates the person responsible for the report.

Abbreviations

- (a) EMSL Product Line Manager
- (b) User Support Office Manager
- (c) EMSL Directorate Business Manager
- (d) AD, Molecular Science Computing

MSC = Molecular Science Computing
OMB = Office of Management and Budget

23.0 EMSL Research and Capability Development Projects

The objective of this program is to facilitate development of EMSL capabilities and staff by providing a mechanism to pursue independent scientific and capability development research. This program is expected to enhance the scientific visibility of EMSL staff, increase the quality of the user program as well as the scientific impact of EMSL's three science themes: Geochemistry/Biogeochemistry and Subsurface Science, Science of Interfacial Phenomena and Biological Interactions and Dynamics. Because the ability to conduct original and significant research is essential for advancement in the scientific ranks at PNNL and other research institutes, this program will provide important support the development of EMSL staff. The technical results of this program will also increase the technical capabilities available to EMSL users.

23.1 Proposal Call and Description

In late November or early December, a call for proposals will go out to EMSL staff members soliciting proposals by EMSL staff and associated researchers for the development of new research activities or new capabilities to 1) enhance the scientific visibility of EMSL staff, 2) increase capabilities available to the user program and 3) increase the scientific impact of EMSL's three science themes. A website with more information is available at <http://emslweb.emsl.pnl.gov/homes/guide/intramural.shtml>. All proposals are due around February 1st. New proposals will be selected and authorized to start in early April.

Proposals that enable staff to develop new and unique skills or extend current EMSL capabilities are particularly encouraged. Topics that address aspects of the EMSL capability development cross cutting themes are also encouraged. See Goldbook (http://www.emsl.pnl.gov/about/goldbook_08.pdf) for further discussion on the cross-cutting themes.

Requirements: Proposals must be led by EMSL line organization staff but can include associated researchers from throughout the nation. Funding support for non-EMSL line organization researchers is restricted to PNNL staff, with the exception of funds for travel to EMSL.

All proposals should include the following:

- Title page – including authors/investigators and their organizational affiliation
- Narrative (three-page limit) to include:
 - Background and objectives
 - Research/technical approach
 - EMSL user program, science theme and/or refreshment plan related objectives and benefits.
- Proposed duration and yearly budget for completion (include staffing plan)
- References
- Two-page CV for each investigator.

Proposals are expected to vary in funding level depending on the exact scope of the activity, but in general are expected to be in the \$100K to \$200K range per year. Proposals can range in duration for up to three years, but funding after the first year will depend upon progress and funds available. The requested funding support must allocate sufficient resources for open literature publication of the results. Proposals requesting funds for the current FY need to factor in the time remaining in the fiscal year in their funding request. Research for successful proposals is expected to start on April 1.

23.2 Proposal Selection and Review Process

All proposals will be screened by the EMSL Science Leads to ensure that they address topics related to the EMSL science themes and user program. Approximately half of the initial proposals that meet the proposal technical requirements and program objectives will be selected for oral presentations by the investigators to the EMSL Science Leads and other selected reviewers. The top-ranked proposals will be sent for external review by national experts in the different research areas. Highly rated proposals will be selected, the number depending on available funding and the quality of the science.

Feedback will be provided on all proposals regarding the strengths and weaknesses to assist EMSL staff in learning to prepare high quality proposals.

23.3 Project Reviews and Renewals

Proposals selected become EMSL Intramural Projects. Progress of ongoing projects is reviewed by the EMSL Lead Scientist team approximately twice a year, in early fall and mid to late spring. These reviews enable the progress to be evaluated, barriers identified, and some redirection indicated if needed to encourage progress. A written summary is requested each fall. For project in the first or second year the annual summary should also include a summary of planned work and a budget request for the following year.

24.0 Divestiture (“Sunsetting”) of Equipment Resources

Divestiture or “sunsetting” of equipment and capability resources is a fundamental part of EMSL capability planning and stewardship. EMSL addresses the divesting of equipment and capabilities deliberately and carefully to ensure that the equipment or capability is no longer in high -demand by the user community nor suited to meet EMSL’s scientific needs and strategies. This procedure addresses how equipment divestment decisions will be made, and the processes to be followed in final disposition of the equipment.

24.1 Annual Assessment of Equipment

At least annually, and in concert with established EMSL procedures for Capital/Capability investments and the updating of the EMSL Usage System (EUS), all equipment and resources will be evaluated by EMSL Capability and/or Science Leads. This assessment will consider and evaluate resources in each capability as listed in the EUS records. The evaluation will take into consideration criteria including the following:

- Utilization by EMSL users and staff
- Alignment with EMSL strategy elements
- State-of-art, distinctiveness, differentiating nature of equipment
- Availability of improved, alternative methods or techniques, or transformative new technology
- Cost of equipment operation and maintenance
- Staff expertise and availability
- Facility adequacy, space, infrastructure needs

The assessment is specifically intended to identify the lowest ranked equipment/capability items within each capability. Each Capability Lead will identify at least 10% of their resources for divestiture consideration. Identification of such items does not necessarily mean the equipment will be divested however. The assessment and identification of lowest ranked equipment items will be submitted to the Chief Technology Officer as chair of the EMSL Capital/Capability Committee. In addition to identifying candidate resources, the following information (available from EUS) will also be tabulated for each item:

- Utilization statistics for the preceding 3 years
- List of recent proposals that used the resource
- Additional rationale/explanation for resource ranking
- Recommendation for temporary deactivation, alternative use, or excess action

This procedure does *not* apply to EMSL equipment that already has a managed lifecycle or planned replacements administered by separate policy or procedure (e.g. high performance computer equipment).

24.2 Divestment Decisions & Actions

A collective list of low-ranked items across all capabilities will be assimilated and provided to the EMSL Capital/Capability Committee for divestiture consideration. The committee will deliberate, select, and recommend resources for divestment to the EMSL Strategy Team, using the criteria listed above (at a minimum). In making such recommendations, the Committee will consider alternative, productive uses for the resources (including transfer or loan to other groups, users, collaborators, or partners) and provide recommendations thereto. Divested equipment shall be classified and recorded as “Re-deployed”, “Deactivated”, or “Excessed”. The EMSL Director will review and approve items for divestiture. Upon approval, equipment divestment actions will commence, with appropriate and due consideration and notice to users and/or staff. Divested equipment shall be identified as such, using the above classifications, in the EUS records.

Equipment transfers, loans, or excess actions shall be carried out in full compliance with established PNNL property disposition procedures, and in coordination with PNNL Property personnel.