

Environmental Molecular Sciences Laboratory



Operations Manual



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EMSL Operations Manual

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August 15, 2016
Rev 6.00

Prepared for the U.S. Department of Energy's Office of Biological and
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Pacific Northwest National Laboratory
Richland, Washington 99352

EMSL Policy Change Request Form

EMSL Operations Manual: Change Request Form		v2.3 08/15/2016
1. Change Request Number <i>(to be filled in by Operations Manual Steward)</i>	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	5. Title of Section Affected <i>(if new, provide a title)</i> 	
3. Name of Requestor		
6. Brief description of change and reason for change 		
7. Filename(s) 		
8. PNNL Approvals <i>By entering your name in the field below, you are indicating your approval of the changes listed above.</i> <hr style="border: 0.5px solid black;"/> <i>EMSL COO</i> <i>Date</i> <hr style="border: 0.5px solid black;"/> <i>EMSL Director</i> <i>Date</i>	9. Client Approvals Is DOE/PNSO approval required? <input type="checkbox"/> Yes <input type="checkbox"/> No Date of DOE/PNSO approval: _____	
10. Disposition <i>(to be filled out by Operations Manual Steward)</i> Version of Operations Manual affected: _____ Date new version posted: _____ Version of new Operations Manual: _____ Date email sent to staff: _____ HPRM Record Number(s): _____		

Change Control Record

Section	Date	Change	HPRM Record #	Owner
Entire Book	08/15/2016	<ul style="list-style-type: none"> Updated footers with review dates and new POCs. 	EREC.836131 (r4)	Terry Law
	10/01/2013	<ul style="list-style-type: none"> POC changed from Foster-Mills to Law. Updated footers with review dates and new POCs. 	EREC.836131 (r3)	
	02/09/2011	<ul style="list-style-type: none"> Updated Review Dates on sections that did not require updates. Changed "Capability Steward" to "Capability Lead" (in chapters, not in CCR). Changed POC in Sections 17, 18, and 19 from West to Baer. Updated Nancy Foster-Mills' title to "Product Line Manager." Updated Don Baer's title to "Interim Lead Scientist." 	EREC.836131 (r2)	
Change Control Request Form	08/15/2016	<ul style="list-style-type: none"> Updated form to change "TRIM" to "HPRM." 		Courtney Carpenter
	10/01/2013	<ul style="list-style-type: none"> POC changed from Foster-Mills to Carpenter. Updated form to simplify information needed and to require electronic signatures. 		
	05/03/2012	<ul style="list-style-type: none"> Updated form (removed some signatures). 		
	03/17/2009	<ul style="list-style-type: none"> Original form. 		
1.0 Introduction	08/15/2016	<ul style="list-style-type: none"> Text updated to provide a fuller description of EMSL. Introduction previously was primarily the mission and vision, which are part of section 2.0. 	EREC.369907 (r1)	Terry Law
	10/01/2013	<ul style="list-style-type: none"> POC changed from Foster-Mills to Law. 	NA	
	10/21/2009	<ul style="list-style-type: none"> Operations Manual v4.4. 	EREC.369907	
	06/2006	<ul style="list-style-type: none"> Original document = EMSL Operations Manual Rev 3 (PNNL-15828). Note – this requires legal review. Do not edit this section without legal review. 	EREC.268650	
2.0 Mission*	08/15/2016	<ul style="list-style-type: none"> POC changed from Campbell to Liang. Updated to match approved Strategy Plan verbiage and add vision. Changed section heading. 		Liyuan Liang
	04/15/2010	<ul style="list-style-type: none"> Level 1 approval changed from formal correspondence to informal email. Footnote added. 	EREC.693680 EREC.693987	
	08/23/2005	<ul style="list-style-type: none"> Same policy – new TRIM # created for future updates 	EREC.523207	
	08/23/2005	<ul style="list-style-type: none"> Original document = EMSL Action Plan 2005: WBS 1.03.01; EMSL Mission Statement. 	EREC.268653	
3.0 Science Themes*	08/15/2016	<ul style="list-style-type: none"> POC changed from Mueller to Paša-Tolić. Minor wording changes to introductory paragraph to reference approved 2014 Strategy Plan. Updated science theme descriptions to reference more current focus areas. Changed EMP science theme description to Molecular Transformations (MT). Replaced previous graphic with one that includes MT. 	EREC.523211 (r5)	Ljiljana Paša-Tolić
	07/21/2014	<ul style="list-style-type: none"> POC changed from Cady to Mueller. Updated number and description of Science Themes, including a new figure, to reflect changes as of the latest strategic planning process. 	EREC.523211 (r4)	

Section	Date	Change	HPRM Record #	Owner
	10/01/2013	<ul style="list-style-type: none"> POC changed from Baer to Cady. 	NA	
	04/15/2010	<ul style="list-style-type: none"> Level 1 approval changed from formal correspondence to informal email. Footnote added. 	EREC.693680 EREC.693987	
	02/19/2010	<ul style="list-style-type: none"> Updated Science Themes. 	EREC.523211 (r3)	
	10/23/2009	<ul style="list-style-type: none"> Changed POC from Felmy to Baer. 	NA	
	03/10/2008	<ul style="list-style-type: none"> Science Themes were last updated before the 2008 Call for Proposals. 	EREC.523211 (r2)	
	12/28/2005	<ul style="list-style-type: none"> Original document = EMSL Action Plan 2005: WBS 1.02.02; Science Themes. 	EREC.523211 (r1) EREC.523209	
4.0 Definition of an EMSL User*	10/01/2013	<ul style="list-style-type: none"> Updated definition used by Office of Science; clarified all EMSL resources regardless of building/location and included reporting specifics for BER quarterly reports to BER. 	EREC.523212 (r8)	Terry Law
	08/11/2010	<ul style="list-style-type: none"> Clarified REMOTE User 	EREC.523212 (r7)	
	08/16/2010	<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)	
	04/15/2010	<ul style="list-style-type: none"> Level 1 approval changed from formal correspondence to informal email. 	EREC.693680 EREC.693987	
	09/27/2006	<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)	
	10/03/2005	<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	HPRM Record #	Owner
5.0 EMSL Proposal Types, Review Process, and Peer Review Criteria* <i>(Note: the * only applies to the Peer Review Criteria)</i>	08/15/2016	<ul style="list-style-type: none"> Updated wording for Annual Call Proposals and introduced "FICUS" terminology. Updated information about General Proposal Cycles and changed frequency from twice to once per year. Added text to EMSL Staff Time Proposals section to call out additional 10% made available at the EMSL Director's discretion. Updated wording for peer review criteria. Clarified wording in the rating descriptions table (Table 5.4). 	EREC.519479 (r9)	Terry Law
	10/01/2013	<ul style="list-style-type: none"> Restructured proposal types to simplify process for users. Restructured General proposals to utilize Proposal Review Panels and review cycles. Revised review criteria descriptions for improved calibration by review panels. Changed title of Science Panels to Proposal Review Panels for consistency with other user facilities. 	EREC.519479 (r8)	
	03/15/2012	<ul style="list-style-type: none"> Separated Rating Descriptions from section 5.3, Peer Review Criteria, to clearly delineate the Level 1 document, and revised language under Rating Descriptions to provide better guidance to reviewers regarding review scores. 	EREC.519479 (r7)	
	01/27/2012	<ul style="list-style-type: none"> Updated Section 5.3, Criterion 2, Potential Considerations. 	EREC.519479 (r6)	
	09/06/2011	<ul style="list-style-type: none"> Changed 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. Revised the review section (which is not part of the Level 1 document) to include descriptions of all proposal types with their respective review processes. Moved peer review criteria and descriptions (Level 1 document) to the end (Section 5.3) for better flow of information; wording wasn't changed except for the section heading of "Overall Rating Descriptions". Since reviewers are no longer asked for an "overall" rating, it was removed from the section title. 	EREC.519479 (r5)	
	08/19/2011	<ul style="list-style-type: none"> Revised to include descriptions of all proposal types and their review process (not part of the Level 1 document for peer review criteria). Moved the peer review criteria and descriptions (which are a Level 1 document) to the end for better flow of information. 	EREC.519479 (r4)	
	04/15/2010	<ul style="list-style-type: none"> Level 1 approval changed from formal correspondence to informal email. 	EREC.693680 EREC.693987	
	02/12/2010	<ul style="list-style-type: none"> Changed title to reflect new proposal type. Added new section title: EMSL Proposal Evaluation Process. Replaced current criteria (1-5) and rating levels (Excellent – Poor) with revised verbiage and ratings for improved calibration and consistency among reviewers. 	EREC.519479 (r3)	
	01/21/2009	<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)	

Section	Date	Change	HPRM Record #	Owner
	01/21/2009	<ul style="list-style-type: none"> Same Review Criteria – new TRIM # created for future updates 	EREC.523213	
	04/14/2006	<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. 		
	10/06/2005	<ul style="list-style-type: none"> Original document = EMSL Action Plan 2005: WBS 1.02.04; User Proposal Review Criteria. 	EREC.268642	
6.0 Appeal Process	10/01/2013	<ul style="list-style-type: none"> Section changed from 15.0 to 6.0. Minor revisions to clean up language. referring to the different types of proposals. Updated USO email address. 	EREC.522905 (r2)	Terry Law
	11/12/2009	<ul style="list-style-type: none"> 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. Established a deadline for submitting appeals. Clarified that Appeals Committee makes recommendation to EMSL Director. Added that USO will coordinate appeals with committee. 	EREC.522905	
	03/17/2009	<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	
	05/27/2008	<ul style="list-style-type: none"> Original – as posted on website 	EREC.522905 – see general notes	
7.0 EMSL Scientific Partner Proposals for Capability Development	08/15/2016	<ul style="list-style-type: none"> Updated wording to (1) clarify requirement that Scientific Partners have regular project status meetings or submit summaries of their work, and (2) specify that full proposals should include a detailed list of funds, equipment, and other in-kind contributions they will provide. 	EREC.519323 (r7)	Dave Koppenaar
	07/21/2014	<ul style="list-style-type: none"> Minor wording changes to reflect alignment with EMSL and BER missions and clarify the requirement of progress reports. 	EREC.519323 (r6)	
	10/01/2013	<ul style="list-style-type: none"> Section changed from 16.0 to 7.0. 	NA	
	07/18/2011	<ul style="list-style-type: none"> Updated members of review Panels to include AD for MSC. 	EREC.519323 (r5)	
	04/07/2011	<ul style="list-style-type: none"> Minor updates to change requirement from “2” to “1-2” pages. Added info regarding periodic reviews. Clarified proposal requirements. 	EREC.519323 (r4)	
	02/18/2010	<ul style="list-style-type: none"> Changed title of “Partner Proposals” to “Scientific Partner Proposals” per PNNL Legal request. Added requirements for annual progress reports. Minor edits. 	EREC.519323 (r3)	
	03/04/2009	<ul style="list-style-type: none"> Original. 	EREC.519323 (r1)	
8.0 EMSL Staff Time Proposals Implementation and Utilization	08/15/2016	<ul style="list-style-type: none"> Updated policy to include additional 10% available to EMSL staff and others at the Director’s discretion. Updated section references. 	EREC.518296 (r3)	Terry Law

Section	Date	Change	HPRM Record #	Owner
	10/01/2013	<ul style="list-style-type: none"> Section changed from 14.0 to 8.0. Modified to refer to proposals as “EMSL Staff Time” instead of “EMSL Staff 5%”. Modified to include all Wiley investigators. Modified to include EMSL Director and CSO as internal peer reviewers. Clarified that participants on Staff Time proposals and Intramural proposals are counted against staff usage totals. Clarified new usage types for “EMSL Staff Time, Planned” and “EMSL Staff Time, Unplanned”. 	EREC.518296 (r2)	
	08/15/2011	<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)	
	02/24/2009	<ul style="list-style-type: none"> Original document. 	EREC.518296	
9.0 EMSL Staff Intramural Program	06/29/2016	<ul style="list-style-type: none"> POC changed from Mueller to Koppenaar. Revised to include new types of Intramural proposals and updated process for reviews, selection, and renewals. 	EREC.738744 (r4)	Dave Koppenaar
	07/21/2014	<ul style="list-style-type: none"> POC changed from Cady to Mueller. Minor wording change to clarify the duration of funding for Intramural proposals. 	EREC.738744 (r3)	
	10/01/2013	<ul style="list-style-type: none"> POC changed from Baer to Cady. Section changed from 23.0 to 9.0. Minor wording changes. Updated dates to reflect new start dates and due dates of proposals. 	EREC.738744 (r2)	
	08/20/2010	<ul style="list-style-type: none"> New section. 	EREC.738744 (r1)	
10.0 Utilization Policy*	08/15/2016	<ul style="list-style-type: none"> Minor wording changes to include “staff” proposals and PNNL’s new records management system. Changed percent of time available for staff research, per increase approved in 2015 to 20%. 	EREC.724275 (r6)	Terry Law
	10/01/2013	<ul style="list-style-type: none"> POC changed from Teller to Law. Section changed from 6.0 to 10.0. Revised percent available to users on co-purchased instruments to “a minimum of 20% or the percent purchased by the EMSL User Program, whichever is greater”. Rearranged layout to simplify references to MOA purchases. 	EREC.724275 (r5)	
	09/06/2011	<ul style="list-style-type: none"> Added 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)	
	06/23/2010	<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)	

Section	Date	Change	HPRM Record #	Owner
	04/15/2010	<ul style="list-style-type: none"> Level 1 approval changed from formal correspondence to informal email 	EREC.693680 EREC.693987	
	12/28/2005	<ul style="list-style-type: none"> Original document = EMSL Action Plan 2005: WBS 1.02.02; EMSL Utilization Plan. 	EREC.268665	
11.0 Usage Type Definitions	08/15/2016	<ul style="list-style-type: none"> Minor wording changes to update when data is archived and to match the Utilization Policy for amount of time available for staff. Updated description of Remote Usage to clarify that teams with both onsite and remote users should be coded as onsite and include only users who were physically present. 	EREC.522858 (r6)	Terry Law
	10/01/2013	<ul style="list-style-type: none"> Section changed from 12.0 to 11.0. Shortened title. Added reporting details for major and non-major instruments. Changed "Instrument Custodian" to "Instrument Scientist". Expanded charging examples. Added description of Core hours. Changed "EMSL Staff 5%" to "EMSL Staff Time". Added new booking types ("EMSL Staff Time, Planned", "EMSL Staff Time, Unplanned", "Unavailable, Cancellation"). 	EREC.522858 (r5)	
	02/09/2011	<ul style="list-style-type: none"> Updated Usage Type Definitions to reflect reduced categories and requirements for comments. Reformatted section to mimic the appearance of categories on the Usage Breakdown report. Moved Section 11 to 12.2 and updated it. 	EREC.522858 (r4)	
	02/24/2009	<ul style="list-style-type: none"> Revised 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"> Revised to clarify and give examples. 	EREC.522858 (r2)	
	06/2006	<ul style="list-style-type: none"> Original document in June 2006 Operations Manual 	EREC.522858 (r1)	
	12.0 Data Management Policy	08/15/2016	<ul style="list-style-type: none"> Wording changes to reflect the current state of development of MyEMSL and the open data repository. 	EREC.1376949 (r1)
10/01/2013		<ul style="list-style-type: none"> New section. 	EREC.1376949	
13.0 User Agreements	07/21/2014	<ul style="list-style-type: none"> Minor wording change under Article IX, paragraph D, to include SC requirement for "DOE Office of Science User Facility" in acknowledgment. 	EREC.639134	Terry Law
	03/21/2011	<ul style="list-style-type: none"> New subsection added Section 13.4: Bilateral DOE Laboratory Utilization Agreement 	EREC.883546 EREC.860211 (r2)	
	02/19/2010	<ul style="list-style-type: none"> Changed section title from "non-proprietary use agreements and appendices" to "User Agreements". Section now includes NPUA, PUA – Full Advance, and PUA – Partial Advance. Added intro to document roll-out of electronic signature process. Replaced previous NPUA form with new User Agreement approved for use by DOE in FY2009 and mandatory by March 31, 2010. In FY2009, DOE implemented new user agreements, including one that can be used for proprietary research requests (PUAs). 	EREC.639134 EREC.644808 EREC.644813	

Section	Date	Change	HPRM Record #	Owner
	07/12/2006	<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. 		
	10/01/1999	<ul style="list-style-type: none"> Appendix A 		
	10/01/1998	<ul style="list-style-type: none"> NPUA Appendix C 		
14.0 Charging Guidance for EMSL User Facility Staff	08/15/2016	<ul style="list-style-type: none"> POC changed from Avery to Bettinson. Added section 14.2.5 to reflect that EMSL is sharing space cost for NMR lab in 331. Clarified that users are required to pay for "above-standard" costs for EMSL staff effort in section 14.3.3. Updated per diem rates for FY16. Minor wording change to indicate meal costs for local interview candidates are unallowable. Updated reference links. 	EREC.522875 (r8)	Valerie Bettinson
	10/01/2013	<ul style="list-style-type: none"> POC changed from Smith to Avery. Section changed from 9.0 to 14.0. Updated per diem year and rates so policy reflects current rates published by GSA. 	EREC.522875 (r7)	
	08/11/2011	<ul style="list-style-type: none"> Removed redundancy of User Definition. 	EREC.522875 (r6)	
	07/07/2011	<ul style="list-style-type: none"> Changed Capability Steward to Capability Lead. Changed Instrument Time Allocation Committee to Resource Allocation Committee (RAC). Added the EMSL and EED joint occupancy and collaboration in PSF 3410 building. Added EMSL unallowable charging guidance. 	EREC.522875 (r5)	
	06/01/2009	<ul style="list-style-type: none"> Minor update to change "facility" to "capability" and "facility lead" to "capability steward"; deleted sentence; corrected the definition of user. 	EREC.522875 (r3)	
	02/28/2007	<ul style="list-style-type: none"> Significantly updated. 	EREC.522875 (r2)	
	10/06/2005	<ul style="list-style-type: none"> Original document = Appendix C of the 2006 Operations Manual 	EREC.522875 (r1)	
15.0 Space Policy	07/21/2014	<ul style="list-style-type: none"> POC changed from Knutson to Hartzell. 	NA	Mark Hartzell
	10/01/2013	<ul style="list-style-type: none"> Section changed from 10.0 to 15.0. 	NA	
	11/28/2011	<ul style="list-style-type: none"> Added information on space charging 	EREC.516400 (r4)	
	06/03/2010	<ul style="list-style-type: none"> Updated Policy and terminology. 	EREC.516400 (r3)	
	02/03/2009	<ul style="list-style-type: none"> Last updated for the Operations Manual (Feb 2009). No significant changes, mainly updating terminology. 	EREC.516400 (r2)	
	05/2006	<ul style="list-style-type: none"> Original document = Staff Resource Guide May 2006. 	EREC.516400 (r1)	

16.0 Policy for Requesting EMSL Capital Equipment Funds and Request Form	08/15/2016	<ul style="list-style-type: none"> Minor change to remove EMSL Chief Operating Officer from the capital committee list. 	EREC.596780 (r12)	Dave Koppenaar
	07/21/2014	<ul style="list-style-type: none"> Minor wording changes. Updated Capital Equipment Request form. 	EREC.596780 (r11)	
	10/01/2013	<ul style="list-style-type: none"> Section changed from 21.0 to 16.0. Minor changes to clarify approval policy, departure of EMSL Capital Coordinator (N. Foster-Mills), and addition of policy statement against negotiated use of unspent authorized funds from a capital authorization. 	EREC.596780 (r10)	
	05/03/2012	<ul style="list-style-type: none"> Updated form (removed reviewers and changed approvers to CTO, and COO). 	EREC.596780 (r9)	
	03/20/2012	<ul style="list-style-type: none"> Minor changes to clarify text. 	EREC.596780 (r8)	
	07/22/2011	<ul style="list-style-type: none"> Updated form. 	EREC.596780 (r7)	
	03/01/2011	<ul style="list-style-type: none"> Made minor changes to clarify text. Added EMSL Business Manager to committee list. 	EREC.596780 (r6)	
	02/21/2011	<ul style="list-style-type: none"> Updated form. 	NA	
	07/29/2010	<ul style="list-style-type: none"> Updated form. 	NA	
	03/04/2010	<ul style="list-style-type: none"> Updated form. 	EREC.596780 (r3)	
	10/21/2009	<ul style="list-style-type: none"> Original. 	EREC.596780 (r2)	
17.0 Divesting or “Sunsetting” of Instruments and Scientific Capabilities	08/15/2016	<ul style="list-style-type: none"> Minor wording change to clarify the definition of divestment or “sunsetting.” 	EREC.1126821 (r4)	Dave Koppenaar
	07/21/2014	<ul style="list-style-type: none"> Updated wording to clarify “divestment or ‘sunsetting’” and clarify EMSL’s divestment process. 	EREC.1126821 (r3)	
	10/01/2013	<ul style="list-style-type: none"> Section changed from 24.0 to 17.0. Minor changes and updates to Divestiture terminology and procedures. 	EREC.1126821 (r2)	
	01/25/2012	<ul style="list-style-type: none"> New section. 	EREC.1126821	
18.0 Engagement with DOE and Laboratory Management	08/15/2016	<ul style="list-style-type: none"> Changed section heading. Minor wording changes in description of what is sent and to whom. Updated table 18.1 to include all major reports sent to BER, DOE, PNSO, and PNNL, along with the due date for each. 	EREC.596786 (r7)	Scott Tingey
	07/21/2014	<ul style="list-style-type: none"> Removed duplicate report listed in table 22-1. Removed report that is no longer provided annually. Minor wording changes for clarification. 	EREC.596786 (r6)	
	10/01/2013	<ul style="list-style-type: none"> POC changed from Foster-Mills to Tingey. Section changed from 22.0 to 18.0. 	EREC.596786 (r5)	
	08/08/2011	<ul style="list-style-type: none"> Updated Table 22-1. 	EREC.596786 (r4)	
	02/16/2011	<ul style="list-style-type: none"> Updated Table 22-1. 	EREC.596786 (r3)	
	07/29/2010	<ul style="list-style-type: none"> Fixed error in Table 22-1. 	EREC.596786 (r2)	
	10/20/2009	<ul style="list-style-type: none"> Original. 	EREC.596786 (r1)	

19.0 Science Advisory Committee Charter*	10/01/2013	<ul style="list-style-type: none"> Section changed from 7.0 to 19.0. Updated "Terms of Service". Removed "Self-Assessment" section. Updated wording referring to UEC. 	EREC.268625 (r2)	Liyuan Liang
	04/15/2010	<ul style="list-style-type: none"> Level 1 approval changed from formal correspondence to informal email. 	EREC.693680 EREC.693987	
	12/30/2005	<ul style="list-style-type: none"> Original document = EMSL Action Plan 2005: WBS 1.02.04; Charters and Committees. 	EREC.268625	
20.0 User Executive Committee Charter*	08/15/2016	<ul style="list-style-type: none"> POC changed from Campbell to Liang. Minor wording change to remove "ex officio" seat on SAC. 	EREC.708492 (r5)	Liyuan Liang
	07/21/2014	<ul style="list-style-type: none"> Changed representation of the UEC to "science theme" instead of "capability". Removed duplicative sentence regarding the chair and vice chair. Added industry representation 	EREC.708492 (r4)	
	10/01/2013	<ul style="list-style-type: none"> Section changed from 8.0 to 20.0. 	NA	
	03/31/2011	<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)	
	05/10/2010	<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)	
	04/15/2010	<ul style="list-style-type: none"> Level 1 approval changed from formal correspondence to informal email. 	EREC.693680 EREC.693987	
	10/06/2005	<ul style="list-style-type: none"> Original document = EMSL Action Plan 2005: WBS 1.02.04; Charters and Committees. 	EREC.268626	
21.0 Wiley Visiting Scientist Program	08/15/2016	<ul style="list-style-type: none"> POC changed from Mueller to Paša-Tolić. Updated minimum duration for long-term visits from 6 weeks to 6 months. Added communication platforms in which partnerships will be acknowledged. Clarified that evaluations will be made by the EMSL Leadership Team and requires EMSL Director approval. 	EREC.836131 (r3)	Ljiljana Paša-Tolić
	07/21/2014	<ul style="list-style-type: none"> POC changed from Cady to Mueller. 	NA	
	10/01/2013	<ul style="list-style-type: none"> POC changed from Baer to Cady. Section changed from 17.0 to 21.0. Minor wording changes. 	EREC.836131 (r2)	
	02/08/2011	<ul style="list-style-type: none"> Changed POC from West to Baer. 	EREC.836131	
	03/04/2010	<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	
	04/23/2009	<ul style="list-style-type: none"> Original – as posted on EMSL website. 	EREC.540337	

22.0 Wiley Research Fellow Program	08/15/2016	<ul style="list-style-type: none"> • POC changed from Mueller to Paša-Tolić. • Added communication platforms in which partnerships will be acknowledged. • Clarified that evaluations will be made by the EMSL Leadership Team and requires EMSL Director approval. 	EREC.836131 (r3)	Ljiljana Paša-Tolić
	07/21/2014	<ul style="list-style-type: none"> • POC changed from Cady to Mueller. 	NA	
	10/01/2013	<ul style="list-style-type: none"> • POC changed from Baer to Cady. • Section changed from 18.0 to 22.0. • Minor wording changes. 	EREC.836131 (r2)	
	02/08/2011	<ul style="list-style-type: none"> • Changed POC from West to Baer. 	EREC.836131	
	03/04/2010	<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	
	04/23/2009	<ul style="list-style-type: none"> • Original – as posted on EMSL website. 	EREC.540336	
	23.0 Wiley Postdoctoral Fellowship	08/15/2016	<ul style="list-style-type: none"> • POC changed from Mueller to Paša-Tolić. • Minor wording change to update with call for applications opens each year. 	
07/21/2014		<ul style="list-style-type: none"> • POC changed from Cady to Mueller. 	NA	
10/01/2013		<ul style="list-style-type: none"> • POC changed from Teller to Cady. • Section changed from 19.0 to 23.0. • Updated salary section to reflect current practices. 	EREC.540339 (r5)	
06/17/2011		<ul style="list-style-type: none"> • Slight change in 1st paragraph. 	EREC.540339 (r4)	
02/09/2011		<ul style="list-style-type: none"> • Changed dates to be generic for any given year. 	EREC.540339 (r3)	
10/06/2009		<ul style="list-style-type: none"> • Updated for FY10 Call. 	EREC.540339 (r2)	
04/27/2009		<ul style="list-style-type: none"> • Original – as posted on EMSL website. 	EREC.540339 (r1)	
24.0 MT Thomas Award for Outstanding Postdoctoral Achievement		08/15/2016	<ul style="list-style-type: none"> • POC changed from Mueller to Paša-Tolić. • Minor wording changes to keep Selection Committee Chair generic and remove Robby Robinson. 	EREC.540335 (r5)
	07/21/2014	<ul style="list-style-type: none"> • POC changed from Cady to Mueller. 	NA	
	10/01/2013	<ul style="list-style-type: none"> • POC changed from Baer to Cady. • Section changed from 20.0 to 24.0. • Updated MT Thomas language and dates to reflect a universal process instead of having to update yearly. • Corrected grammatical errors. 	EREC.540335 (r4)	
	03/16/2012	<ul style="list-style-type: none"> • Updated Rules and Eligibility. 	EREC.540335 (r3)	
	02/08/2011	<ul style="list-style-type: none"> • Changed POC from West to Baer. 	EREC.836131	
	03/04/2010	<ul style="list-style-type: none"> • Changed POC from Showalter to West. 	NA	
	01/11/2010	<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	
	04/28/2009	<ul style="list-style-type: none"> • Original – as posted on EMSL website. 	EREC.540335 (r1)	
	* Requires Level 1 approval	04/14/2010	<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

Acronyms and Abbreviations

AD	Associate Director
BER	DOE Office of Science, Office of Biological and Environmental Research
CL	Capability Lead
COO	Chief Operation Officer
CSM	Cognizant Space Manager
CSO	Chief Science Officer
CTO	Chief Technical Officer
DOE	U.S. Department of Energy
EMSL	Environmental Molecular Sciences Laboratory
ERS	EMSL Resource System
ES&H	Environment, Safety and Health
ESTC	EMSL Science & Technology Council
EUS	EMSL Usage System
HPC	High performance computing
HPRM	HP Records Management (<i>formerly TRIM</i>)
IDL	Instrument Development Laboratory
IOPS	Integrated Operations System
MSC	Molecular Science Computing
MOA	Memorandum of Agreement
NMR	Nuclear magnetic resonance
OMB	Office of Management and Budget
PLM	Product Line Manager
PNNL	Pacific Northwest National Laboratory
PNSO	Pacific Northwest Site Office
PRP	Proposal Review Panel
SAC	Science Advisory Committee
TRIM	Total Records Information Management (<i>now HPRM</i>)
UEC	User Executive Committee
UPS	User Program Services
USO	User Support Office

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1.0 Introduction

EMSL - Environmental Molecular Sciences Laboratory is a national scientific user facility that is funded and sponsored by DOE's Office of Biological and Environmental Research. As a user facility, our scientific capabilities – people, instruments and facilities – are available for use by the global research community. We support BER's mission to provide innovative solutions to the nation's environmental and energy production challenges in areas such as atmospheric aerosols, feedstocks, global carbon cycling, biogeochemistry, subsurface science and energy materials. We believe that a deeper understanding of critical molecular-level processes is necessary in each of these areas to understand, predict, and ultimately manipulate and control complex environmental and energy systems.

EMSL approaches science differently than many institutions. We believe in – and have proven – the value of drawing together members of the scientific community and assembling the people, resources and facilities to solve problems. We integrate experts across disciplines, experiment with theory and our user program proposal calls with other user facilities.

Operationally, our approaches and systems are designed to be transparent in support of a diverse, productive, collaborative and highly impactful user community.

EMSL's Operations Manual is a general resource tool to assist EMSL users and Laboratory staff within EMSL to locate official policy, practice, guidance, and associated 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 and Vision

EMSL's mission as a national scientific user facility is to lead molecular-level discoveries for the Department of Energy and its Office of Biological and Environmental Research (BER) that translate to predictive understanding and accelerated solutions for national energy and environmental challenges.

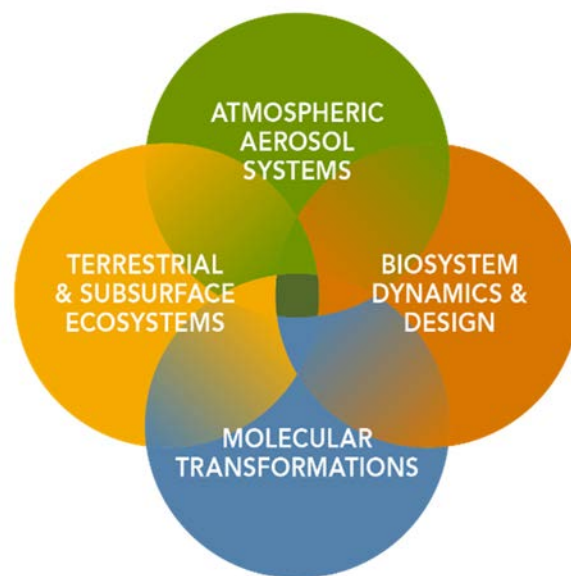
EMSL's vision is to pioneer discoveries and effectively mobilize the scientific community to provide the molecular science foundations for BER research priorities and our nation's critical biological, environmental, and energy challenges.

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 scientific leadership and capability development on grand science challenges within four EMSL Science Themes. 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. The Science Themes are intended to evolve over time to optimize the impact of EMSL on current BER and DOE mission priorities. These Themes were revised in 2009 with the assistance of Science Theme Advisory Panels and were tuned during strategic planning exercises that began in 2012, which resulted in EMSL's new Strategic Plan 2014 (http://www.emsl.pnnl.gov/emslweb/sites/default/files/EMSL_Strategic_Plan.pdf). The energy focused theme was further updated in 2016. The Science Themes 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 two or more 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 Atmospheric Aerosol Systems

The Atmospheric Aerosol Systems (AAS) Science Theme focuses on molecular scale understanding of atmospheric aerosols that will improve the representation of aerosols in earth system models and thereby increase the accuracy of climate predictions. This understanding requires the knowledge of biological, chemical and physical processes controlling atmospheric aerosol sources, as well as dynamic processes such as formation, growth, aging, and their composition, structure, optical properties and cloud activation. AAS research includes all forms of atmospheric aerosols and sources (e.g., mineral dust, sea-salt, sulfate, black carbon, organics), with an emphasis on determining the molecular-scale processes that control biogenic organic emissions and formation of secondary organic aerosol and the fundamental properties and evolution of organic aerosols that have the greatest impact on atmospheric radiation and climate.

Projects that address the following focus areas are aligned within the AAS Science Theme:

- Quantitative understanding of the interaction of biogenic emissions with anthropogenic pollution to produce secondary organic aerosol.
- Fundamental properties and formation of organic aerosols to determine their climate impact, including their ability to form new particles, grow to climate-relevant sizes, absorb light (i.e., brown carbon), and their atmospheric lifetime (e.g., mixing state and volatility).
- Fundamental understanding and subsequent model representations of the processes by which aerosol particles control ice nucleation and crystal formation on aerosol surfaces, both in mixed-phase and ice clouds.
- The role of land-surface interactions in determining or altering the physicochemical properties of aerosol particles, particularly those properties that determine the particles' climate impact.
- Computational elements linking molecular properties of aerosols to their light absorption properties, formation and growth, and roles in cloud formation.

3.3 Biosystem Dynamics and Design

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.

The Biosystem Dynamics and Design (BDD) Science Theme focuses on intra and inter-cellular complexes and dynamic processes in microbes, fungi, and plants. By gaining a detailed understanding of how biological systems respond to and modify their environment, EMSL users can improve strategies for modifying and manipulating plants, fungi and microbes to advance systems biology for production of bioenergy fuels and biorenewables products.

Projects that utilize or combine computational and dynamic approaches to elucidate biodesign principles are aligned with the BDD Science Theme, especially in the following areas as they relate to the production of biofuels and other chemicals, and environmental processes of relevance to DOE:

- Subcellular localization of metabolism and other relevant processes.
- Carbon, nitrogen, phosphorus and sulfur flux in relevant biological systems.
- Inter- and intracellular signaling influencing system-level processes, molecular characterization of energy metabolism and storage pathways, including transport of metabolites within and between cells.
- Post-translational processes and modifications that regulate carbon cycling or influence energy storage and biomass accumulation.
- Modeling and simulation of metabolic pathways to support synthetic biology, coupled with data-driven validation.

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.

3.4 Molecular Transformations

The Molecular Transformations (MT) science theme focuses on obtaining a predictive understanding of molecular transformations in biology and chemistry central to energy production, bioconversion (e.g., production of biofuels and bioproducts), biocatalysts (e.g., deconstruction enzymes, bioinspired catalysts), and other processes key to sustainable energy conversion and storage as well as such processes that impact the other EMSL science themes. This predictive understanding requires integration of molecular or macromolecular structure and dynamics studies, computational chemistry, and multiscale modeling methods that extend molecular-scale understanding to meso-scale system knowledge. This Science Theme provides a linkage of molecular-scale transformation, measurement, and modeling to larger-scale phenomena critical to BER's missions and goals represented in EMSL's other science themes.

The decadal goal of this theme is to develop sufficient understanding of the dynamic and emergent processes that occur at solvated interfaces to predict the transformation mechanisms and resulting properties needed to design new systems for bio/conversion of bioproduced intermediates and waste material to low-greenhouse gas carbon-based, fuels and chemicals and other molecular transformations needed for sustainable energy conversion and storage. Understanding of molecular transformations at solvated interfaces has broad application across all of EMSL's science themes.

Projects that are aligned with the MT Science theme are focused on establishing fundamental or predictive understanding within the following areas:

- Physical and chemical properties of interfaces relevant to degradation of biomass and upgrading of bioproduced fuels and renewable chemicals, including the molecular-level controls of catalysis and the relationship of molecular to mesoscale processes.
- Dynamic and emergent processes occurring at solvent-mediated interfaces, especially those that impact biomass degradation or energy conversion.
- Multiscale modeling methods to extend the applicability of atomic- or molecular-scale simulations to meso-scale systems relevant to biomass degradation, energy conversion or other important solvent-mediated interfacial processes.

3.5 Terrestrial and Subsurface Ecosystems

The Terrestrial and Subsurface Ecosystems (TSE) Science Theme focuses on the fluxes of nutrients, metabolites, and contaminants in heterogeneous terrestrial and subsurface environments across multiple scales. By providing a mechanistic understanding of chemical reactivity in solution and at interfaces in soils and the subsurface, and linking those processes via pore-scale hydrological models, EMSL users can improve strategies for sustainable solutions to contaminant attenuation, remediation, and carbon storage.

Projects within the following research areas are aligned within the TSE Science Theme:

- Molecular-scale mechanisms of the geochemical, biological and hydrological processes that drive C dynamics in soils and subsurface environments, including plant-fungal-soil interactions in the rhizosphere.
- Mechanisms of the molecular- to pore-scale processes that control the fate and transport behavior of biogeochemical critical elements, contaminants, and radionuclides in terrestrial and subsurface environments.
- The role of diffusive and advective hydrologic transport processes in the creation of biogeochemical gradients and chemical heterogeneity at the pore- to core-scale in terrestrial and subsurface ecosystems.

- Environmental chemistry of radionuclides, including surface complexation, nanoparticles, redox reactions, colloid formation and mineral associations that control the reactivity and chemical fate and transport of contaminants under terrestrial and subsurface conditions.
- Multiscale computational methods to quantitatively link hydrological and biogeochemical processes across molecular, pore, and porous medium scales.

4.0 Definition of an EMSL User

To uphold the value of user statistics, the Office of Science has established a set of shared core principles for defining and counting users. These principles, along with definitions for each user facility, can be found at <http://science.energy.gov/user-facilities/>. For purposes of reporting EMSL user data to DOE, the following definitions will apply.

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

- **Onsite User** – An individual who is physically present using an EMSL capability, at least once during the reporting period, to conduct research on an active peer-reviewed project.
- **Remote User** – An individual who is a member of an approved research team and who a) remotely accesses EMSL capabilities by logging onto the EMSL network to operate a piece of research instrumentation, or to use the HPC system, b) is authorized to modify computational codes developed and maintained by EMSL, or c) sends or receives materials/samples.
- **Data User** – An individual who is a member of an approved research project team and who analyzes, reduces, or manipulates project data obtained from an EMSL capability or from the HPC or data storage systems.

User Counts: An individual is counted as a user only once per fiscal year. When a user qualifies in more than one category, EMSL follows a hierarchical scheme, in which Onsite takes precedence over Remote and Data, and Remote takes precedence over Data. EMSL staff members are not counted as users.

Reporting: Reports sent to DOE program managers will contain year-to-date counts, unless otherwise specified by DOE, and the user data will be posted on EMSL's website.

Note: For reporting the numbers of users or institution types by proposal type, users with multiple User proposal types will be counted once per each proposal type. However, only distinct users are included when reporting the total number of users per fiscal year. EMSL Staff proposals are not included when reporting User proposal data.

“EMSL resources” are defined as all resources purchased or co-purchased by the User Program and all resources located in space that EMSL maintains or manages.

User and Proposal Statistics

Start Period: October 01, 2014
End Period: September 30, 2015



Proposals by Proposal Type							FY2015	Year End FY2014
	Science Theme	General	Rapid Access	Scientific Partner	Resource Owner	NWChem	Distinct Proposals	
Total Active Proposals	141	109	26	3	36	N/A	315	359

Users by Proposal Type							Distinct Users	
Total Users	436	215	32	0	73	31	715	726
Onsite Users	241	154	19	0	72	N/A	430	406
Remote Users	195	61	13	0	1	31	285	298
Data Users	0	0	0	0	0	0	0	24

User Institutions by Proposal Type							Distinct Users by Institution	
Academic	206	69	20	0	13	24	314	361
DOE Laboratory (Other)	32	14	3	0	0	4	48	50
Foreign	51	21	3	0	1	1	75	2
PNNL	137	110	6	0	59	0	266	310
Industry	3	1	0	0	0	2	5	3
Other	7	0	0	0	0	0	7	6

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

The User Program Services department is responsible for delivering a world-class integrated user program supporting EMSL's vision and mission. Key to the department's goals is the User Support Office, which provides a centralized point of contact to users and management alike. From issuing calls for proposals to facilitating the peer 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.

Access to EMSL is governed by a peer-reviewed proposal process with different proposal options available to facilitate access based on user needs while assuring EMSL capabilities are used to address cutting-edge science questions. The processes described below for proposal solicitation, review, and allocation continually evolve and leverage user feedback to provide a clear and reasonable process that remains consistent with the expectations of our users and BER.

5.1 Proposal Types

To maximize the impact of EMSL research, there are a variety of proposal options available for both users and staff members. All proposals, whether user or staff, are submitted via EMSL's User Portal and undergo management and peer reviews. Although a limited amount of access may be available for research whose information or intellectual property is restricted, 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.

5.1.1 User Proposals

EMSL offers three types of user proposals including Annual Call, General, and Scientific Partner proposals. In addition, EMSL may from time to time announce **special calls** outside of the annual call schedule. Preference is given to user proposals submitted in response to announced calls for proposals. General proposals requesting one year of access or less may be submitted at any time during the year, but those that do not involve requests for special consideration and are competing for staff support will be reviewed once a year by a Proposal Review Panel (PRP) that most closely relates to the research topic or identified science theme. Calls for Proposals are advertised through a variety of formal and informal methods. These include notices on our website, alerts in the [User Portal](#) (EMSL's web-based user tool), email, and social media announcements, targeted emails to BER program managers for distribution to their PIs, internal Laboratory notifications, and informal correspondence by our scientists to colleagues.

Annual Call Proposals: Annual Calls are usually issued in the winter (mid-December or January) and may include options to focus on Science Theme topics, team on larger research campaigns, or use multiple facilities (e.g., the JGI-EMSL call as part of "Facilities Integrating Collaborations for User Science," or FICUS program). Proposals are encouraged that couple experiments with theory, modeling or simulation. Details of the Annual Call and any special requirements for the different options are provided in the Call announcement.

- **Science Theme topics:** Each year, the Call identifies selected topics of interest within each of EMSL's Science Themes. The topics announced in each Call are developed by the Science Theme Leads in concert with EMSL and DOE leadership to focus user activities further to accelerate results in emerging science areas of interest to EMSL, BER and DOE. Proposals are valid for two years, and a select number of authors may be invited to submit project plans to extend the work for a third year.

- **Teaming on research campaigns:** The Annual Call may include opportunities to partner with EMSL staff and other research teams on topics that require multiple methods and approaches for combined experimental and computational research and advanced data integration. These campaigns are typically multi-institutional and larger in scope. Campaigns require a Letter of Intent, and selected authors are invited to work with EMSL staff to develop more fully a project plan to be submitted as a full proposal. Research campaigns can be valid for multiple years and will be based on the selected project design.
- **Requests to use multiple facilities:** The Annual Call may include opportunities to request the use of multiple user facilities with one proposal. Joint facility applications are part of the “Facilities Integrating Collaborations for User Science” or FICUS program that was established three years ago between user facilities stewarded by the Department of Energy Office of Biological and Environmental Research. Applications typically follow special proposal requirements and review processes, and the details are provided with the Call. For example, the call between EMSL and DOE’s Joint Genome Institute (JGI) provides a unique opportunity for researchers to combine the power of genomics and molecular characterization in one research project.

General Proposals: These shorter-term user proposals offer a way for scientists to get acquainted with the staff and capabilities at EMSL. Successful proposals are aligned with the areas of interest outlined in the Annual Call and provide an opportunity for researchers to expand a previous proof-of-principle experiment or gain preliminary data that can be used when responding to the next Annual Call. Researchers can submit to the General Proposal Cycle, in which they compete for available resources, or they can submit a proposal requesting special consideration outside of the standard cycle. The scope can vary from a single, focused experiment to a multi-resource set of studies. General proposals are valid only for the fiscal year in which they are accepted. For example, proposals accepted in December 2015 are valid up to September 30, 2016.

General Proposal Cycle

Outside of the Annual Call, proposal authors have an opportunity to compete for EMSL resources, both instrument time and staffing support, by submitting proposal to the standard General Proposal Cycle in September of each year. This is also a chance for authors whose proposals were not accepted by the PRP in the Annual Call to revise and resubmit their proposals. To be considered under the General Proposal Cycle, the proposal score must meet or exceed the minimum established by the PRP based on the lowest score of proposals accepted during the previous Annual Call. The deadline for the General Proposal Cycle is September 1, and accepted proposals start in October or early November.

Requests for Special Consideration

On the proposal form, researchers can identify a limited set of circumstances that may warrant special consideration, such as restricting data for protection of intellectual property (IP), rapid access to meet an urgent deadline such as a grant application, or requesting use of non-EMSL resources. These proposals are exempted from the PRP review cycle and are evaluated on an expedited case-by-case basis (usually 1-2 weeks). Those that do not meet the standards below for special consideration can resubmit and compete for resources in the next standard General Proposal Cycle.

- Researchers who are ***providing funding for staff*** support or identifying a ***proprietary*** proposal must provide a contract mechanism (charge code or subcontract number) to cover associated labor and/or instrument time depending on the restriction of data. Projects will be accepted provided there is capacity available on instruments and the projects do not take away resources from nonproprietary competitive research. Highly subscribed resources are not eligible for requests under this category. Access may be granted for up to one year. Proposals containing restricted information will be reviewed under special protocols to maintain confidentiality. For non-federally funded proprietary work, the U.S. Department of Energy requires payment for full-cost recovery of the

facilities used, which includes, but is not limited to, labor, equipment usage, consumables, materials, and EMSL staff travel.

- Requests for **rapid access** are accepted on a limited basis and provide up to 30 days of access, beginning with the start of the experiment. To qualify, requests must clearly demonstrate one of the following:
 - rapid 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). The author *must provide the working deadline*.
 - a proof-of-principle experiment is required to be able to proceed with the development of a full proposal. A proof-of-principle experiment is considered a short duration experiment that demonstrates the feasibility of an approach or the utility of a specific measurement methodology. The author must provide sufficient detail of the results expected to convince reviewers that a proof-of-principle is required and not simply a small-scale experiment that would not meet the review requirements of a larger proposal.
- Requests to use **resources that are owned or co-owned** by non-EMSL programs must provide sufficient information for a safety review of laboratory activity but are not expected to adhere to requirements for length or formatting. These resource-owner projects are valid for up to three years ending September 30. Authors must submit annual resource needs for tracking purposes only in accordance with the Utilization Policy. After three years, a renewal is required to update project scope, samples, and hazard information.

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 from each institution involved in the proposal and build upon EMSL's capabilities in instrument development. In return for co-development, EMSL Scientific Partner users receive priority access for a negotiated period of time to the new capability once it is completed. 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 a successful Letter of Intent will be asked to submit a full proposal that undergoes management and external peer 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 7.

Table 5.1 User Proposal Types Available

Proposal Type	Call Responders				Capacity Users
	Annual Call		General	Scientific Partner	General
	Tailored to Science Theme topics, larger campaigns or joint calls.				*Special requests
Submission Deadlines	Annual Call/Published Cycles			Any Time	Any Time
Research Focus	PI-initiated scope based on call topics at EMSL or at multiple facilities	EMSL-initiated scope for larger campaigns	Short-term, PI-initiated scope based on science theme topics	PI-initiated scope for capability development.	PI-initiated research scope
Duration	Defined in Call (typically 18-month minimum)		Up to 1 year	Negotiated	Up to 1 year
Peer Review	External Reviewers				Internal Reviewers
User Support Distribution (\$)	~85%	~10%	~5%	0%	0%
Special Notes	Joint calls use blended submission/review processes.	Co-develop/co-lead project with EMSL	No Call; schedules posted on website.	Cost shared with EMSL capability development funds; limited priority access negotiated after completion.	Cannot interfere with others; User funds staff costs; includes proprietary or rapid; tracks resource owners.

5.1.2 EMSL Staff Proposals

Two types of proposals track utilization by EMSL staff on their own research: EMSL Staff Time and EMSL Intramural proposals. Proposals are submitted through the User Portal and are subject to internal management and safety reviews, as well as peer review using EMSL's five criteria.

EMSL Staff Time Proposals: Per the Utilization Policy, up to 10% of the available instrument time is open to EMSL staff members to help advance their scientific careers through independent or collaborative research, with an additional 10% made available at the EMSL Director's discretion. This research is expected to result in EMSL staff publications or externally funded programs. To utilize this benefit and track instrument use, staff submit EMSL Staff Time proposals that are valid for one year. Access is subject to approval by the EMSL Director, EMSL Associate Director, or the Chief Science Officer (CSO) and is prioritized based on research that advances EMSL's mission. For more details, see Chapter 8.

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. Normal duration for support is two years, with three years being awarded in exceptional cases upon review. For more details, see Chapter 9.

5.2 Submitting a Proposal

All proposals are submitted online via the EMSL User Portal (<https://eus.emsl.pnl.gov/Portal>), following annual guidance on the website. Upon submittal, the USO receives notification to initiate the screening and review process.

5.2.1 Proposal Screening and Technical Review

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. The USO then assigns a primary Capability Lead based on the scope of work, who conducts a technical review to evaluate the impact to existing staff and resource availability, ensure extreme hazards are identified and the work is technically feasible, and assess the instrument time request against the Utilization Policy. The Capability Lead will include other Capability Leads and scientific consultants as appropriate for this review. If the proposal passes this step, the primary 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 on the application. Proposals may be denied at any point during the review process, at which point the author receives electronic notification of the reasons for denial along with requirements for resubmittal if the author is interested.

5.2.2.1 Internal Management and ES&H 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:** To ensure all research is conducted under a fully executed DOE user agreement or other contracting mechanism, such as a CRADA, Work for Others or subcontract. For details regarding the DOE user agreements, see Chapter 13. Proprietary work is assessed for appropriate cost reimbursement, etc.
- **Environment, Safety, and Health:** To assess hazards and ensure work is appropriate for both EMSL's operating envelope and the specific workspace involved.

Depending on the proposal scope, the proposal may also be reviewed by the following subject matter experts:

- **Animal and/or Human Subjects:** To ensure review and approval by the Animal Care and Use Committee and/or the Institution Review Board (IRB) for Human Subjects.
- **Radiological:** To ensure research involving radiological samples is 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 these proposal requests.
- **Project Management:** To ensure that all proposals involving significant hazards, such as radiological hazards, unbound nanomaterials, human biological samples, use of animals, and/or human subjects, are reviewed and project risks are appropriately managed in EMSL's operating envelope by the EMSL Project Management Office Director.

5.2.2.2 Peer Review

Peer review is conducted on a graded approach, balancing the effort of assessment against the impact on EMSL resources. Depending on the type of use requested, some proposals require both external and internal peer review; others require internal peer review only. All peer review is based on EMSL's five review criteria.

Internal Peer Review

User proposals requesting special consideration (see above General proposal categories) and EMSL Staff Time proposals undergo internal review only to meet the special needs of the project. Except for resource owner requests, the Capability Lead obtains an internal peer review to assess the research objectives.

External Peer Review

All proposals competing for budgetary support from the User Program are reviewed by scientific experts of the external research community.

- **Proposal Review Panels:** A Proposal Review Panel, or PRP, is established for each science theme and is comprised of the Science Theme Lead and experts from the science areas represented in the Annual Call. Each proposal is assigned to at least two members of the PRP, who each comment and score the proposal on scientific merit, team qualifications, mission, and science theme relevance. The starting score for resource requests is provided to the PRP by the Capability Leads, and the combined scores establish a preliminary ranking. PRP members assigned to the proposal serve as the spokespersons to initiate panel discussion. After discussion, the PRP agrees on the final score for each criterion, and ranks the proposals according to the composite score. Although preference may be given to proposals related to the specific topics within the Annual Call, PRPs may also identify high-quality proposals that do not fit within the Call and recommend these in a prioritized list for consideration at the EMSL Director's discretion.

Extending projects are reviewed separately by the Capability Leads and Science Theme Leads based on their resource use and progress. Projects lacking progress without sufficient justification will not be extended.

- **Special Independent Reviews:** Due to the strategic scope and unique purposes of the Scientific Partner and EMSL Intramural projects, a special peer review process is followed. Proposals are first reviewed for strategic alignment with the EMSL User Program, user/scientific impact and need, resource and time requirements, and impact to staff development. If the proposal passes this evaluation, external review is conducted by members of the Science Advisory Committee (SAC), User Executive Committee (UEC), and/or identified experts in the scientific field.

5.2.3 Allocation of Resources

At the beginning of each fiscal year, the User Support budget is distributed among the Science Themes to support the Annual Call and General proposals. The budget is allocated to each Capability Lead by the Resource Allocation Committee (RAC) based on the ranking of proposals by the PRPs. The RAC is composed of the Capability Leads, the Chief Science Officer, and the User Program Services (UPS) Manager. In preparation for the RAC meeting, each Capability Lead evaluates the scope of the proposal 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 time 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 results. Following committee consensus of the resource allocation, the UPS Manager prepares a recommendation based on the RAC's decisions for the EMSL Director's

concurrency. Concurrence by the EMSL Director serves as the Record of Decision for the EMSL Business Manager to create charge codes for each project and distribute the User Support budget to the Capability Leads, and for the USO to issue decision notifications.

Except for those needing rapid access, proposals requesting special consideration and EMSL Staff Time proposals, are not eligible for budgetary support. Resource time is managed by the Capability Leads based on the Utilization Policy and availability. As capability development programs, Scientific Partner and EMSL Intramural proposals are each supported by separate capability development budgets that are managed by EMSL's CTO and CSO respectively. Each works with the Capability Leads directly on these special programs to allocate the resources for 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, as well as the composite score and ranking 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 Chapter 6 of this Operations Manual.

5.3 Peer Review Criteria

Reviewers are asked to score each proposal based on five criteria to ensure the proposed research is of high quality and an appropriate use of EMSL's resources. Each criterion is scored from 1 to 5, with 5 being the highest. These criteria are combined using a weighted average approach to generate a composite score (see Section 5.4). This composite score and the reviewers' comments are provided to the proposal author. Potential considerations are provided below to help provide consistency among reviewers. Sample scoring statements for each criterion are provided in Table 5.4 for additional calibration.

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's mission is to lead molecular-level discoveries for the Department of Energy and its Office of Biological and Environmental Research that translate to predictive understanding and accelerated solutions for national energy and environmental challenges. EMSL supports BER's missions in atmospheric aerosols, feedstocks, global carbon cycling, biogeochemistry, and energy materials. These areas reflect DOE and national priorities to develop sustainable sources of clean energy and chemicals, to control greenhouse gas accumulation in the atmosphere, and to remediate contaminated sites for which DOE has ownership or stewardship responsibilities.

Note: Projects with direct relevance in these areas will have the best chance for selection. Other projects of scientific significance also are welcomed, but the applicant should clearly outline how the project will further a DOE mission or other areas with economic or societal impact.

Potential considerations: What is the relationship of the proposed research to EMSL's mission? Does the research project significantly advance the mission goals? How well does the project plan represent a unique or innovative application or development of EMSL capabilities?

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 one or more EMSL Science Themes? To what extent does the proposed research suggest and explore creative and original concepts related to one or more EMSL Science Themes? How strongly does the proposal relate to the Science Theme's focused topics as outlined in the most recent Call for Proposals? How well will it advance EMSL along the directions specifically outlined in the focused topics?

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? 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 and Weighted Scores

The descriptions in the following table are sample statements intended to help distinguish between the different scores within each criterion and provide calibration among reviewers, but are not intended to constrain the reviewer's evaluation or comments. For EMSL proposals, scores are weighted based on criterion (see table below) and averaged to generate an overall composite score for each proposal. For proposals submitted to a FICUS call, only science merit, team qualification, mission impact and resource use are included in the review criteria and are weighted equally. Proposals are scored from 1 to 5, with 5 being highest.

Table 5.4 Review Criteria, Relative Weight, and Scoring Descriptions

Score	Science Merit	Team Qualifications	Mission Impact	Science Theme Relevance	Resource Use	Reviewer Calibration Summary
	50%	10%	10%	20%	10%	
5 Extraordinary	Innovative research; great impact; will launch new direction or clearly impact outstanding problems in the research field	Excellent track record in research field; results expected to have high impact	Direct relevance to BER mission; strong support of DOE mission or significant economic or societal impact; unique or innovative applications of EMSL capabilities; exceptionally strong plan for developing predictive understanding.	Excellent fit to focused topics outlined in most recent Call under one or more science themes.	State-of-the-art resources are requested and are essential to perform this research.	Personally advocate for this proposal; ranks within the top 5% of proposals reviewed.
4 Excellent	Well-conceived, original; strong potential for important contribution to research field	Strong track record in research field; results likely to have high impact	Directly addresses DOE mission; broadly addresses BER mission; unique or innovative applications of EMSL capabilities; well-designed plan for developing predictive understanding.	Strong fit to the focused topics outlined in the most recent Call for at least one science theme.	State-of-the-art resources are requested or would significantly enhance the results.	Highly recommend this proposal; ranks within the top 25% of proposals reviewed.
3 Good	Not groundbreaking but likely to produce significant results.	Solid track record; results likely to have impact	Broadly supports DOE or national needs.	Does not address focused topics outlined in the most recent Call, but broadly addresses one or more science themes.	Resources well integrated, although not necessarily using state of the art or unique instrumentation. EMSL would enhance results.	Recommend this proposal, if resources available; ranks within the top 50% of proposals reviewed.
2 Fair	Routine study in well-worked area of research	Some expertise but not a strong record in the field; unlikely to have high impact.	Broadly supports DOE or national needs; routine measurements with marginal impact on EMSL resources.	Does not address the focused topics outlined in the most recent Call but has some linkages to one of the science themes.	Capabilities marginally enhance results; sufficient results could be achieved with broadly available instrumentation and expertise.	Decline to provide a recommendation.
1 Poor	Serious doubts regarding feasibility or potential impact.	Does not have a strong record and uncertain that results would have impact.	Does not support DOE missions and doubtful for high impact on economic or societal needs.	Does not address the focused topics outlined in the most recent Call or fit within the science themes.	There is no evident need for the use of EMSL's unique suite of resources.	Do not recommend.

6.0 Appeals

Proposal authors may submit appeals regarding the decisions made on 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 resource request. Appeals to reverse management decisions that were based on resource availability and funding will not be considered.

To submit an appeal, the proposal author must email the User Support Office (emsl@pnnl.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, as these will be provided to the Appeals Committee. *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 1) 8 weeks from receipt of the appeal on proposals submitted against the annual Call for Proposals, or 2) within 4 weeks from receipt of the appeal for other proposals.

7.0 EMSL Scientific Partner Proposals for Capability Development

7.1 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 science and user programs. 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. Additionally, proposals should be aligned with and strategically supportive of EMSL and BER missions. 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. The ultimate objective of these proposals is to enhance or add capability that can propel science forward for EMSL and its users.

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 have regular project status meetings or 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.

7.2 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(s), and the Lead Scientists. The User Program Services 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.

7.3 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. The partner sharing should include a detailed listing of funds, equipment, and other in-kind contributions to be provided by the partner. Proposals will be reviewed by (selected) members of EMSL’s advisory committees (Science Advisory Committee, User Executive Committee) and an EMSL panel consisting of the Chief Technology Officer, the Chief Science Officer, the Associate Director(s), 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 Lead(s) prior to the review panel meeting. The User Program Services 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. During project execution, interim and final reports of progress will be required.

8.0 EMSL Staff Time Proposals Implementation and Utilization

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

Up to 10% of the available instrument time is open to 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. Another 10% is available to EMSL staff and others at the EMSL Director's discretion to help advance EMSL's strategic goals.

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 Staff Time proposal mechanism. These proposals are subject to internal peer and management reviews only, and participants on EMSL Staff Time 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 Time proposal mechanism can also be used by Wiley Visiting Scientists, Wiley Research Fellows, or Wiley Postdoctoral Fellows, who are considered adjunct investigators (see Operations Manual, section 20.2) with special time allocation benefits.

Allocation and utilization of EMSL Staff Time proposals must follow management's continuous philosophy that users come first. As such, staff bookings will be shifted to accommodate traveling user needs with the assumption that onsite staff and users can more easily adjust their schedules or work outside of Core business hours, and users are given first option for using available time that opens up due to cancellation or shorter-than-planned use.

The following submission and review procedures will be followed:

- EMSL staff submit requests via EUS, selecting the "EMSL Staff Time" proposal type.
 - *Note:* Because Wiley Research Fellows are not officially EMSL staff, requestors should submit a General proposal, and include a comment on the Logistics page to treat the request as an EMSL Staff Time proposal. The USO will convert the proposal in the database to the correct category.
- After the proposal is reviewed by a Capability Lead for technical feasibility and instrument availability, a member of the senior EMSL Leadership Team (the EMSL Director, Chief Science Officer, or an Associate Director) will be assigned as an internal reviewer, along with any other internal peer reviewers as deemed necessary. Note: EUS is designed so PNNL staff can comment but not score proposals. Instead, the reviewer will include an overall score with their comments on the review form.
- The proposal will also route through additional internal health, safety, and environmental reviews as required.
- The proposal must be fully approved before work can proceed, and **all usage** on EMSL Staff Time projects **must** be recorded in ERS, regardless of whether the instrument is designated as "major" or "non-major" or the use is recorded by non-EMSL staff who are participants on the project.
 - *Note:* Individuals on EMSL Staff Time projects are not included in user counts.
- Use by EMSL Staff Time projects during Core hours will be reported in the Usage Breakdown (pie chart) and Utilization reports as *EMSL Staff Time, Planned* or *EMSL Staff Time, Unplanned*, following the definitions in Usage Types, Section 11 of the Operations Manual. Core hours for instruments that operate 10 hours a day, 5

days a week (10/5) are from 8 a.m. to 6 p.m. Monday-Friday. Core hours for other instruments are the standard operating hours of 24 hours a day, 7 days a week (24/7).

9.0 EMSL Staff Intramural Program

The objective of this program is to facilitate development of EMSL science and technology capabilities by providing a mechanism for EMSL staff to pursue independent scientific research and development of new capabilities and technology. This program is expected to enhance the scientific visibility of EMSL staff, increase the quality of the user program, and enhance the scientific impact of EMSL's Science Themes. 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 for the development of EMSL staff. Science and technology innovations made through this program will also help attract EMSL users who seek to conduct cutting-edge research.

9.1 Intramural Proposal Call and Types

In June of each year, 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 capabilities that 1) enhance the scientific visibility of EMSL staff (Science Intramurals), 2) provide or enhance unique technologies available to the user program (Capability Development Intramurals) and 3) accelerate the scientific direction and impact of EMSL's Science Themes (Acceleration Intramurals). Intramural projects may and should lead to other EMSL use or development mechanisms, such as Scientific Partner Proposals, Research Campaigns, or Science Theme proposals. A website for this program is available at <http://emslweb.emsl.pnl.gov/homes/guide/intramural.shtml>. These proposals are due August 15, although Acceleration projects may be developed and submitted at other times as appropriate. Approved proposals will generally be selected and authorized to start October 1 of each year.

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 instrument use requirements 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 type of proposal and the exact scope of the activity, but in general are expected to be in the \$50K to \$200K range per year for Science or Capability Development Intramurals or \$200-\$800K per year for Acceleration Intramurals. Proposals can range in duration for up to three years, but funding after the first year will depend upon progress and funds available. Normal duration for support is two years, with three years being awarded in exceptional cases upon review. The requested funding support must allocate sufficient resources for open literature publication of the results. New, early career staff are encouraged to compete for Science and Capability Development Intramurals, while more senior staff usually develop and lead Acceleration Intramurals.

9.2 Proposal Selection and Review Process

All proposals should be submitted through the EMSL User Portal under the appropriate Intramural category. They will be screened by the EMSL Science Leads to ensure that they address important challenges in key topical areas described in the EMSL Science Themes. Responsive and feasible proposals that meet the proposed requirements and program objectives will be selected for oral presentations by the principle investigators to the EMSL Science & Technology Council (ESTC) and other selected reviewers (may include other non-EMSL experts in specific research areas). Only highly rated proposals will be selected, and the number will depend on available funding and the quality of the science. The ESTC will make funding recommendations to the EMSL Leadership Team for final approvals.

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

9.3 Project Reviews and Renewals

Proposals selected become EMSL Science, Capability Development, or Acceleration Intramural Projects. Progress of ongoing projects is reviewed by the EMSL ESTC annually or semi-annually. These reviews enable the progress to be evaluated, barriers identified, and some redirection indicated if needed to ensure progress. A written summary is due annually in September and should be uploaded to the Portal. For projects in the first or second year, the annual summary should also include a summary of planned work and a budget request for the following years.

10.0 EMSL Utilization Policy

10.1 Background

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). This policy covers all resources purchased or co-purchased by the User Program and all resources located in space that EMSL maintains or manages.

10.2 Policy

This plan outlines the policies and procedures for using EMSL User Program resources 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 or staff project in the EMSL Usage System (EUS). Access to all major systems, as defined by EMSL management and BER annually, are tracked by 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 divesting of capabilities. Lab space supported by the EMSL User Program is subject to the EMSL Space Policy as detailed in the Operations Manual (Section 15).

10.3 Research Resources

EMSL's experimental and computational instrumentation (resources) are funded from a variety of sources. The majority of the resources are 100% purchased and supported by the EMSL User Program. Some resources are purchased using non-User Program funding and this equipment is owned by PNNL or other research programs. Additionally, some resources are co-purchased by the User Program and PNNL or other research programs. The EMSL User Program participates in co-purchasing research resources and allows other programs to place resources within EMSL-supported space only when benefit to the User Program is clearly demonstrated and approved by the EMSL Director or Chief Operations Officer.

Regardless of ownership, the User Program provides significant support to all research performed in EMSL spaces, and may include:

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

To maximize the benefit of this support to the user community, available time on all resources is open to users according to the percent of ownership by resource, as defined by funding source. Available time is defined as all time that the equipment is normally scheduled for operation and is not undergoing maintenance, upgrades, repair, or capability development.

Costs associated with maintenance, operation, and supplies of any resource located in EMSL-supported space are paid by the respective programs, according to the percent of ownership or as detailed within a formal Memorandum of Agreement (MOA) between EMSL management and the system owner or delegate. All MOAs will be 1) documented in EUS by instrument (or system of instruments), reviewed annually, and updated every three years or whenever a major upgrade or change in the value of the instrument occurs, and 2) stored in EMSL's project record file (FLD-00179.-8.22860) within HP Records Manager (HPRM), PNNL's electronic Records Management Application system. HPRM is certified to meet federal standards for electronic record keeping and enables PNNL to meet its record requirements for corporate information in any form.

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

- At least 80% of the available time is open to users through EMSL's user program review and selection process.
- Up to 20% of the available instrument time is open to EMSL staff members and others via Director's Discretion.
 - Up to 10% is available to help advance the scientific careers of EMSL staff through independent or collaborative research. This research is expected to result in EMSL staff publications or externally funded programs.
 - Another 10% is available to EMSL staff and others at the EMSL Director's discretion to help advance EMSL's strategic goals.

Requests will be submitted as Staff Intramural or Staff Time proposals through EUS for internal review and tracking purposes. Access is subject to review and approval by the EMSL Director, an EMSL Associate Director, or the Chief Science Officer, 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 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 or change in the value of the instrument(s) occurs.

- **100% Other Program-purchased research capabilities:**
 - 20% of the available time will be open to users through the user proposal process unless a separate agreement is developed with the EMSL Director and documented in a special utilization MOA.
 - The balance of the time is dedicated to the program that purchased the system. “Resource Owners” will submit proposals through EUS for internal management and safety reviews and tracking purposes.

- **Co-purchased research capabilities:**
 - A minimum of 20% or the percent purchased by the EMSL User Program, whichever is greater, will be open to users through the user proposal process. For example, if the User Program paid 10% of the cost of the system, then 20% of the access is open to users. If the User Program paid 50% of the cost of the system, then 50% of the access is open to users.
 - Of this user portion, up to 20% of the available instrument time is open to EMSL staff members and others via Director’s Discretion.
 - Up to 10% is available to help advance the scientific careers of EMSL staff through independent or collaborative research. This research is expected to result in EMSL staff publications or externally funded programs.
 - Another 10% is available to EMSL staff and others at the EMSL Director’s discretion to help advance EMSL’s strategic goals.

Requests will be submitted as Staff Intramural or Staff Time proposals through EUS for internal review and tracking purposes. Access is subject to approval by the EMSL Director, an EMSL Associate Director, or the Chief Science Officer, 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 for co-purchased research capabilities will be documented in a formal MOA and 2) in the EUS by instrument (or system of instruments).

11.0 Usage Type Definitions

11.1 EMSL Resource System

The EMSL Resource System (ERS) is the tool in EUS that records resource use. EMSL management uses the data for evaluating proposal use as well as for making budget decisions regarding enhancements, acquisitions, consolidation of capabilities, and strategic direction for capability growth.

Staff members are designated as Instrument Scientists in EUS by their respective Capability Leads. Only those designated as such on an instrument can create a reservation/booking and record usage. Non-staff (e.g., users, collaborators) are not eligible to serve as Instrument Scientists.

Instruments are evaluated each year on the unique or state-of-the-art characteristics, purchase, or replacement costs, user community, and productivity and designated by the Capability Lead as either “major” or “non-major”. Usage data must be entered for all “major” instruments, and **may be required** for other “non-major” instruments. Instrument Scientists are expected to contact the appropriate Capability Lead for a list of instruments that require ERS tracking.

Instrument Scientists are required to record usage data in ERS by Friday of each week and by the end of each month. The data is archived for reporting purposes at the end of the fifth day following month end. Changes made in ERS after the archive date are not reflected in subsequent reports or statistical analyses unless arrangements have been made with the User Program Services Manager to re-archive data for a specific instrument or period of time.

Core hours for instruments have been established to help manage the Utilization Policy for the 20% of instrument time made available for EMSL staff research. For instruments that operate 10 hours a day, 5 days a week, Core hours are considered 8 a.m. – 6 p.m., Monday – Friday, excluding official laboratory holidays. For instruments that operate 24 hours a day, 7 days a week, Core hours remain 12 a.m. – 12 a.m. (24 hours a day), seven days a week, excluding official laboratory holidays.

Instrument time is reported under four different categories: 1) In Use, 2) Out of Service–Planned, 3) Out of Service–Unplanned, and 4) Available. Definitions for the types of use to be recorded within each category are provided below.

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. A Remote User cannot be combined with an Onsite booking. If the team includes both onsite users and researchers participating remotely, the booking should be coded as Onsite and include only those who are physically present at PNNL. **EXCEPTION:** All 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. Capability development activities may require extended booking of the instrument.

- **EMSL Staff Time, Planned** – Use during instrument Core hours by any individual under an EMSL Staff Time or Staff Intramural project in EUS.
 - *Note: Participants recording use on EMSL Staff Time projects will not be counted as users.*
- **EMSL Staff Time, Unplanned** – Use outside of instrument Core hours or when the instrument is idle due to late cancellation or unscheduled time by users.
 - *Note: The time recorded will be included in the “In Use” totals but will not go against the percent of time allocated to staff under the Utilization Policy.*

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, including instrument moves, chiller outages, etc.. Comments to clarify this designation are required
- **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. Personal information, such as staff member names or reasons for medical appointments, business travel, etc., should not be included in the comments.
- **Unavailable, Cancellation** – Resource is idle because a user cancelled their booking without sufficient notice to schedule a replacement. Bookings in this category may be deducted from the project’s time allocation, and will be included in the Out of Service, Planned total unless another user or staff project can utilize the booking. If that is the case, the booking should be updated to reflect the appropriate use.
- **Unavailable, Other** – Resource is not available for any other planned reasons. 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. *Comments to explain this booking are required.*

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. *Comments to explain this booking are required.*

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

11.2 Selecting the User in ERS – Guidance and Examples

This section provides general guidance with examples to help determine which of the proposal participants are to be entered as “user(s)” in the ERS booking when PNNL staff are working on the EMSL user project.

General Guidance:

The program funding the PNNL staff member's time determines if the staff member is considered a consultant or a participant on the user project. If the EMSL User Program is paying for a PNNL staff member to work with one of the participants on the user project, then the staff member is considered a consultant and the participant being helped is designated as the "user" on the ERS booking. If any other program/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, along with anyone else associated with that use.

Examples:

1. The EMSL User Program pays Joe Black (a PNNL staff member) to work with Sarah Green (a participant) on an EMSL user project. Joe is considered a *consultant* on the project, so Sarah is selected as the "user" in ERS. The Usage Type (e.g., remote or onsite) follows the definitions above. For example, if Sarah is teleconferencing with Joe from her home institution during the booked use, she would be a Remote User. If she is at PNNL and working with Joe, she would be an Onsite User.
2. Chuck White pays Joe Black (a PNNL staff member) from his BES project to work on Chuck's user project. Joe is considered a *participant* on the user project and is selected as the "user" in the ERS booking. Usage is automatically recorded as Onsite, following the definitions above for a PNNL staff member. If other participants on the project are at PNNL and working with Joe at the same time, they also are selected as "users" in the ERS booking, and all usage is recorded as Onsite. Participants who are not physically present at PNNL cannot be included as users on an Onsite booking.

12.0 EMSL Data Management Policy

The data management resource information and data release policies below are provided to help researchers understand the data resources available at EMSL and to assist them in meeting funding agency requirements for a data management plan.

12.1 Data Management Resources

EMSL provides the ability to store all data generated at EMSL in a hierarchical storage archive, and is building a metadata-based open data repository known as MyEMSL. When complete, the MyEMSL interface in the [User Portal](#) will provide access to non-public data for authorized EMSL users and staff. MyEMSL will also provide a web interface and application programming interface (API) for storing, search, retrieval, manipulation and re-storing of the data, thus providing a history of data usage. Researchers expecting to generate 250 terabytes or more on a single user project should request written approval in advance from the User Program Services Manager by sending an email to [User Support](#).

12.2 EMSL Data Release Policy

EMSL's Standard Data Release Policy applies to all non-proprietary data collected under the User Program. The purpose of this policy is to balance the need to make data publicly available to the scientific community as soon as possible with the reasonable expectation that the project teams will be able to publish their results without fear of preemption. Data, for purposes of this release policy, refers to both the raw data and the associated metadata. In the interim period before completion of the MyEMSL open data repository, users and members of the public who need access to EMSL data should contact [User Support](#).

Under this policy, data is released as follows:

- Immediate access and release of data generated on an approved user project is granted to all participants on the project, and to EMSL staff that are assigned to or added as participants on the project.
- When the data are published, or within one year from the time the data were first collected, whichever is earlier, all non-proprietary data collected on an approved user project is made publicly available.
- Data can be released to other entities (people, institutions, etc.) earlier than one year with written approval from the principal investigator (PI).
- If a user project ends before the public release date, all members of the ending project will still have access to their data and the PI can still release their data to other entities by using the above procedure.
- Data that are retrieved from EMSL data resources and used in subsequent publications must properly cite the researchers who generated the data.
- For collaborative projects utilizing EMSL and additional user facilities, the data generated at EMSL will be released as described above. Data generated at other user facilities will be released by those facilities in accordance with their respective data management policies.

This EMSL Standard Data Release policy is effective for all non-proprietary user projects submitted after July 1, 2013.

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 HPRM in accordance with EMSL's Records Management Plan. Approval for the use of the electronic signature process can be found in HPRM.

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 a DOE Office of Science User Facility and is sponsored by the 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 Program Services 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.*

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/Portal>. 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:

Amount Due	Date Due
\$_____.	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.

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

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:

13.3 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.*

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/Portal>. 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 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.

14.1 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.

14.2 Support Activities Charged to other projects

14.2.1 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).

14.2.2 Proprietary Proposals

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

14.2.3 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 10.

14.2.4 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).

14.2.5 EMSL NMR Capability in Building 331

EMSL and the Biological Sciences Division of the Earth and Biological Sciences Directorate (EBSD) jointly occupy and formed a scientific collaboration in the 331 building where large magnets are stored. EMSL and EBSD each pay the one-half of the space charge for lab 130.

14.3 Deployment of EMSL Capabilities

14.3.1 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.

14.3.2 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 EMSL users are expected to pay for their own labor, travel, and EMSL scientific consultant support in cases when they are able but choose not to 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).

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

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).

14.4 EMSL Unallowable Charging Guidance

14.4.1 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 2016 per diem meal amount is dinner \$26, lunch \$15, breakfast \$13, and incidentals \$5.

14.4.2 EMSL Recruiting interview Meals Reimbursed by Directorate Unallowable Budget

<u>Position</u> <u>Opening</u>	<u>Max #</u> <u>Candidates</u> <u>per Opening</u>	<u>External Candidates</u> <u>Max # Interviewers/Candidate</u>			<u>Internal Candidates</u> <u>Max # Interviewees/Opening</u>		
		<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 or local 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.

14.5 References

- DOE Order 522.1 pg 7 11-3-04, under k. Use of Facilities, 1. 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.” (<https://www.directives.doe.gov/directives-documents/500-series/0522.1-BOrder>)
- DOE Order 522.1, Pricing of Departmental Materials and Services. (<https://www.directives.doe.gov/directives-documents/500-series/0522.1-BOrder>).
- Cost Accounting Standard (CAS) 418 - 9904.418-40 (i.e., Allocation of Direct and Indirect Costs) has provision for exclusion of special purpose facilities which would apply in this extension to the EMSL National User Facility (http://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=ece9696a1a8b58cb7d9c139138479c58&mc=true&n=pt48.7.9904&r=PART&ty=HTML#se48.7.9904_1418_640)
- PNNL Finance Manual, Section 8.6.8, EMSL User Facility policy (<https://business.pnl.gov/finance-manual/08-06-08.pdf>).

15.0 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.)

15.1 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, (chapters 10.0 and 15.0 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.

15.1.1 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.

15.2 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.

15.2.1 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.

16.0 Policy for Requesting EMSL Capital Equipment Funds

16.1 Policy

EMSL capital equipment funds (>\$500K for new equipment or any amount for additions to equipment originally purchased by capital funds) may be requested by any EMSL staff member through a EMSL Capability Lead in response to a Call or at any time throughout the year by 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 Associate Director(s)
- EMSL Science Leads
- One Capability Lead Representative
- EMSL Business Manager (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 Leadership Team and to the Director for review and approval.

Once approved, the EMSL Chief Technology Officer authorizes allocations and works with the program/financial 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/signed 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.

Any funds remaining from Capital authorizations are returned to the Capital funds pool and are not subject to alternative use/spend negotiations by the originating requester. New Capital requests can be submitted for consideration for unused or unspent funds.

16.2 EMSL Capital Equipment Request Form

EMSL CAPITAL EQUIPMENT REQUEST (CER) FORM		v9.0: 06-02-14
Form must be typed; please respond fully to all queries.		
Requestor's Name	Organization Code	Capability Group
Acquisition Cost <small>(incl Freight, Fabrication Cost, Sales Tax)</small>	<input type="text"/>	Check one: <input type="checkbox"/> Strategic <input type="checkbox"/> Additional \$ request <input type="checkbox"/> Tactical <input type="checkbox"/> Upgrade <input type="checkbox"/> Replacement <input type="checkbox"/> New
Installation Costs	<input type="text"/>	
Overhead Cost	<input type="text"/>	
Total Cost	<input type="text"/> \$	
ERS ID # and name and/or property #s:		
Long name of instrument:		
Short name of instrument:		
Brief reason for Purchase:		
Detailed Listing of Equipment Requested		
Benefit to EMSL User Facility & Strategic Goals; Science Theme/Leadership Area Alignment; First Science Needs:		
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 date that equipment will be delivered (e.g. # weeks after order placed):		
Estimated date that installation will be complete:		
REQUESTOR		
Requestor	Date:	Comments/Concerns:
REVIEWERS		
Capability Steward	Date:	Comments/Concerns:
Cognizant Space Manager (CSM)	Date:	Comments/Concerns:
EMSL AD	Date:	Comments/Concerns:
EMSL COO	Date:	Comments/Concerns:
EMSL Chief Technology Officer	Date:	Comments/Concerns:
APPROVAL		
EMSL Chief Technology Officer per Capital Committee	Date:	Comments/Concerns:

17.0 Divesting or “Sunsetting” of Instruments and Scientific Capabilities

Divesting or “sunsetting” of instruments and scientific capabilities is a fundamental part of EMSL capability planning and stewardship. Decisions to divest are made with careful and deliberate evaluation to ensure that resources are no longer in high demand by the user community nor suited to meet EMSL’s scientific needs and strategies. Divestment or sunsetting is defined as the disposition of instrumentation or capability such that additional EMSL resource support (operations funding) is no longer required. Divestment of instruments and capabilities can occur in several (graded) ways, including simple decommissioning, transfer to other organizations within PNNL, or excess and removal from EMSL laboratories. In some cases, divesting of instruments can result in associated reassignment or furlough of staff and release of facility space.

This procedure addresses the review criteria, roles and responsibilities, and the steps to take for final disposition. It does not apply to instrumentation that already has a managed lifecycle or planned replacement that is administered by separate policies or procedures (e.g., high performance computer hardware).

17.1 Annual Assessment of Instruments

At least annually, and in concert with established EMSL procedures for capital and capability investments and EMSL Usage System (EUS) updates, all instruments and scientific capabilities will be evaluated by EMSL Capability and/or Science Leads. This assessment will consider and evaluate instruments in each Capability group as listed in EUS, or larger scientific capabilities as defined by the EMSL Leadership Team. The evaluation will take into consideration criteria including the following:

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

The assessment is specifically intended to identify the lowest ranked instruments within each Capability group. Identifying items does not necessarily mean automatic divestment; it simply forces consideration and introspection by requiring each Capability Lead to identify at least 10% of their instruments for divestment consideration. The list will be submitted to the Chief Technology Officer as chair of the EMSL Capital/Capability Committee, along with the following information (available from EUS) for each item:

- Utilization statistics for the preceding 3 years
- List of recent proposals that used the instrument
- Additional rationale/explanation for assigned rank
- Recommendation for temporary inactivation, alternative use, or excess action

17.2 Divestment/Sunsetting Decisions & Actions

The lists of low-ranked instrumentation from all Capability groups will be assimilated and provided to the EMSL Capital/Capability Committee for divestment consideration. Using the criteria listed above, the committee will provide to the EMSL Leadership Team a list of recommended instruments and capabilities for divestment. The list will include recommendations for alternative, productive uses (such as transfer or loan to other groups, users, collaborators, or partners).

Decisions to divest of complete scientific capabilities is made less frequently and is typically done in a transitional manner over a time period of one to three years. Recommendations to divest of scientific capabilities are made in concert by the Chief Science, Technology, and Operations Officers to the EMSL Leadership Team. The Leadership Team will work with the EMSL Director to vet the list with EMSL BER sponsors.

The EMSL Director will review and approve all recommendations for divestment. Approval indicates authorization to proceed with divestment, with appropriate and due consideration and notice given to users and/or staff actively utilizing the instrumentation. Divested instruments will be classified and recorded in EUS as “Inactive”, “Transferred”, or “Excessed”. Divested instruments and scientific capabilities should also be reviewed with the User Executive Committee each year.

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

18.0 Engagement with DOE and Laboratory Management

EMSL management works closely with PNNL, BER and PNSO staff to ensure that the user facility is meeting performance expectations and to address issues and future opportunities.

In addition to teleconferences and visits to and from BER, EMSL management provides, at BER's request, various reports either monthly, quarterly, or annually. EMSL also provides user demographics in support of PNNL reporting requirements to DOE Management. Table 18-1 outlines these reports and interactions.

Table 18-1. Formal Reports Provided to BER and PNNL

Report	Requestor	Responsible Person	Due Date
EMSL Capital Equipment Purchases & Project Status	BER	EMSL Chief Operating Officer	Monthly (3 rd Wednesday)
MSC Status Sheet & Dashboard	BER	Capability Lead, Molecular Science Computing Operations	Monthly (3 rd week)
Operating Hours	BER, PNSO	EMSL Chief Operating Officer	Quarterly (1 st business day after quarter end)
Proposal and User Statistics	BER, PNSO	User Program Services Manager	Quarterly (14 days after quarter end)
EMSL Dashboard	BER, PNSO	EMSL Chief Operating Officer	Quarterly (14 days after quarter end)
EMSL User Facility Financial Profile	BER, PNSO	EMSL Directorate Business Manager	Biannually (within 1 month after 2 nd and 4 th quarter end)
Resource Summary Report	BER, PNSO	User Program Services Manager	Biannually (14 days after 2 nd and 4 th quarter end)
Planned Operating Hours	BER	EMSL Chief Operating Officer	Annually (October 1)
Additional Protocol (AP) Compliance	PNNL	User Program Services Manager	Annually (October 14)
List of Major Resources	BER, PNSO	User Program Services Manager	Annually (November 30)
User Demographics for Office of Science Projects-Experiments Database	DOE	User Program Services Manager	Annually (November 30)
Agencies Funding EMSL Instruments	BER, PNSO	User Program Services Manager	Annually (triennially on November 30)
DOE Technology Transfer by Laboratory	BER	User Program Services Manager	Annually (December 31)
User Survey Summary	BER, PNSO	User Program Services Manager	Annually (January 15)
Field Work Proposal	BER, PNSO	EMSL Directorate Business Manager	Annually (determined by DOE)

19.0 Science Advisory Committee Charter

19.1 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.

19.2 Membership

19.2.1 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 Executive Committee (UEC) is an ex-officio member of the Committee.

19.2.2 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.

19.2.3 Terms of Service

Committee members may serve multiple four-year terms. Both the EMSL Director, Chair and Committee Member will decide whether to extend membership for multiple terms. The EMSL Director will appoint a Chair from the Committee's external membership

19.2.4 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.

19.3 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.

19.3.1 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.

19.4 Committee Activities and Duties

19.4.1 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.

19.4.2 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. 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.

19.4.3 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.

19.4.4 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, UEC, 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.

19.4.5 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.

19.4.6 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.

19.4.7 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.

20.0 User Executive Committee

20.1 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 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.

20.2 Membership

20.2.1 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 science themes, there shall be at least 2 members representing each science theme. In addition, 1 position will be assigned to represent industry. Remaining positions, not assigned as specific science theme 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 is replaced, the Chair will select nominees that are qualified for the position before a full vote is cast by the user community.

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

20.2.2 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 EMSL's mission and vision. 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.

20.2.3 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.

20.2.4 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.

20.3 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.

20.3.1 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.

20.3.2 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.

20.4 Committee Activities and Duties

20.4.1 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.

20.4.2 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.

20.4.3 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.

20.4.4 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, UEC, 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.

20.4.5 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.

20.4.6 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.

20.4.7 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.

20.4.8 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.

21.0 Wiley Visiting Scientist Program

To facilitate major contributions to EMSL's user program by external researchers, EMSL has established 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 months.

21.1 Expectations

Wiley Visiting Scientists are expected to contribute to the success of EMSL as a user facility and support 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 team meetings.

21.2 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 in EMSL communications, outreach, strategy and research plans and reports, and on the EMSL website. In recognition of their efforts, visiting scientists will receive the formal title of Wiley Visiting Scientist, be consulted 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.

21.3 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.

21.4 Requirements

21.4.1 Short-Term Fellowships

- **Application.** Applicants should submit to the EMSL Chief Science Officer (CSO) 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 CSO 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.

21.4.2 Long-Term Fellowships

- **Application.** Applicants should submit to the EMSL CSO 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. This evaluation will be made by the EMSL Leadership Team and requires approval of the EMSL Director.

22.0 Wiley Research Fellow Program

Throughout the development and history of EMSL's operation, researchers from across the nation have contributed to areas of importance in the molecular sciences and to the success of the EMSL scientific user facility. The purpose of establishing the Wiley Research Fellow Program was 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 and recommendations for EMSL.

22.1 Expectations

Wiley Research Fellows are expected to contribute to the success of EMSL as a user facility and support 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, and advocate for EMSL and its capabilities in the scientific community. Wiley Fellows are also expected to interact with the EMSL scientific leadership team and attend and provide input, whenever possible, at team meetings.

22.2 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 in EMSL communications, outreach, strategy, and research plans and reports and on the EMSL website. In recognition of their efforts, adjunct investigators will receive the formal title of Wiley Research Fellow, be consulted 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 that include EMSL occupancy.

22.3 Qualifications

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

22.4 Requirements

- **Application.** Applicants should submit to the EMSL Chief Science Officer 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.
- **Evaluation.** All Wiley Research Fellow positions will be evaluated on an annual basis for continued contributions and value to EMSL. This evaluation will be made by the EMSL Leadership Team and requires approval of the EMSL Director. A summary of activities and plans for the following year will be required for renewal of the appointment.

23.0 Wiley Postdoctoral Fellowship

To attract high-performing, newly graduated junior Ph.D. scientists who have the potential to become full time scientific staff at EMSL, EMSL has established the Wiley Postdoctoral Fellowship. The fellowship honors the distinguished career of Dr. William Wiley, the former director of the Pacific Northwest National Laboratory and visionary leader of EMSL. The Call for Applications opens by December of each year, and applications are reviewed by a committee chosen by the EMSL Associate Director. Recommendations are made to the EMSL Director, and candidates will be notified no later than February.

23.1 Qualifications

Candidates for the Wiley Postdoctoral 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). 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.

23.2 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 \$72,000 per annum with an additional allocation of up to \$20,000 per year for research support and travel.

23.3 Requirements

Application. Applicants should 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

Details of the Wiley Postdoctoral Fellowship are online at <https://www.emsl.pnl.gov/emslweb/wiley-distinguished-postdoctoral-fellowship>.

24.0 MT Thomas Award for Outstanding Postdoctoral Achievement

24.1 Purpose

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

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.

24.2 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 annually.

24.3 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 of this award 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 include accomplishments from the full postdoctoral appointment as long as the appointment term includes a portion of the calendar year prior to the year in which the nomination is submitted. 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 scientific or technological 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 as measured by publications of scientific results, technology developed (software, instruments, patents), and presentations at professional meetings.
- scientific leadership, which could include but not be limited to collaborating, taking the initiative and sharing of ideas.

24.4 Nominations

Nomination packages are to be coordinated and submitted by the appropriate University Advisor or a National Laboratory mentor.

24.5 Nomination Package

Seven copies of the nomination package should be provided to the Selection Committee Chair. 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 mentor (and co-signed by their appropriate management) outlining the nominee's accomplishments,
- nominee's curriculum vitae,
- three supporting letters from University Staff, National Laboratory staff, and 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).

24.6 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, as evidenced by the supporting material, should be included.
- 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.

24.7 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 solicited annually are due to the Selection Committee Chair on March 31. The date for the seminar and award presentation will occur as soon as it can be conveniently schedule.