

Key Performance Indicators for University Research Centers

Key Performance Indicators (KPIs) are quantitative or qualitative measures of the achievements of a research institute or center. The mission of each center should be articulated as a limited set of KPIs for each strategic goal. The center director will report these KPIs in business plans submitted for certification or re-certification. Mission KPIs are summative outcomes measured on a consistent basis across five year business plan cycles. Two types of KPIs are included in consolidated business plans: (1) sponsored research activity, and (2) center-specific indicators. Sponsored research activity KPIs include research expenditure and proposal activity indicators that are uniformly reported for all centers. Center-specific KPIs are distinctive to the specific strategic goals of each center, representing aspects of the mission such as education, scholarship, or outreach.

Sponsored research activity KPIs

University research centers are in part constituted to enhance research activity, and are expected to strive to be self-sustaining through extramural funding. Commensurate with these expectations, four common sponsored research activity KPIs are required for all centers seeking certification or re-certification. Two are related to research expenditures:

1. Annual total direct costs
2. Annual reimbursed indirect costs

All centers use a uniform methodology for identifying or computing these metrics from ODURF Sponsored Activity reports as illustrated below.

The other two are related to proposal activity:

3. Annual total dollar value of proposals submitted
4. Annual number of proposals submitted

The annual dollar value of proposals submitted by enterprise centers or centers with Ledger 1 budgets is reported in Schedule 6 of the ODURF Sponsored Program Activity report. Other centers may count proposals that are related to the center mission and have a constituent member principal investigator or co-investigator.

Center-specific KPIs

Center-specific KPIs are indicators that reflect center performance relative to the unique aspects of its mission. Typically, these indicators will reflect scholarship, education, outreach, social impact, or recognition outcomes. These should be discussed, understood, and supported by the center supervisor and constituent members. Some examples are:

1. Center-supported publications indexed in Web of Science per year
2. Students completing degree program in allied majors per year
3. K-12 teacher-hours of professional development provided per year
4. Continuously maintain ANAB laboratory accreditation
5. Affiliated faculty from other colleges that collaborate on proposals each year

Proposals to certify or re-certify existing centers should report mission KPI metrics for at least three prior years in their business plans. Business plans submitted for initial certification of existing centers are required to report sponsored research activity KPIs. Strong proposals will include a report of center-specific mission KPIs from prior years. At a minimum, business plans submitted for initial certification should identify the center-specific mission KPIs that will be reported moving forward. Reports of both sponsored research activity and center-specific mission KPIs are required in business plans submitted for recertification. New center proposals may include sponsored research activity and center-specific metrics associated with the constituent members identified in the proposal.

KPIs can be useful in terms of guiding the activity of center constituents, soliciting support for center activities, and promoting accountability, but care must be taken in their development, use, and interpretation. Center directors are encouraged to be judicious in the development and use of center-specific KPIs to ensure that they are meaningful to center constituents, practical to measure, and aligned with the strategic goals of the university.

Center supervisors and Faculty Research Advisory Committee members are encouraged to adopt a holistic, balanced, and contextualized perspective when reviewing center performance relative to KPIs. In particular, a myopic focus on sheer quantitative levels on individual mission KPIs can create perverse incentives and a short-term perspective that undermines the quality of the work, thereby militating against long term success.

Computation/identification of sponsored research activity KPIs

Sponsored research productivity metrics are available on Schedule 4 or Schedule 5 (Enterprise Centers) of the ODURF Sponsored Program Activity Reports, which are published once per year at: <http://www.researchfoundation.odu.edu/reports/reports.html>

Enterprise centers may simply report the data included on the ODURF report. For example, the FY 2016 direct costs for the Applied Research Center were \$489,799 and the reimbursed indirect costs were \$125,423 (see Figure 1).

Centers that do not have enterprise status can compute their direct and reimbursed indirect costs by summing the figures for constituent investigators on center-related projects. These are tabulated by home department for each investigator in the ODURF report using the traditional allocation formula. Note that some centers may have associated expenditures attributed to more than one department, and some projects for constituent members may not be center related. Figure 2 shows a mock example for the Center for Accelerator Science, which has constituents in Physics, Computer Science, and Engineering Technology (the example is for illustrative purposes only and is not intended to be complete and accurate). In these cases, costs are summed by investigator for each *center-related* project as highlighted in the figure.

As appropriate, new center proposals may include summary direct and reimbursed indirect cost metrics from prior projects of faculty who would become constituent members. These would be computed in the same manner as the previous example.

Figure 1. FY 2016 Direct and Reimbursed Indirect Costs: Applied Research Center (Non-traditional Allocation)

SCHEDULE 5
 OLD DOMINION UNIVERSITY RESEARCH FOUNDATION
 ENTERPRISE CENTERS INCLUDING PROJECTS REPORTED AS ACTIVITY
 OF AN ACADEMIC DEPARTMENT
 (MEASURED BY EXPENDITURES INCURRED)
 FOR FISCAL YEAR 2016



PROJECT NUMBER	PRINCIPAL INVESTIGATOR / PROJECT DIRECTOR	DEPT	PROJECT DIRECT COST					PROJECT IDC AND FEES				
			PERSONNEL AND FRINGE BENEFITS	SUPPLIES, CONTRACTUAL, GENERAL, & TRAVEL	EQUIPMENT	SUBCONTRACTS, CONSTRUCTION, TUITION & OTHER	TOTAL DIRECT COSTS	REIMBURSED INDIRECT COSTS	TOTAL SPECIAL FEES	TOTAL PROJECT COSTS	EFFECTIVE INDIRECT COST RATE	CENTER
APPLIED RESEARCH CENTER												
100221-010	* NATIONAL SCIENCE FOUNDATION	BAUMGART, H.	4054	2,013	116	2,810	-	4,939	1,128	-	6,067	ARC
100383-010	* U.S. DEPARTMENT OF ENERGY	BAUMGART, H.	4054	6,302	582	-	-	6,884	3,649	-	10,533	ARC
100473-010	NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY	BAUMGART, H.	4054	107,158	3,677	-	-	110,835	28,817	-	139,653	ARC
300028-010	UNIVERSITY OF VIRGINIA	BAUMGART, H.	4054	25,272	1,312	-	-	26,584	-	-	26,584	ARC
300034-010	UNIVERSITY OF VIRGINIA	BAUMGART, H.	4054	-	293	-	-	293	-	-	293	ARC
300035-010	UNIVERSITY OF VIRGINIA	BAUMGART, H.	4054	1,524	476	-	-	2,000	-	-	2,000	ARC
500121-010	MICROXACT, INC.	BAUMGART, H.	4054	-	2,368	-	-	2,368	616	-	2,983	ARC
500250-010	SUMMIT INFORMATION SOLUTIONS, INC	BAUMGART, H.	4054	24,359	-	-	-	24,359	6,333	-	30,693	ARC
500284-010	SUMMIT INFORMATION SOLUTIONS, INC	BAUMGART, H.	4054	24,787	-	-	-	24,787	6,445	-	31,232	ARC
100221-010	* NATIONAL SCIENCE FOUNDATION	ELSAYED-ALI, H.	4054	16,107	927	22,476	-	39,510	9,028	-	48,537	ARC
100476-010	LANGLEY RESEARCH CENTER	ELSAYED-ALI, H.	4054	1,271	4,719	-	(0)	5,990	3,175	-	9,165	ARC
100495-010	* NATIONAL SCIENCE FOUNDATION	ELSAYED-ALI, H.	4054	-	32	-	-	32	17	-	48	ARC
100567-010	LANGLEY RESEARCH CENTER	ELSAYED-ALI, H.	4054	5,118	-	-	-	5,118	1,331	-	6,448	ARC
100571-010	OFFICE OF NAVAL RESEARCH	ELSAYED-ALI, H.	4054	10,111	25,104	-	-	35,215	11,269	-	46,484	ARC
200191-010	* CENTER FOR INNOVATIVE TECHNOLOGY	ELSAYED-ALI, H.	4054	6,829	1,955	-	-	8,784	2,635	-	11,420	ARC
400247-010	COMMONWEALTH CENTER FOR ADVANCED MANUFACTURING	ELSAYED-ALI, H.	4054	-	1,100	-	-	1,100	583	-	1,683	ARC
400288-010	EMBODY	ELSAYED-ALI, H.	4054	-	2,770	-	-	2,770	1,524	-	4,294	ARC
500209-010	LIFENET	ELSAYED-ALI, H.	4054	287	1,682	-	(0)	1,969	1,044	-	3,013	ARC
500210-010	LIFENET	ELSAYED-ALI, H.	4054	255	790	-	2	1,047	555	-	1,602	ARC
500222-010	MORPHIX TECHNOLOGIES	ELSAYED-ALI, H.	4054	489	-	-	-	489	259	-	747	ARC
500241-010	BNNT, LLC	ELSAYED-ALI, H.	4054	1,178	-	-	-	1,178	306	-	1,484	ARC
500253-010	LIFENET	ELSAYED-ALI, H.	4054	155	850	-	-	1,005	553	-	1,557	ARC
500254-010	VERTICAL CARBON TECHNOLOGIES, INC.	ELSAYED-ALI, H.	4054	928	692	-	-	1,619	891	-	2,510	ARC
500276-010	LIFENET	ELSAYED-ALI, H.	4054	613	1,650	-	-	2,263	1,245	-	3,507	ARC
200191-010	* CENTER FOR INNOVATIVE TECHNOLOGY	ELSAYED-ALI, H.	4054	5,603	2,067	-	-	7,670	2,301	-	9,971	ARC
100230-010	* NATIONAL SCIENCE FOUNDATION	MARSILLAC, S.	4054	3,123	2,279	-	-	5,401	2,863	-	8,264	ARC
100383-010	* U.S. DEPARTMENT OF ENERGY	MARSILLAC, S.	4054	22,056	2,039	-	-	24,095	12,770	-	36,865	ARC
100495-010	* NATIONAL SCIENCE FOUNDATION	MARSILLAC, S.	4054	-	32	-	-	32	17	-	48	ARC
100221-010	* NATIONAL SCIENCE FOUNDATION	NAMKOONG, G.	4054	2,013	116	2,810	-	4,939	1,128	-	6,067	ARC
100230-010	* NATIONAL SCIENCE FOUNDATION	NAMKOONG, G.	4054	10,148	7,406	-	-	17,555	9,304	-	26,859	ARC
100256-010	* NATIONAL SCIENCE FOUNDATION	NAMKOONG, G.	4054	3,946	242	-	49,080	53,268	2,219	-	55,487	ARC
100383-010	* U.S. DEPARTMENT OF ENERGY	NAMKOONG, G.	4054	3,151	291	-	-	3,442	1,824	-	5,266	ARC
100495-010	* NATIONAL SCIENCE FOUNDATION	NAMKOONG, G.	4054	-	116	-	-	116	61	-	177	ARC
200191-010	* CENTER FOR INNOVATIVE TECHNOLOGY	NAMKOONG, G.	4054	15,935	4,562	-	-	20,497	6,149	-	26,646	ARC
200191-010	* CENTER FOR INNOVATIVE TECHNOLOGY	NAMKOONG, G.	4054	13,074	4,823	-	-	17,896	5,369	-	23,265	ARC
100495-010	* NATIONAL SCIENCE FOUNDATION	RAMJEE, B.	4054	-	32	-	-	32	17	-	48	ARC
400110-011	JEFFERSON SCIENCE ASSOCIATES, LLC (JEFFERSON LAB)	ELMUSTAFA, A.	4057	23,721	-	-	-	23,721	-	-	23,721	ARC
				337,525	75,097	28,095	49,082	489,799	125,423	-	615,222	25.61%

Figure 2. Computing Direct and Reimbursed Indirect Costs, Traditional Allocation Interdisciplinary Centers
(mock example for Center for Accelerator Science)

PROJECT NUMBER	SPONSORING AGENCY	PRINCIPAL INVESTIGATOR / PROJECT DIRECTOR	PROJECT DIRECT COST				PROJECT IDC AND FEES				TOTAL PROJECT COSTS
			PERSONNEL AND FRINGE BENEFITS	SUPPLIES, CONTRACTUAL, GENERAL, & TRAVEL	EQUIPMENT	SUBCONTRACTS, CONSTRUCTION, TUITION & OTHER	TOTAL DIRECT COSTS	REIMBURSED INDIRECT COSTS	TOTAL SPECIAL FEES		
Physics											
100388-140	* U.S. DEPARTMENT OF ENERGY	AMARIAN, M.	78,335	10,947	1,085	334	90,701	44,641	-	135,342	
100472-010	* NATIONAL SCIENCE FOUNDATION	ARETI, H.	-	(48)	-	43,836	43,790	-	-	43,790	
100392-030	* U.S. DEPARTMENT OF ENERGY	BALITSKY, I.	12,885	1,430	-	1,401	15,716	7,587	-	23,303	
100388-140	* U.S. DEPARTMENT OF ENERGY	BUELTMANN, S.	78,335	10,947	1,085	334	90,701	44,641	-	135,342	
100472-010	* NATIONAL SCIENCE FOUNDATION	BUELTMANN, S.	-	(15)	-	14,612	14,597	-	-	14,597	
100252-010	* NATIONAL SCIENCE FOUNDATION	DE PAOR, D.	33,770	46,140	-	6,265	86,174	42,352	-	128,526	
300340-010	JAMES MADISON UNIVERSITY	DE PAOR, D.	-	645	-	-	645	168	-	812	
100387-010	* U.S. DEPARTMENT OF ENERGY	DELAYEN, J.	28,622	11,910	7,641	161,604	209,777	21,482	-	231,259	
100394-010	* U.S. DEPARTMENT OF ENERGY	DELAYEN, J.	(3,615)	-	-	-	(3,615)	(1,809)	-	(5,423)	
100443-030	FERMI NATIONAL ACCELERATOR LABORATORY	DELAYEN, J.	88,955	24,682	-	17,754	131,391	56,818	-	188,209	
100443-040	FERMI NATIONAL ACCELERATOR LABORATORY	DELAYEN, J.	29,864	17,020	-	3,925	50,808	12,190	-	62,998	
100492-010	* NATIONAL SCIENCE FOUNDATION	DELAYEN, J.	37,188	6,620	-	10,111	53,919	23,218	-	77,138	
400275-010	JEFFERSON SCIENCE ASSOCIATES, LLC (JEFFERSON LAB)	DELAYEN, J.	29,548	4,455	-	-	34,003	6,841	-	42,843	
500275-010	NOWAVE, INC	DELAYEN, J.	7,578	10,241	-	-	17,819	9,801	-	27,620	
100388-140	* U.S. DEPARTMENT OF ENERGY	DODGE, G.	77,597	10,816	1,072	330	89,615	44,108	-	133,721	
100381-010	* U.S. DEPARTMENT OF ENERGY	DUDEK, J.	-	6,279	-	-	6,279	1,633	-	7,912	
100392-030	* U.S. DEPARTMENT OF ENERGY	DUDEK, J.	1,430	1,430	-	1,401	15,716	7,587	-	23,303	
300068-010	OLD DOMINION UNIVERSITY	DUDEK, J.	71,905	10,137	-	-	82,041	41,021	-	123,062	
100554-010	* NATIONAL SCIENCE FOUNDATION	GODUNOV, A.	25	-	-	-	25	13	-	38	
100554-010	* NATIONAL SCIENCE FOUNDATION	GODUNOV, A.	5,476	15	-	-	5,491	2,910	-	8,401	
300326-010	* OLD DOMINION UNIVERSITY	GODUNOV, A.	7,104	-	-	-	7,104	-	-	7,104	
100387-010	* U.S. DEPARTMENT OF ENERGY	GUREVICH, A.	28,622	11,910	7,641	161,604	209,777	21,482	-	231,259	
100387-020	* U.S. DEPARTMENT OF ENERGY	GUREVICH, A.	3,010	7,356	-	-	10,367	2,695	-	13,062	
100492-010	* NATIONAL SCIENCE FOUNDATION	GUREVICH, A.	37,188	6,620	-	10,111	53,919	23,218	-	77,138	
100195-010	NATIONAL SCIENCE FOUNDATION	HAVEY, M.	-	56	500	-	556	28	-	584	
100388-140	* U.S. DEPARTMENT OF ENERGY	HYDE, C.	78,335	10,947	1,085	334	90,701	44,641	-	135,342	
100429-010	BROOKHAVEN NATIONAL LABORATORY	HYDE, C.	-	36,570	-	-	36,570	19,382	-	55,951	
100587-010	* NATIONAL SCIENCE FOUNDATION	KRAFFT, G.	-	-	-	19,902	19,902	-	-	19,902	
100384-010	* U.S. DEPARTMENT OF ENERGY	KUHN, S.	2,463	1,651	-	(1)	4,113	2,057	-	6,169	
100388-140	* U.S. DEPARTMENT OF ENERGY	KUHN, S.	78,335	10,947	1,085	334	90,701	44,641	-	135,342	
100392-030	* U.S. DEPARTMENT OF ENERGY	RADYUSHKIN, A.	12,885	1,430	-	1,401	15,716	7,587	-	23,303	
400110-019	JEFFERSON SCIENCE ASSOCIATES, LLC (JEFFERSON LAB)	RANJAN, D.	13,547	-	-	-	13,547	-	-	13,547	
100392-030	* U.S. DEPARTMENT OF ENERGY	SCHIAVALLA, R.	12,885	1,430	-	1,401	15,716	7,587	-	23,303	
400110-016	JEFFERSON SCIENCE ASSOCIATES, LLC (JEFFERSON LAB)	SUKENIK, C.	21,103	-	-	-	21,103	-	-	21,103	
400110-018	JEFFERSON SCIENCE ASSOCIATES, LLC (JEFFERSON LAB)	SUKENIK, C.	143,685	15,293	-	-	158,978	-	-	158,978	
400124-030	JEFFERSON SCIENCE ASSOCIATES, LLC (JEFFERSON LAB)	SUKENIK, C.	186,957	6,592	-	-	193,549	-	-	193,549	
400124-031	JEFFERSON SCIENCE ASSOCIATES, LLC (JEFFERSON LAB)	SUKENIK, C.	41,281	-	-	-	41,281	-	-	41,281	
400124-032	JEFFERSON SCIENCE ASSOCIATES, LLC (JEFFERSON LAB)	SUKENIK, C.	35,082	-	-	-	35,082	-	-	35,082	
400124-040	JEFFERSON SCIENCE ASSOCIATES, LLC (JEFFERSON LAB)	SUKENIK, C.	508,833	-	-	-	508,833	-	-	508,833	
400223-010	JEFFERSON SCIENCE ASSOCIATES, LLC (JEFFERSON LAB)	SUKENIK, C.	64,139	-	-	-	64,139	-	-	64,139	
400124-041	JEFFERSON SCIENCE ASSOCIATES, LLC (JEFFERSON LAB)	SUKENIK, C.	40,037	-	-	-	40,037	-	-	40,037	

Center project

PROJECT NUMBER	SPONSORING AGENCY	PRINCIPAL INVESTIGATOR / PROJECT DIRECTOR	PROJECT DIRECT COST				PROJECT IDC AND FEES				TOTAL PROJECT COSTS
			PERSONNEL AND FRINGE BENEFITS	SUPPLIES, CONTRACTUAL, GENERAL, & TRAVEL	EQUIPMENT	SUBCONTRACTS, CONSTRUCTION, TUITION & OTHER	TOTAL DIRECT COSTS	REIMBURSED INDIRECT COSTS	TOTAL SPECIAL FEES		
Computer Sciences											
100483-010	* NATIONAL SCIENCE FOUNDATION	CHERNKOV, A.	18,727	5,578	-	-	24,305	12,882	-	37,187	
100525-010	NATIONAL SCIENCE FOUNDATION	CHERNKOV, A.	-	-	-	8,321	8,321	-	-	8,321	
400222-010	NATIONAL INSTITUTE OF AEROSPACE ASSOCIATES (NIA)	CHERNKOV, A.	34,571	5,032	1,920	-	41,523	3,282	-	44,805	
500268-001	ENLIGHTY	CHERNKOV, A.	18,206	-	-	-	18,206	10,013	-	28,219	
100519-010	* INSTITUTE OF MUSEUM AND LIBRARY SERVICES	WEIGLE, M.	28,930	4,109	-	-	33,039	17,510	-	50,549	
100552-010	* NATIONAL SCIENCE FOUNDATION	WEIGLE, M.	15,996	2,896	-	-	18,892	10,013	-	28,904	
300380-010	* OLD DOMINION UNIVERSITY	WEIGLE, M.	2,832	1,621	-	-	4,453	-	-	4,453	
100532-010	* U.S. PUBLIC HEALTH SERVICE (INCLUDING NIH)	WRIGGERS, W.	58,157	2,373	-	-	60,530	32,081	-	92,611	
100468-010	* NATIONAL SCIENCE FOUNDATION	ZUBAIR, M.	8,647	1,227	-	-	9,874	5,233	-	15,107	
100554-010	* NATIONAL SCIENCE FOUNDATION	ZUBAIR, M.	5,500	15	-	-	5,515	2,923	-	8,438	
300295-060	OLD DOMINION UNIVERSITY	ZUBAIR, M.	5,219	-	-	3,600	8,819	882	-	9,700	
300326-010	* OLD DOMINION UNIVERSITY	ZUBAIR, M.	7,104	-	-	-	7,104	-	-	7,104	
300334-015	OLD DOMINION UNIVERSITY	ZUBAIR, M.	-	-	-	-	10,337	1,034	-	11,371	
400110-015	* JEFFERSON SCIENCE ASSOCIATES, LLC (JEFFERSON LAB)	ZUBAIR, M.	-	-	-	-	4,520	-	-	4,520	

Constituent projects, not center related (hypothetical for illustrative purposes)

863,539 183,783

Sums of highlighted figures