JHU/APL Proposal No. AD-41867

Cost Proposal

Active Diagnosis of Navy Machinery

October 3, 2012

Project FGA63

BAA 13-001

Prime Offeror: The Johns Hopkins University Applied Physics Laboratory

Period of Performance: Jan 1, 2013 – Dec 31, 2015

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PROPOSAL COST VOLUME

Active Diagnosis of Navy Machinery
Project FGA63
Base Effort

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SECTION 1. INTRODUCTION

Proposal Summary

This summary provides an explanation by cost element for the cost estimate submitted under AD-41867 for the Base Effort.

Total Estimated Costs	**$619,818**
Fixed Fee @ 0.000%	**$0**
Cost of Money	**$4,994**
Total Proposed Cost & Fee	**$624,812**

Forward pricing rates, overhead rates, cost of money rates, and other applicable rate and factor information can be found in Section 5, Miscellaneous Data & Rates.

A high level cost summary report in addition to other summary level cost reports is in Section 3, Cost Reports. APL's fiscal year begins October 1st and ends September 30th. The period of performance for this cost estimate is 01/2013 - 12/2015

Direct Labor Costs

Direct APL Labor $ 273,169 5,422 Hours

APL Labor is proposed on a labor hour basis. The labor hour requirements by labor classification are presented in Section 3, Cost Reports. The rationale for the number of labor hours and the labor mix are presented in Section 4, Basis of Estimate Documentation.

Employee Fringe Benefits $ 129,171

The employee fringe benefits cost is calculated by applying the employee fringe benefits rate to APL direct labor. The current employee fringe benefits rate is provided in Section 5, Miscellaneous Data & Rates.

Department Overhead on Direct Labor $ 122,280

Department overhead is applied to the sum of APL and LW direct labor. The current department overhead rates are provided in Section 5, Miscellaneous Data & Rates.

Other Direct Costs

Travel $ 16,771

Travel cost is proposed either as a cost estimating relationship (CER) based on program history or discretely. The rationale for the derivation of the travel cost specific to this estimate is provided in Section 4, Basis of Estimate Documentation.

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Miscellaneous Other Direct Cost $ 1,200

MODC cost is proposed either as a cost estimating relationship (CER) based on program history or discretely. The rationale for the derivation of the MODC cost specific to this estimate is provided in Section 4, Basis of Estimate Documentation.

Administration and Research Burden $ 77,227

Administration and research burden is applied to the sum of Direct Labor Cost (including employee fringe and department overhead on direct labor), Procurement Burden, and Other Direct Costs. The current Administration and Research burden rate is provided in Section 5, Miscellaneous Data & Rates.

Cost of Money $ 4,994

Cost of money is calculated by the application of pool cost of money rates to their respective bases. The current pool costs of money rates with respective bases are provided in Section 5, Miscellaneous Data & Rates.

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Estimating System Description and Methodology

Responsibility for The Johns Hopkins University Applied Physics Laboratory (JHU/APL) estimating system is assigned to the JHU/APL Contracts Group, with assistance from each Department Head. Implementation of the cost estimating system is the joint responsibility of the Program/Proposal Manager and the cost estimator.

Proposals are prepared in a structured, orderly manner and are responsive to specific requirements of the contract, RFP, BAA, or other requirement documents. During the preparation stage, proposals are reviewed by members of the proposal team for adequacy of the technical, legal, management, and financial content. Prior to final submission, all proposals are reviewed and approved by the level of management designated in JHU/APL policy. Final responsibility for the accuracy and adequacy of proposals rests with the Proposal or Program Manager.

The JHU/APL estimating system has been documented in the JHU/APL Cost Estimating Manual.

Indirect cost rates and labor rates with associated supporting documentation have been submitted for review and approval to the ACO, DCMA, 217 E. Redwood St., Suite 1800, Baltimore, MD 21202-5299 as part of the current JHU/APL revised forward pricing rate letter.

Following is a description of JHU/APL estimating cost elements, their content, and derivation:

Direct Labor Cost

Direct JHU/APL Labor – JHU/APL labor is proposed on an hourly by fiscal year basis by Labor Classification. Each labor classification is priced on the basis of its forward pricing labor rate by fiscal year. The Labor Classifications within JHU/APL Labor consist of:

Principal Professional Staff
Senior Professional Staff II
Senior Professional Staff I
Associate Professional Staff II
Associate Professional Staff I
Technical Supporting Staff
Clerical Supporting Staff
Craft and Service Support Staff

Employee Fringe - Employee benefits include the cost of vacations, sick leave, and holidays. They are calculated in accordance with disclosed practices by application of forward pricing rates to direct JHU/APL labor by fiscal year. Details of the rate and calculations by fiscal year are provided in the proposal documentation.

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Estimating System Description and Methodology

Direct LW Labor – Leased Worker (LW) labor is proposed on an hourly basis by fiscal year. In accordance with disclosed practices, LW cost is calculated based on a discrete input rate or the historical average LW cost. The total cost is separated into salary cost of LW and non-salary related cost by application of a historically derived percentage. The LW labor portion receives Department Overhead, G&A, and Fee burdening; the non-salary related portion of the cost is designated ODC (other direct cost) and receives G&A and Fee burdening only. Details of the rates and calculations by fiscal year are provided in the proposal documentation.

Department Overhead on Direct Labor - Per disclosed practices, JHU/APL employs departmental burden rates that are applied as required. Departmental overhead is applied to the sum of APL direct labor and LW direct labor. Details of the rates and calculations by department by fiscal year are provided in the proposal documentation.

DIRECT PROCUREMENT COST

Material - Material cost includes the proposed cost of procured items and is based on purchase history, vendor quotations, or engineering estimates. Details of the calculations by fiscal year and the estimating methodology employed are provided in the proposal documentation.

Subcontract - Subcontract cost includes the proposed cost of subcontracted items and is based on subcontract history, vendor proposals or engineering estimates. Details of the calculations by fiscal year and the estimating methodology employed are provided in the proposal documentation.

PROCUREMENT BURDEN

Procurement burden is proposed as part of the JHU/APL Forward Pricing Submittal and, in accordance with disclosed practices, is applied to the sum of Material and Subcontract costs. Details of the rates and calculations by fiscal year are provided in the proposal documentation.

OTHER DIRECT COST

LW Non-Salary - Per JHU/APL disclosed practice, LW cost is calculated based on a discrete input rate or the historical average LW cost. The total cost is separated into salary cost of LW and non-salary related cost by application of a historically derived percentage. The LW labor portion receives Department Overhead, G&A, and Fee burdening; the non-salary related portion of the cost is designated ODC and receives G&A and Fee burdening only. Details of the rates and calculations by fiscal year are provided in the proposal documentation.

LW ODC - LW ODC consists of other non-labor related costs such as travel, telephone, postage and shipping, equipment rentals, reproduction expenses, etc., that will be incurred by LWs in the course of contract or task performance. LW ODC costs are discretely estimated. Details of the calculations by fiscal year and the estimating methodology employed are provided in the proposal documentation.

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Estimating System Description and Methodology

Travel - Travel cost is proposed as a cost estimating relationship (CER) based on program history, as a discrete estimate by destination, or by a combination of both. Details of the rates and calculations by fiscal year are provided in the proposal documentation.

Consulting - Consultant costs are estimated on the basis of program history, vendor proposals, or engineering estimates. Details of the calculations by fiscal year and the estimating methodology employed are provided in the proposal documentation.

Special Test Equipment - STE is either single or multipurpose integrated test units engineered, designed, fabricated, or modified to accomplish special purpose testing in performing a contract. STE is estimated on the basis of program history, vendor proposals, or engineering estimates. Details of the calculations by fiscal year and the estimating methodology employed are provided in the proposal documentation.

Miscellaneous Other Direct Cost - MODC includes minor other direct costs such as telephone, postage and shipping, equipment rentals, reproduction expenses, etc., that will be required for performance of the contract. MODC is proposed as a CER based on program history, as a discrete estimate by item, or by a combination of both. Details of the rates and calculations by fiscal year are provided in the proposal documentation.

ADMINISTRATION AND RESEARCH BURDEN

In accordance with JHU/APL disclosed practices, Administration and Research Burden is applied to the sum of Direct Labor Costs, Procurement Burden, and ODC. Details of the rates and calculations by fiscal year are provided in the proposal documentation.

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SECTION 2. FORMS

SECTION 3. COST REPORTS

THE JOHNS HOPKINS UNIVERSITY - APPLIED PHYSICS LABORATORY
COST SUMMARY REPORT
Project Summary by Year - Project Period of Performance = Jan 2013 to Dec 2015
(for WBS ID = FGA63BAS and all Departments)

Project ID: AD41867	**Proposal ID: AD-41867**	**Task ID: FGA63**	**Cost Model: M8**
	Proposal Title: ACTIVE DIAGNOSIS OF NAVY MACHINERY		
WBS ID: FGA63BAS	**WBS Title: Base Effort**		

	Total Project: AD41867		
	Staff Hours	Staff Months	Cost
Direct Labor Cost			
Principal	902.3	6.0	70,325
Senior I	902.3	6.0	48,631
Associate II	2,255.6	15.0	102,230
Associate I	1,362.0	9.0	51,984
Total Direct APL Labor	5,422	36.0	273,169
Employee Fringe			129,171
Direct LW Labor			
Dept. Ovhd on Dir. Labor			122,280
Sub-Total	5,422	36.0	524,620
Direct Procurement Cost			
Material			
Subcontract			
Sub-Total			
Procurement Burden			
Procurement Burden			
Other Direct Cost			
LW Non-Salary			
LW ODC			
Travel			16,771
Consulting			
Special Test Equipment			
Miscellaneous Other Direct Cost			1,200
Sub-Total			17,971
Total Direct Labor + Procurement Burden + ODC			542,591
Admin & Research Burden			77,227
Total Estimated Cost			619,818
Cost of Money			4,994
Total Estimated Cost + COM			624,812
Fee			
Total Est. Cost, Fee, COM	**5,422**	**36.0**	**624,812**

* Totals and sub-totals may not add due to rounding.

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THE JOHNS HOPKINS UNIVERSITY - APPLIED PHYSICS LABORATORY
COST SUMMARY REPORT
Project Summary by Year - Project Period of Performance = Jan 2013 to Dec 2015
(for WBS ID = FGA63BAS and all Departments)

Project ID: AD41867	Proposal ID: AD-41867	Task ID: FGA63	Cost Model: M8
	Proposal Title: ACTIVE DIAGNOSIS OF NAVY MACHINERY		
WBS ID: FGA63BAS	WBS Title: Base Effort		

	FY 2013				FY 2014				FY 2015			
	Rates	Staff Hours	Staff Months	Cost	Rates	Staff Hours	Staff Months	Cost	Rates	Staff Hours	Staff Months	Cost
Direct Labor Cost												
Principal	75.36	229.5	1.5	17,299	77.24	301.2	2.0	23,267	79.63	300.1	2.0	23,894
Senior I	52.11	229.5	1.5	11,962	53.41	301.2	2.0	16,089	55.07	300.1	2.0	16,524
Associate II	43.82	573.8	3.8	25,144	44.92	753.0	5.0	33,824	46.31	750.1	5.0	34,735
Associate I	37.15	453.0	3.0	16,829	38.08	451.0	3.0	17,174	39.26	458.0	3.0	17,981
Total Direct APL Labor		1,486	9.8	71,233		1,806	12.0	90,353		1,808	12.0	93,134
Employee Fringe				33,479				42,466				44,425
Direct LW Labor												
Dept. Ovhd on Dir. Labor				31,770				40,297				41,910
Sub-Total		1,486	9.8	136,482		1,806	12.0	173,117		1,808	12.0	179,470
Direct Procurement Cost												
Material												
Subcontract												
Sub-Total												
Procurement Burden												
Procurement Burden												
Other Direct Cost												
LW Non-Salary												
LW ODC												
Travel				3,139				5,543				5,661
Consulting												
Special Test Equipment												
Miscellaneous Other Direct Cost				300				400				400
Sub-Total				3,439				5,943				6,061
Total Direct Labor + Procurement Burden + ODC				139,921				179,060				185,531
Admin & Research Burden				19,869				25,606				26,345
Total Estimated Cost				159,790				204,665				211,876
Cost of Money				1,314				1,663				1,682
Total Estimated Cost + COM				161,104				206,328				213,559
Fee												
Total Est. Cost, Fee, COM		1,486	9.8	161,104		1,806	12.0	206,328		1,808	12.0	213,559

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THE JOHNS HOPKINS UNIVERSITY - APPLIED PHYSICS LABORATORY
COST SUMMARY REPORT
Project Summary by Year - Project Period of Performance = Jan 2013 to Dec 2015
(for WBS ID = FGA63BAS and all Departments)

Project ID: AD41867	Proposal ID: AD-41867	Task ID: FGA63	Cost Model: M8
	Proposal Title: ACTIVE DIAGNOSIS OF NAVY MACHINERY		
WBS ID: FGA63BAS	WBS Title: Base Effort		

	FY 2016			
	Rates	Staff Hours	Staff Months	Cost
Direct Labor Cost				
Principal	82.02	71.5	0.5	5,866
Senior I	56.72	71.5	0.5	4,056
Associate II	47.70	178.8	1.3	8,527
Total Direct APL Labor		322	2.3	18,449
Employee Fringe				8,800
Direct LW Labor				
Dept. Ovhd on Dir. Labor				8,302
Sub-Total		322	2.3	35,551
Direct Procurement Cost				
Material				
Subcontract				
Sub-Total				
Procurement Burden				
Procurement Burden				
Other Direct Cost				
LW Non-Salary				
LW ODC				
Travel				2,428
Consulting				
Special Test Equipment				
Miscellaneous Other Direct Cos				100
Sub-Total				2,528
Total Direct Labor + Procurement Burden + ODC				38,079
Admin & Research Burden				5,407
Total Estimated Cost				43,486
Cost of Money				335
Total Estimated Cost + COM				43,821
Fee				
Total Est. Cost, Fee, COM		322	2.3	43,821

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THE JOHNS HOPKINS UNIVERSITY - APPLIED PHYSICS LABORATORY
COST SUMMARY REPORT - BASE EFFORT - BY PROJECT YEAR
Project Summary by Year - Project Period of Performance = Jan 2013 to Dec 2015
(for WBS ID = FGA63BAS and all Departments)

Project ID: AD41867	**Proposal ID: AD-41867**	**Task ID: FGA63**	**Cost Model: M8**
	Proposal Title: ACTIVE DIAGNOSIS OF NAVY MACHINERY		
WBS ID: FGA63BAS	**WBS Title: Base Effort**		

	Total Project: AD41867		
	Staff Hours	Staff Months	Cost
Direct Labor Cost			
Principal	902.3	6.0	70,325
Senior I	902.3	6.0	48,631
Associate II	2,255.6	15.0	102,230
Associate I	1,362.0	9.0	51,984
Total Direct APL Labor	5,422	36.0	273,169
Employee Fringe			129,171
Direct LW Labor			
Dept. Ovhd on Dir. Labor			122,280
Sub-Total	5,422	36.0	524,620
Direct Procurement Cost			
Material			
Subcontract			
Sub-Total			
Procurement Burden			
Procurement Burden			
Other Direct Cost			
LW Non-Salary			
LW ODC			
Travel			16,771
Consulting			
Special Test Equipment			
Miscellaneous Other Direct Cost			1,200
Sub-Total			17,971
Total Direct Labor + Procurement Burden + ODC			542,591
Admin & Research Burden			77,227
Total Estimated Cost			619,818
Cost of Money			4,994
Total Estimated Cost + COM			624,812
Fee			
Total Est. Cost, Fee, COM	5,422	36.0	624,812

* Totals and sub-totals may not add due to rounding.

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THE JOHNS HOPKINS UNIVERSITY - APPLIED PHYSICS LABORATORY
COST SUMMARY REPORT - BASE EFFORT - BY PROJECT YEAR
Project Summary by Year - Project Period of Performance = Jan 2013 to Dec 2015
(for WBS ID = FGA63BAS and all Departments)

Project ID: AD41867 | **Proposal ID: AD-41867** | **Task ID: FGA63** | **Cost Model: M8**
Proposal Title: ACTIVE DIAGNOSIS OF NAVY MACHINERY
WBS ID: FGA63BAS | **WBS Title: Base Effort**

	CY 2013				CY 2014				CY 2015			
	Rates	Staff Hours	Staff Months	Cost	Rates	Staff Hours	Staff Months	Cost	Rates	Staff Hours	Staff Months	Cost
Direct Labor Cost												
Principal		301.2	2.0	22,835		301.2	2.0	23,438		299.9	2.0	24,051
Senior I		301.2	2.0	15,790		301.2	2.0	16,208		299.9	2.0	16,633
Associate II		753.0	5.0	33,193		753.0	5.0	34,073		749.6	5.0	34,964
Associate I		453.0	3.0	16,829		451.0	3.0	17,174		458.0	3.0	17,981
Total Direct APL Labor		1,808	12.0	88,647		1,806	12.0	90,892		1,807	12.0	93,630
Employee Fringe				41,664				42,845				44,662
Direct LW Labor												
Dept. Ovhd on Dir. Labor				39,536				40,610				42,134
Sub-Total		1,808	12.0	169,847		1,806	12.0	174,347		1,807	12.0	180,425
Direct Procurement Cost												
Material												
Subcontract												
Sub-Total												
Procurement Burden												
Procurement Burden												
Other Direct Cost												
LW Non-Salary												
LW ODC												
Travel				5,450				5,592				5,729
Consulting												
Special Test Equipment												
Miscellaneous Other Direct Cost				400				400				400
Sub-Total				5,850				5,992				6,129
Total Direct Labor + Procurement Burden + ODC				175,697				180,339				186,554
Admin & Research Burden				24,985				25,751				26,491
Total Estimated Cost				200,682				206,091				213,045
Cost of Money				1,636				1,667				1,691
Total Estimated Cost + COM				202,318				207,758				214,736
Fee												
Total Est. Cost, Fee, COM		**1,808**	**12.0**	**202,318**		**1,806**	**12.0**	**207,758**		**1,807**	**12.0**	**214,736**

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THE JOHNS HOPKINS UNIVERSITY - APPLIED PHYSICS LABORATORY
DETAIL REPORT
Department Summary by Year - Project Period of Performance = Jan 2013 to Dec 2015
(for WBS ID = FGA63BAS and all Departments)

Project ID: AD41867	**Proposal ID: AD-41867**	**Task ID: FGA63**	**Cost Model: M8**
	Proposal Title: ACTIVE DIAGNOSIS OF NAVY MACHINERY		
WBS ID: FGA63BAS	**WBS Title: Base Effort**		

	Total Project: AD41867		
	Staff Hours	Staff Months	Cost
Direct Labor Cost			
Principal	902.3	6.0	70,325
Senior I	902.3	6.0	48,631
Associate II	2,255.6	15.0	102,230
Associate I	1,362.0	9.0	51,984
Total APL Labor	5,422	36.0	273,169
Total Direct APL Labor	5,422	36.0	273,169
Employee Fringe			129,171
Dept. Ovhd on Onsite Dir. Labor			122,280
Total Dept. Ovhd			122,280
Sub-Total Direct Labor Cost	5,422	36.0	524,620
Direct Procurement Cost			
Material			
Subcontract			
Sub-Total Direct Procurement Cost			
Procurement Burden			
Procurement Burden			
Other Direct Cost			
LW Non-Salary			
LW ODC			
Travel			16,771
Consulting			
Special Test Equipment			
Miscellaneous Other Direct Cost			1,200
Sub-Total Other Direct Cost			17,971
Total Direct Labor + Procurement Burden + ODC			542,591
Admin & Research Burden			77,227
Total Estimated Cost			619,818
Cost of Money			4,994
Total Estimated Cost + COM			624,812
Fee			
Total Est. Cost, Fee, COM	5,422	36.0	624,812

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THE JOHNS HOPKINS UNIVERSITY - APPLIED PHYSICS LABORATORY
DETAIL REPORT
Department Summary by Year - Project Period of Performance = Jan 2013 to Dec 2015
(for WBS ID = FGA63BAS and all Departments)

Project ID: AD41867	Proposal ID: AD-41867	Task ID: FGA63	Cost Model: M8
Department ID: REDD	Proposal Title: ACTIVE DIAGNOSIS OF NAVY MACHINERY		
WBS ID: FGA63BAS	WBS Title: Base Effort		

	Total Dept ID: REDD		
	Staff Hours	Staff Months	Cost
Direct Labor Cost			
Principal	902.3	6.0	70,325
Senior I	902.3	6.0	48,631
Associate I	1,362.0	9.0	51,984
Total APL Labor	3,167	21.0	170,940
Total Direct APL Labor	3,167	21.0	170,940
Employee Fringe			80,820
Dept. Ovhd on Onsite Dir. Labor			76,512
Total Dept. Ovhd			76,512
Sub-Total Direct Labor Cost	3,167	21.0	328,272
Direct Procurement Cost			
Material			
Subcontract			
Sub-Total Direct Procurement Cost			
Procurement Burden			
Procurement Burden			
Other Direct Cost			
LW Non-Salary			
LW ODC			
Travel			16,771
Consulting			
Special Test Equipment			
Miscellaneous Other Direct Cost			1,200
Sub-Total Other Direct Cost			17,971
Total Direct Labor + Procurement Burden + ODC			346,243
Admin & Research Burden			49,281
Total Estimated Cost			395,524
Cost of Money			3,134
Total Estimated Cost + COM			398,657
Fee			
Total Est. Cost, Fee, COM	3,167	21.0	398,657

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THE JOHNS HOPKINS UNIVERSITY - APPLIED PHYSICS LABORATORY
DETAIL REPORT
Department Summary by Year - Project Period of Performance = Jan 2013 to Dec 2015
(for WBS ID = FGA63BAS and all Departments)

Project ID: AD41867	**Proposal ID: AD-41867**	**Task ID: FGA63**	**Cost Model: M8**
Department ID: REDD	**Proposal Title: ACTIVE DIAGNOSIS OF NAVY MACHINERY**		
WBS ID: FGA63BAS	**WBS Title: Base Effort**		

	FY 2013				FY 2014				FY 2015			
	Rates	Staff Hours	Staff Months	Cost	Rates	Staff Hours	Staff Months	Cost	Rates	Staff Hours	Staff Months	Cost
Direct Labor Cost												
Principal	75.36	229.5	1.5	17,299	77.24	301.2	2.0	23,267	79.63	300.1	2.0	23,894
Senior I	52.11	229.5	1.5	11,962	53.41	301.2	2.0	16,089	55.07	300.1	2.0	16,524
Associate I	37.15	453.0	3.0	16,829	38.08	451.0	3.0	17,174	39.26	458.0	3.0	17,981
Total APL Labor		912	6.0	46,089		1,053	7.0	56,529		1,058	7.0	58,399
Total Direct APL Labor		912	6.0	46,089		1,053	7.0	56,529		1,058	7.0	58,399
Employee Fringe	47.00%			21,662	47.00%			26,569	47.70%			27,856
Dept. Ovhd on Onsite Dir. Labc	44.60%			20,556	44.60%			25,212	45.00%			26,280
Total Dept. Ovhd				20,556				25,212				26,280
Sub-Total Direct Labor Cost		912	6.0	88,307		1,053	7.0	108,310		1,058	7.0	112,535
Direct Procurement Cost												
Material												
Subcontract												
Sub-Total Direct Procurement Cost												
Procurement Burden												
Procurement Burden												
Other Direct Cost												
LW Non-Salary												
LW ODC												
Travel				3,139				5,543				5,661
Consulting												
Special Test Equipment												
Miscellaneous Other Direct Cos				300				400				400
Sub-Total Other Direct Cost				3,439				5,943				6,061
Total Direct Labor + Procurement Burden + ODC				91,746				114,253				118,596
Admin & Research Burden	14.20%			13,028	14.30%			16,338	14.20%			16,841
Total Estimated Cost				104,774				130,592				135,437
Cost of Money				852				1,043				1,057
Total Estimated Cost + COM				105,625				131,635				136,494
Fee												
Total Est. Cost, Fee, COM		912	6.0	105,625		1,053	7.0	131,635		1,058	7.0	136,494

* Totals and sub-totals may not add due to rounding.

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THE JOHNS HOPKINS UNIVERSITY - APPLIED PHYSICS LABORATORY
DETAIL REPORT
Department Summary by Year - Project Period of Performance = Jan 2013 to Dec 2015
(for WBS ID = FGA63BAS and all Departments)

Project ID: AD41867	Proposal ID: AD-41867	Task ID: FGA63	Cost Model: M8
Department ID: REDD	Proposal Title: ACTIVE DIAGNOSIS OF NAVY MACHINERY		
WBS ID: FGA63BAS	WBS Title: Base Effort		

	FY 2016			
	Rates	Staff Hours	Staff Months	Cost
Direct Labor Cost				
Principal	82.02	71.5	0.5	5,866
Senior I	56.72	71.5	0.5	4,056
Total APL Labor		143	1.0	9,922
Total Direct APL Labor		143	1.0	9,922
Employee Fringe	47.70%			4,733
Dept. Ovhd on Onsite Dir. Labo	45.00%			4,465
Total Dept. Ovhd				4,465
Sub-Total Direct Labor Cost		143	1.0	19,119
Direct Procurement Cost				
Material				
Subcontract				
Sub-Total Direct Procurement Cost				
Procurement Burden				
Procurement Burden				
Other Direct Cost				
LW Non-Salary				
LW ODC				
Travel				2,428
Consulting				
Special Test Equipment				
Miscellaneous Other Direct Cost				100
Sub-Total Other Direct Cost				2,528
Total Direct Labor + Procurement Burden + ODC				21,647
Admin & Research Burden	14.20%			3,074
Total Estimated Cost				24,721
Cost of Money				181
Total Estimated Cost + COM				24,903
Fee				
Total Est. Cost, Fee, COM		143	1.0	24,903

* Totals and sub-totals may not add due to rounding.

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THE JOHNS HOPKINS UNIVERSITY - APPLIED PHYSICS LABORATORY
DETAIL REPORT
Department Summary by Year - Project Period of Performance = Jan 2013 to Dec 2015
(for WBS ID = FGA63BAS and all Departments)

Project ID: AD41867	**Proposal ID: AD-41867**	**Task ID: FGA63**	**Cost Model: M8**
Department ID: SD	**Proposal Title: ACTIVE DIAGNOSIS OF NAVY MACHINERY**		
WBS ID: FGA63BAS	**WBS Title: Base Effort**		

	Total Dept ID: SD		
	Staff Hours	Staff Months	Cost
Direct Labor Cost			
Associate II	2,255.6	15.0	102,230
Total APL Labor	2,256	15.0	102,230
Total Direct APL Labor	2,256	15.0	102,230
Employee Fringe			48,351
Dept. Ovhd on Onsite Dir. Labor			45,768
Total Dept. Ovhd			45,768
Sub-Total Direct Labor Cost	2,256	15.0	196,348
Direct Procurement Cost			
Material			
Subcontract			
Sub-Total Direct Procurement Cost			
Procurement Burden			
Procurement Burden			
Other Direct Cost			
LW Non-Salary			
LW ODC			
Travel			
Consulting			
Special Test Equipment			
Miscellaneous Other Direct Cost			
Sub-Total Other Direct Cost			
Total Direct Labor + Procurement Burden + ODC			196,348
Admin & Research Burden			27,946
Total Estimated Cost			224,294
Cost of Money			1,860
Total Estimated Cost + COM			226,155
Fee			
Total Est. Cost, Fee, COM	2,256	15.0	226,155

* Totals and sub-totals may not add due to rounding.

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THE JOHNS HOPKINS UNIVERSITY - APPLIED PHYSICS LABORATORY
DETAIL REPORT
Department Summary by Year - Project Period of Performance = Jan 2013 to Dec 2015
(for WBS ID = FGA63BAS and all Departments)

Project ID: AD41867	**Proposal ID: AD-41867**	**Task ID: FGA63**	**Cost Model: M8**
Department ID: SD	**Proposal Title: ACTIVE DIAGNOSIS OF NAVY MACHINERY**		
WBS ID: FGA63BAS	**WBS Title: Base Effort**		

	FY 2013				FY 2014				FY 2015			
	Rates	Staff Hours	Staff Months	Cost	Rates	Staff Hours	Staff Months	Cost	Rates	Staff Hours	Staff Months	Cost
Direct Labor Cost												
Associate II	43.82	573.8	3.8	25,144	44.92	753.0	5.0	33,824	46.31	750.1	5.0	34,735
Total APL Labor		574	3.8	25,144		753	5.0	33,824		750	5.0	34,735
Total Direct APL Labor		574	3.8	25,144		753	5.0	33,824		750	5.0	34,735
Employee Fringe	47.00%			11,818	47.00%			15,897	47.70%			16,569
Dept. Ovhd on Onsite Dir. Labor	44.60%			11,214	44.60%			15,085	45.00%			15,631
Total Dept. Ovhd				11,214				15,085				15,631
Sub-Total Direct Labor Cost		574	3.8	48,175		753	5.0	64,806		750	5.0	66,935
Direct Procurement Cost												
Material												
Subcontract												
Sub-Total Direct Procurement Cost												
Procurement Burden												
Procurement Burden												
Other Direct Cost												
LW Non-Salary												
LW ODC												
Travel												
Consulting												
Special Test Equipment												
Miscellaneous Other Direct Cost												
Sub-Total Other Direct Cost												
Total Direct Labor + Procurement Burden + ODC				48,175				64,806				66,935
Admin & Research Burden	14.20%			6,841	14.30%			9,267	14.20%			9,505
Total Estimated Cost				55,016				74,074				76,440
Cost of Money				462				620				625
Total Estimated Cost + COM				55,479				74,693				77,064
Fee												
Total Est. Cost, Fee, COM		574	3.8	55,479		753	5.0	74,693		750	5.0	77,064

* Totals and sub-totals may not add due to rounding.

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THE JOHNS HOPKINS UNIVERSITY - APPLIED PHYSICS LABORATORY
DETAIL REPORT
Department Summary by Year - Project Period of Performance = Jan 2013 to Dec 2015
(for WBS ID = FGA63BAS and all Departments)

Project ID: AD41867 | **Proposal ID: AD-41867** | **Task ID: FGA63** | **Cost Model: M8**
Department ID: SD | **Proposal Title: ACTIVE DIAGNOSIS OF NAVY MACHINERY**
WBS ID: FGA63BAS | **WBS Title: Base Effort**

	FY 2016			
	Rates	Staff Hours	Staff Months	Cost
Direct Labor Cost				
Associate II	47.70	178.8	1.3	8,527
Total APL Labor		179	1.3	8,527
Total Direct APL Labor		179	1.3	8,527
Employee Fringe	47.70%			4,067
Dept. Ovhd on Onsite Dir. Labor	45.00%			3,837
Total Dept. Ovhd				3,837
Sub-Total Direct Labor Cost		179	1.3	16,432
Direct Procurement Cost				
Material				
Subcontract				
Sub-Total Direct Procurement Cost				
Procurement Burden				
Procurement Burden				
Other Direct Cost				
LW Non-Salary				
LW ODC				
Travel				
Consulting				
Special Test Equipment				
Miscellaneous Other Direct Cost				
Sub-Total Other Direct Cost				
Total Direct Labor + Procurement Burden + ODC				16,432
Admin & Research Burden	14.20%			2,333
Total Estimated Cost				18,765
Cost of Money				153
Total Estimated Cost + COM				18,918
Fee				
Total Est. Cost, Fee, COM		179	1.3	18,918

* Totals and sub-totals may not add due to rounding.

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SECTION 4. BASIS OF ESTIMATE DOCUMENTATION

24-Sep-2012

THE JOHNS HOPKINS UNIVERSITY - APPLIED PHYSICS LABORATORY
PROPOSAL CROSS REFERENCE REPORT
by WBS

Project : AD41867 **Proposal ID : AD-41867** **Task ID : FGA63** **Cost Model : M8**

WBS ID : FGA63BAS

	Hours	Dollars	Page Number(s)
Direct Labor Cost			
Principal	902	70,325	4-2
Senior I	902	48,631	4-2
Associate II	2,256	102,230	4-2
Associate I	1,362	51,984	4-2
Other Direct Cost			
Travel		16,771	4-4
Miscellaneous Other Direct Cost		1,200	4-6

Approved by : _____ Ext: _____ Date: _____

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Based on: OCES Cost Est

AD No.:	ad41867	**WBS :**	FGA63bas
Period of Performance:	01/01/2013-12/31/2015	**WBS Name:**	Base Effort
Task:	FGA63	**Cost Element:**	APL Labor
Proposal Title:	Active Diagnosis of Navy Machinery	**Project ID:**	ad41867

I. Task Description

JHU/APL will conduct research that will produce an autonomous diagnosis and prediction system capable of providing real-time, fleet-level, operational capability assessments and predictions that account for the impact of all components within a fleet's ship auxiliary systems.

II. Rationale (Method of Estimate)

Labor mix is based on staffing plan prepared by the Project Manager.

III. Calculations

See attached staffing plan.

Summary

Description	ID	FY 2013	FY 2014	FY 2015	FY 2016							Total
Principal	X000	230	301	300	72							902
Senior S2	X000											
Senior S1	X000	230	301	300	72							902
Senior Upper	X000											
Senior Lower	X000											
Associate A2	X000	574	753	750	179							2,256
Associate A1	X000	453	451	458								1,362
Associate	X000											
Technical	X000											
Clerical	X000											
Craft and Service	X000											
Total		1,486	1,806	1,808	322							5,422

Totals may not add due to rounding

Prepared by: Jennifer Hallyburton Ext: 84111 Date: 9/27/2012

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STAFFING PLAN
FGA63, AD41867

Task	WBS	Grp	Lvl	UNITS	Descr	Jan2013	Feb2013	Mar2013	Apr2013	May2013	Jun2013	Jul2013	Aug2013	Sep2013		Total Hrs	Total SM
FGA63	BAS	R1E	PS	HR	Project Manager	26.51	24.17	25.84	26.67	26.67	24.17	25.34	25.67	24.50		230	1.5
FGA63	BAS	R1E	S1	HR	Senior Staff	26.51	24.17	25.84	26.67	26.67	24.17	25.34	25.67	24.50		230	1.5
FGA63	BAS	R1E	A1	HR	College Intern							152.00	154.00	147.00		453	3.0
FGA63	BAS	SIE	A2	HR	Associate Staff	66.26	60.42	64.59	66.67	66.67	60.42	63.34	64.17	61.25		574	3.8
															FY2013	*1,486*	*9.8*

Task	WBS	Grp	Lvl	UNITS	Descr	Oct2013	Nov2013	Dec2013	Jan2014	Feb2014	Mar2014	Apr2014	May2014	Jun2014	Jul2014	Aug2014	Sep2014	Total Hrs	Total SM
FGA63	BAS	R1E	PS	HR	Project Manager	28.01	22.67	21.00	26.51	24.17	25.84	26.67	25.51	25.34	25.34	24.50	25.67	301	2.0
FGA63	BAS	R1E	S1	HR	Senior Staff	28.01	22.67	21.00	26.51	24.17	25.84	26.67	25.51	25.34	25.34	24.50	25.67	301	2.0
FGA63	BAS	R1E	A1	HR	College Intern									152.00	152.00	147.00		451	3.0
FGA63	BAS	SIE	A2	HR	Associate Staff	70.01	56.67	52.50	66.26	60.42	64.59	66.67	63.76	63.34	63.34	61.25	64.17	753	5.0
																FY2014		*1,806*	*12.0*

Task	WBS	Grp	Lvl	UNITS	Descr	Oct2014	Nov2014	Dec2014	Jan2015	Feb2015	Mar2015	Apr2015	May2015	Jun2015	Jul2015	Aug2015	Sep2015	Total Hrs	Total SM
FGA63	BAS	R1E	PS	HR	Project Manager	28.01	21.50	22.17	24.17	24.17	27.01	26.67	24.34	26.51	25.34	24.50	25.67	300	2.0
FGA63	BAS	R1E	S1	HR	Senior Staff	28.01	21.50	22.17	24.17	24.17	27.01	26.67	24.34	26.51	25.34	24.50	25.67	300	2.0
FGA63	BAS	R1E	A1	HR	College Intern									159.00	152.00	147.00		458	3.0
FGA63	BAS	SIE	A2	HR	Associate Staff	70.01	53.75	55.42	60.42	60.42	67.51	66.67	60.84	66.26	63.34	61.25	64.17	750	5.0
																FY2015		*1,808*	*12.0*

Task	WBS	Grp	Lvl	UNITS	Descr	Oct2015	Nov2015	Dec2015		Total Hrs	Total SM
FGA63	BAS	R1E	PS	HR	Project Manager	26.67	22.67	22.17		72	0.5
FGA63	BAS	R1E	S1	HR	Senior Staff	26.67	22.67	22.17		72	0.5
FGA63	BAS	R1E	A1	HR	College Intern					-	-
FGA63	BAS	SIE	A2	HR	Associate Staff	66.67	56.67	55.42		179	1.3
									FY2016	*322*	*2.3*
									GRAND TOTAL	*5,422*	*36*

Based on: OCES Cost Est

AD No.:	ad41867	**WBS :**	FGA63bas
Period of Performance:	01/01/2013-12/31/2015	**WBS Name:**	Base Effort
Task:	FGA63	**Cost Element:**	Travel
Proposal Title:	Active Diagnosis of Navy Machinery	**Project ID:**	ad41867

I. Task Description

JHU/APL will conduct research that will produce an autonomous diagnosis and prediction system capable of providing real-time, fleet-level, operational capability assessments and predictions that account for the impact of all components within a fleet's ship auxiliary systems.

II. Rationale (Method of Estimate)

Travel is estimated discretely based on a travel plan prepared by the Project Manager.

III. Calculations

See attached travel worksheet.

Summary

Description	ID	FY 2013	FY 2014	FY 2015	FY 2016							Total
Travel	X000	3,139	5,543	5,661	2,428							16,771
Total		3,139	5,543	5,661	2,428							16,771

Totals may not add due to rounding

Prepared by: Jennifer Hallyburton Ext: 84111 Date: 9/27/2012

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FGA63 - TRAVEL ESTIMATE DETAIL

Revision Date: 9/13/2012

Cost per day 52.00 10.00 Mileage 0.555

Destination/ (Purpose for Travel)	# Travelers	# of Day	Airfare	Airfare x # Travelers	Per Diem Hotel	Per Diem M&IE	# Cars / Total @ $/day	Airport Parking	RT Miles Airport/ Cost	RT Miles Dest/ Cost	Cost Per Trip	FY12 # of Trips	FY13 # of Trips	FY14 # of Trips	FY15 # of Trips	FY16 # of Trips	Total Travel
												Escalation	Escalation 3.44%	Escalation 6.49%	Escalation 8.75%	Escalation 11.87%	
Salt Lake City, UT					96	61	1		40				1	1	1	-	3
(Conference)	2	4	850	1,700	576	427	208	80	44	-	3,035	-	3,139	3,232	3,301	-	9,672
Philadelphia, PA					137	66	1		40			-		1	1	1	3
(Technical Exchange/Review	3	2	410	1,231	411	297	104	60	67	-	2,170	-	-	2,311	2,360	2,428	7,099
			-	-	-	-	0	-	40 -	-	-	-	-	-	-	-	-
			-	-	-	-	0	-	40 -	-	-	-	-	-	-	-	-
			-	-	-	-	0	-	40 -	-	-	-	-	-	-	-	-
			-	-	-	-	0	-	40 -	-	-	-	-	-	-	-	-
				-	-	-	0	-	40 -	-	-	-	-	-	-	-	-
				-	-	-	0	-	40 -	-	-	-	-	-	-	-	-
TOTAL TRAVEL COSTS												$ -	$ 3,139	$ 5,543	$ 5,661	$ 2,428	$ 16,771

Notes:

Airfare rates from BCD Travel.
Car Rental rate per APL Travel Office.
Per Diem rates from the GSA website (www.gsa.gov).
Reimbursement mileage rate of 55.50 cents per mile based on IRS reimbursment effective July 1, 2011
Escalation rates from JHU/APL Accounting (Source: 3rd Qu 2012 Global Insight Cost Planner).

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Based on: OCES Cost Est

AD No.:	ad41867	**WBS :**	FGA63bas
Period of Performance:	01/01/2013-12/31/2015	**WBS Name:**	Base Effort
Task:	FGA63	**Cost Element:**	MODC
Proposal Title:	Active Diagnosis of Navy Machinery	**Project ID:**	ad41867

I. Task Description

JHU/APL will conduct research that will produce an autonomous diagnosis and prediction system capable of providing real-time, fleet-level, operational capability assessments and predictions that account for the impact of all components within a fleet's ship auxiliary systems.

II. Rationale (Method of Estimate)

Miscellaneous other direct costs are included to cover postage, courier, printing, publication costs, or other service agreements. The amount is based on an engineering judgment of the Project Manager.

III. Calculations

Annual Cost 400

	FY13	FY14	FY15	FY16	
# of mos	9	12	12	3	
total per year	300	400	400	100	1,200

Summary

Description	ID	FY 2013	FY 2014	FY 2015	FY 2016							Total
MODC	X000	300	400	400	100							1,200
Total		300	400	400	100							1,200

Totals may not add due to rounding

Prepared by: Jennifer Hallyburton Ext: 84111 Date: 9/27/2012

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SECTION 5. MISCELLANEOUS DATA & RATES

Labor Category Descriptions

PRINCIPAL PROFESSIONAL STAFF

- Masters degree or equivalent experience
- Recognized as expert in field at APL or more broadly
- Serves as a Laboratory resource in area of expertise. Shares knowledge and perspective across organizational boundaries
- Develops and champions new expertise and concepts advancing the state of the art
- Contributions have significant impact; frequently lead to new applications, opportunities, concepts, products, etc.

SENIOR PROFESSIONAL STAFF II

- Bachelors degree or equivalent experience
- Extensive knowledge in one or more professional specialty areas; may be "go to" person at APL for some area of work
- Shares knowledge and perspective across organizational boundaries. Provides guidance to team members at all levels. Serves as a resource in training of less experienced employees
- Contributes to the development of new expertise and concepts advancing the state of the art
- Solutions represent important technical or organizational advances, which are highly effective

SENIOR PROFESSIONAL STAFF I

- Bachelors degree or equivalent experience
- Broad background and well-developed expertise in one or more professional specialty areas
- Full grasp of related disciplines and theories
- Increased knowledge/ability for practical application
- Serves as a resource to other on own project team and in other teams and organizational units to accomplish common goals
- Expected level for new/entry level PhD
- Typically requires 5-10 years of professional growth in a given field

ASSOCIATE PROFESSIONAL STAFF II

- Bachelors degree or equivalent experience
- Breadth and depth increasing in field of expertise
- General knowledge of other related disciplines
- Demonstrates knowledge/ability for practical application
- Typically requires 2-4 years of professional growth in a given field

ASSOCIATE PROFESSIONAL STAFF I

- Bachelors degree or equivalent experience
- Early career/entry level
- Body of knowledge in professional area equivalent to new BS or MS

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Labor Category Descriptions

TECHNICAL SUPPORTING STAFF

- High school diploma or equivalent
- Applies specialized technical skills (e.g., electronic fabrication, computer technical, etc.)

CLERICAL SUPPORTING STAFF

- High school diploma or equivalent
- Applies general clerical skills (e.g., secretary, office administrator, etc.)

CRAFT & SERVICE SUPPORTING STAFF

- High school diploma or equivalent
- Applies craft and trades skills (e.g., machinist, sheet metal worker, etc.)

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M8 RATE MEMO DATA BSA-FIN-12-L003

Effective Date : 1 Aug 2012

Rate Table ID 074

APL PROPRIETARY INFORMATION

Overhead Rates		2012		2013		2014		2015		2016	
		w/o COM	COM Rate	w/o COM	COM Rate	w/o COM	COM Rate	w/o COM	COM Rate	w/o COM	COM Rate
Employee Benefit Rate:		0.451		0.470		0.470		0.477		0.477	
Procurement Overhead (Y4):		0.019	0.00024	0.018	0.00020	0.014	0.00017	0.014	0.00016	0.014	0.00016
G & A Overhead Rate (X):		0.148	0.00147	0.142	0.00126	0.143	0.00122	0.142	0.00118	0.142	0.00118
DH & HS/NSF G&A Overhead Rate (X):		0.112	0.00000	0.103	0.00000	0.102	0.00000	0.102	0.00000	0.102	0.00000
IPA G & A Overhead Rate (X):		0.027	0.00000	0.028	0.00000	0.028	0.00000	0.028	0.00000	0.028	0.00000
LW Avg. Direct Labor Factor:		0.600		0.600		0.600		0.600		0.600	
Base	**Wkpgs in Base**	**w/o COM**	**COM Rate**	**w/o COM**	**COM Rate**	**w/o COM**	**COM Rate**	**w/o COM**	**COM Rate**	**w/o COM**	**COM Rate**
AMDD	Y21	0.778	0.02365	0.762	0.02042	0.750	0.02025	0.747	0.01956	0.747	0.01956
SD	Y22	0.877	0.02765	0.851	0.02392	0.826	0.02345	0.833	0.02300	0.833	0.02300
AOD	Y2B	0.773	0.02350	0.771	0.02044	0.759	0.02058	0.760	0.02004	0.760	0.02004
FPD	Y24	0.760	0.02460	0.771	0.02137	0.759	0.02147	0.762	0.02106	0.762	0.02106
GED	Y26	0.000	0.00000	0.000	0.00000	0.000	0.00000	0.000	0.00000	0.000	0.00000
NSTD	Y27	0.000	0.00000	0.000	0.00000	0.000	0.00000	0.000	0.00000	0.000	0.00000
NSAD	Y28	0.739	0.01797	0.698	0.01520	0.701	0.01528	0.703	0.01488	0.703	0.01488
REDD	Y29	0.945	0.02798	0.912	0.02402	0.910	0.02330	0.883	0.02195	0.883	0.02195
EAF	Y2A	0.000	0.00000	0.000	0.00000	0.000	0.00000	0.000	0.00000	0.000	0.00000
Offsite	Y7	0.482	0.00253	0.471	0.00207	0.451	0.00200	0.448	0.00191	0.448	0.00191
Grants	Y5	0.455	0.01821	0.446	0.01597	0.446	0.01599	0.450	0.01571	0.450	0.01571
BCSD,CL, & HRSD, ITSD, TSD	Y6	0.559	0.02673	0.542	0.02355	0.546	0.02378	0.554	0.02353	0.554	0.02353

APL Labor Rates	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Principal	73.52	75.36	77.24	79.63	82.02	84.48	86.85	89.46	92.14	94.81	97.65	100.58	103.60
Senior II	63.11	64.69	66.31	68.37	70.42	72.53	74.56	76.80	79.10	81.39	83.83	86.34	88.93
Senior I	50.84	52.11	53.41	55.07	56.72	58.42	60.06	61.86	63.72	65.57	67.54	69.57	71.66
Associate II	42.75	43.82	44.92	46.31	47.70	49.13	50.51	52.03	53.59	55.14	56.79	58.49	60.24
Associate I	36.24	37.15	38.08	39.26	40.44	41.65	42.82	44.10	45.42	46.74	48.14	49.58	51.07
Technical	29.25	29.98	30.73	31.68	32.63	33.61	34.55	35.59	36.66	37.72	38.85	40.02	41.22
Clerical	25.36	25.99	26.64	27.47	28.29	29.14	29.96	30.86	31.79	32.71	33.69	34.70	35.74
C&S	32.15	32.95	33.77	34.82	35.86	36.94	37.97	39.11	40.28	41.45	42.69	43.97	45.29