

Overview

This revised budget justification for the award “Gemini in the Era of MMA: High Image Quality and Rapid Response” describes the request for approval for fiscal years 2019 through 2024 (10/1/2018 – 9/31/2024). The narrative describes key costs as presented on NSF FastLane Form 1030.

AURA Gemini requests approval based on 2 CFR Subpart D Title 2 Part 200.308. The proposed move exceeds the threshold as described in the above citation. AURA Gemini requests to move funds from line G-5 "Other Direct Costs, Contracted Services" to Line A, B, and C "Personnel and Fringe Benefits" to cover costs of CSA 1539773 O&M staff working on projects funded by CSA1839225 from the CSA 1839225 funds.

The costs listed in G-5 associated with the up-scope option of the ASM has been reduced to support the necessary FTEs in previously planned in-kind contributions from CSA 1539773. O&M staff paid from O&M CSA funds was deemed unallowable under CSA 1839225. Funds for relocation and training for new hires were added as they were overlooked in the original approved budget. See page 3 for comparative budget information.

Line B2 - Other Professionals: 6,838,763

Personnel costs are estimated on the basis of Job Descriptions representing the skills and knowledge required by the projects in this budget request: Project Manager, Project Support Associate, Electronics Engineer, Mechanical Engineer, Systems Engineer, Software Engineer, Optical Engineer, Detector Engineer, AO Scientist and PIO Coordinator using averages of current salaries for staff in comparable positions within Gemini Observatory.

Fringe Benefits: 3,841,333

The rate of FY 2019 rate of 56.17% is applied to 83% of the base pay - the "work hours" of the salary of personnel noted in the section above.

Table 2 – FY19 Proposed Rates

Fringe Benefit Rates		
Description	Rate	Base
U.S. Dollar (\$) Paid Employees	56.17%	Salaries and wages
Chilean Employees	40.23%	Salaries and wages
Temporary Employees	16.22%	Salaries and wages

Line D - Capital Equipment: 3,305,230

Permanent equipment includes adaptive optics, real time computer and components, mechanical, electronics and facilities equipment. The capital items in the proposal are anticipated to be “custom-made.” Most equipment, estimates were based on historical costs associated with similar purchased equipment, with allowance made for changes in design and technology. In some circumstances components that are “COTS” (Commercial off-the-shelf) costs were estimated from vendor price lists.

Line E1 – Domestic Travel

Travel costs are estimated based on historical costs for similarly scaled Gemini Projects.

Description	Total Cost
Standard functional travel	401,946

Line E2 – Foreign Travel

Foreign travel costing assumptions are described in detail in the CEP.

Description	Total Cost
Standard functional travel	541,216
Total Travel	943,161

Line G1 – Materials and Supplies: 191,314

See the CEP for an explanation of materials & supplies.

Line G2 – Publication Costs: 0

Line G5 - G7 –Other: 9,350,480

Manufacturing of project components may be obtained through a procurement process resulting in a sub contract. See the CEP for details.

Line I – Indirect Costs: 1,479,837

Standard AURA-Gemini indirect costs are explained in the CEP.

Line J - Total Direct and Indirect Costs: 25,974,118

GEMMA - SUMMARY BUDGET - ALL PROJECTS							
AT5/23/19	FYE19	FYE20	FYE21	FYE22	FYE23	FYE24	TOTAL
Senior Personnel	0	0	0	0	0	0	0
Other Personnel	1,066,404	1,873,191	1,737,063	1,127,480	610,221	424,404	6,838,763
Total Salaries and Wages	1,066,404	1,873,191	1,737,063	1,127,480	610,221	424,404	6,838,763
Fringe Benefits	598,999	1,052,171	975,708	633,306	342,761	238,388	3,841,333
Total Salaries/Wages/Benefits	1,665,404	2,925,363	2,712,771	1,760,786	952,982	662,791	10,680,096
Equipment	0	0	156,160	2,768,430	380,640	0	3,305,230
Domestic Travel	104,041	93,101	70,053	48,589	46,766	39,395	401,946
Foreign Travel	101,875	160,140	96,087	52,075	48,636	82,404	541,216
Total Travel	205,916	253,241	166,140	100,664	95,402	121,799	943,161
Participant Support	0	0	0	0	0	0	0
Other Direct Costs: Materials and Supplies	28,177	38,560	35,576	16,592	60,714	11,694	191,314
Other Direct Costs: Publication/Documentation/Dissemination	0	0	0	0	0	0	0
Other Direct Costs: Consultant Services	12,000	0	12,000	0	0	0	24,000
Other Direct Costs: Computer Services	0	0	0	0	0	0	0
Other Direct Costs: Subawards	0	0	0	0	0	0	0
Other Direct Costs: Other	119,920	1,515,449	1,870,720	1,941,515	2,235,420	1,667,455	9,350,480
Total Other Direct Costs	160,098	1,554,010	1,918,297	1,958,108	2,296,134	1,679,148	9,565,794
Total Direct Costs	2,031,417	4,732,614	4,953,367	6,587,987	3,725,158	2,463,738	24,494,281
Indirect Costs - Calculated on Total Project in IDC Account	189,306	333,908	538,823	218,567	115,892	83,340	1,479,837
Total Direct and Indirect Costs	2,220,723	5,066,522	5,492,190	6,806,554	3,841,050	2,547,078	25,974,118
CSA Period of Performance Start:	10/1/18						
CSA Period of Performance End:	9/30/24						

CONTRACT, MTDC & BASIS FOR FEES							
AT 5/22/19							
CONTRACTS by Project	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	-Total Fiscal Years
GR2120000 GNAO/RTC	25,235	1,198,572	1,834,266	1,905,061	2,126,042	1,594,532	8,683,708
GR2150000 PIO, Publications, Education MMA	0	207,500	0	0	0	0	207,500
TOTAL CONTRACTS	25,235	1,406,072	1,834,266	1,905,061	2,126,042	1,594,532	8,891,208
MTDC ADJUSTMENT - Contract Pmts over \$25k per year	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	-Total Fiscal Years
GNAO/RTC Contracts -4contracts over 6 years @ \$25k each	(235)	(1,123,572)	(1,784,266)	(1,855,061)	(2,101,042)	(1,569,532)	(8,433,708)
PIO, Publications, Education MMA		(182,500)					(182,500)
Total MTDC Adjustment	(235)	(1,306,072)	(1,784,266)	(1,855,061)	(2,101,042)	(1,569,532)	(8,616,208)
Basis for Fees	FY 2019	FY 2020	FY 2021	FY 2022	FY 2023	FY 2024	-Total Fiscal Years
GR2120000 GNAO	25,000	75,000	50,000	50,000	25,000	25,000	250,000
GR2150000 PIO, Publications, Education MMA	0	25,000	0	0	0	0	25,000
Basis for Fees - Contracts	25,000	100,000	50,000	50,000	25,000	25,000	275,000

WBS 1.1 PMO Mgmt Account	22% Complexity Factor							
May 23, 2019	FYE19	FYE20	FYE21	FYE22	FYE23	FYE24	TOTAL	
Senior Personnel	0	0	0	0	0	0	0	
Other Personnel	173,923	157,717	157,928	162,666	166,904	181,968	1,001,105	
Total Salaries and Wages	173,923	157,717	157,928	162,666	166,904	181,968	1,001,105	
Fringe Benefits	97,693	88,590	88,708	91,369	93,750	102,211	562,321	
Total Salaries/Wages/Benefits	271,616	246,307	246,636	254,035	260,653	284,179	1,563,425	
Equipment	0	0	0	0	0	0	0	
Domestic Travel	34,331	41,045	21,229	21,882	36,740	24,944	180,171	
Total Travel	64,382	79,458	29,679	34,252	65,598	68,066	341,435	
Participant Support	0	0	0	0	0	0	0	
Other Direct Costs: Materials and Supplies	24,389	25,697	25,713	8,229	5,051	4,834	93,914	
Other Direct Costs: Publication/Documentation/Dissemination	0	0	0	0	0	0	0	
Other Direct Costs: Consultant Services	0	0	0	0	0	0	0	
Other Direct Costs: Computer Services	0	0	0	0	0	0	0	
Other Direct Costs: Subawards	0	0	0	0	0	0	0	
Other Direct Costs: Other	87,685	109,377	36,454	36,454	109,377	72,923	452,272	
Total Other Direct Costs	112,075	135,075	62,168	44,684	114,429	77,757	546,186	
Total Direct Costs	448,072	460,839	338,482	332,971	440,680	430,002	2,451,046	
Indirect Costs - Calculated on Total Project in IDC Account	0	0	0	0	0	0	0	
Total Direct and Indirect Costs	448,072	460,839	338,482	332,971	440,680	430,002	2,451,046	

WBS 1.2 & 1.3 GNAO/RTC	22% Complexity Factor							
May 23, 2019	FYE19	FYE20	FYE21	FYE22	FYE23	FYE24	TOTAL	
Senior Personnel	0	0	0	0	0	0	0	
Other Personnel	653,188	1,106,285	1,073,066	826,643	443,317	242,436	4,344,935	
Total Salaries and Wages	653,188	1,106,285	1,073,066	826,643	443,317	242,436	4,344,935	
Fringe Benefits	366,896	621,400	602,741	464,326	249,011	136,176	2,440,550	
Total Salaries/Wages/Benefits	1,020,083	1,727,686	1,675,806	1,290,969	692,329	378,613	6,785,485	
Equipment	0	0	156,160	2,768,430	380,640	0	3,305,230	
Domestic Travel	24,143	39,331	39,030	23,929	10,026	14,451	150,910	
Foreign Travel	36,247	62,765	49,872	28,868	19,778	39,281	236,811	
Total Travel	60,390	102,096	88,902	52,797	29,804	53,732	387,721	
Participant Support	0	0	0	0	0	0	0	
Other Direct Costs: Materials and Supplies	2,288	6,863	6,863	6,863	55,663	6,860	85,400	
Other Direct Costs: Publication/Documentation/Dissemination	0	0	0	0	0	0	0	
Other Direct Costs: Consultant Services	0	0	0	0	0	0	0	
Other Direct Costs: Computer Services	0	0	0	0	0	0	0	
Other Direct Costs: Subawards	0	0	0	0	0	0	0	
Other Direct Costs: Other	25,235	1,198,572	1,834,266	1,905,061	2,126,042	1,594,532	8,683,708	
Total Other Direct Costs	27,523	1,205,435	1,841,129	1,911,924	2,181,705	1,601,392	8,769,108	
Total Direct Costs	1,107,996	3,035,216	3,761,998	6,024,120	3,284,478	2,033,737	19,247,544	
Indirect Costs - Calculated on Total Project in IDC Account	0	0	0	0	0	0	0	

WBS 1.4 Ops Software Upgrade	22% Complexity Factor				
<i>March 4, 2019</i>	FYE19	FYE20	FYE21	FYE22	TOTAL
Senior Personnel	0	0	0	0	0
Other Personnel	193,907	528,245	425,433	130,484	1,278,069
Total Salaries and Wages	193,907	528,245	425,433	130,484	1,278,069
Fringe Benefits	108,917	296,715	238,966	73,293	717,892
Total Salaries/Wages/Benefits	302,824	824,961	664,399	203,777	1,995,961
Equipment	0	0	0	0	0
Domestic Travel	0	2,777	5,722	2,777	11,277
Foreign Travel	12,443	49,896	35,004	10,837	108,180
Total Travel	12,443	52,674	40,725	13,614	119,457
Participant Support	0	0	0	0	0
Other Direct Costs: Materials and Supplies	0	0	0	0	0
Other Direct Costs: Consultant Services	0	0	0	0	0
Other Direct Costs: Computer Services	0	0	0	0	0
Other Direct Costs: Subawards	0	0	0	0	0
Other Direct Costs: Other	0	0	0	0	0
Total Other Direct Costs	0	0	0	0	0
Total Direct Costs	315,267	877,634	705,124	217,392	2,115,417
Indirect Costs - <i>Calculated on Total Project in IDC Account</i>	0	0	0	0	0
Total Direct and Indirect Costs	315,267	877,634	705,124	217,392	2,115,417
CSA Period of Performance Start:	10/1/18				
CSA Period of Performance End:	9/30/24				
WBS 1.5 PIO, Publications, Education	No Complexity Factor				
<i>May 22, 2019</i>	FYE19	FYE20	FYE21	FYE22	TOTAL
Senior Personnel	0	0	0	0	0
Other Personnel	45,387	80,944	80,636	7,687	214,654
Total Salaries and Wages	45,387	80,944	80,636	7,687	214,654
Fringe Benefits	25,494	45,466	45,293	4,318	120,571
Total Salaries/Wages/Benefits	70,880	126,410	125,929	12,005	335,225
Equipment	0	0	0	0	0
Domestic Travel	45,567	9,949	4,073	0	59,589
Foreign Travel	23,134	9,065	2,761	0	34,960
Total Travel	68,701	19,014	6,834	0	94,549
Participant Support	0	0	0	0	0
Other Direct Costs: Materials and Supplies	1,500	6,000	3,000	1,500	12,000
Other Direct Costs: Publication/Documentation/Dissemination	0	0	0	0	0
Other Direct Costs: Consultant Services	12,000	0	12,000	0	24,000
Other Direct Costs: Computer Services	0	0	0	0	0
Other Direct Costs: Subawards	0	0	0	0	0
Other Direct Costs: Other	7,000	207,500	0	0	214,500
Total Other Direct Costs	20,500	213,500	15,000	1,500	250,500
Total Direct Costs	160,082	358,924	147,763	13,505	680,273
Indirect Costs - <i>Calculated on Total Project in IDC Account</i>	0	0	0	0	0
Total Direct and Indirect Costs	160,082	358,924	147,763	13,505	680,273
CSA Period of Performance Start:	10/1/18				
CSA Period of Performance End:	9/30/24				