

National Aeronautics and Space Administration

Goddard Space Flight Center
Wallops Flight Facility
Wallops Island, VA 23337-5099



November 21, 2011

Reply to Attn of: 820

Ms. Alisha Giron
Assistant Director
New Mexico State University-Anderson Hall
Office of Grants and Contracts
Las Cruces, NM 88003-8002

Subject: Results of Performance Evaluation for Contract NAS5-03003, Operations and Maintenance of the Columbia Scientific Balloon Facility (CSBF) and Engineering Support for NASA's Balloon Program – Awarded to New Mexico State University/Physical Science Laboratory (NMSU/PSL), Rating Period 17 – April 1, 2011, through September 30, 2011

The performance evaluation for the above referenced contract, Performance Period 17, was conducted in accordance with the criteria set forth in the Performance Evaluation Plan, Revision 5, effective May 20, 2008. I am very pleased to inform you that PSL's rating for this evaluation period was in the "excellent" range, which is described as "Of exceptional merit; exemplary performance in a timely, efficient and economical manner; very minor (if any) deficiencies with no adverse effect on overall performance." PSL has earned an overall rating of 94.4%. A maximum award fee of \$912,951 was possible, and your organization has earned \$861,607.

Performance Factor 1

Technical Performance of Operations/30% Factor Weight - Rating – 92.2%

PSL/CSBF's activity relating to performance of operations was given an excellent rating in support of flight missions. Eleven missions were conducted from Australia, Sweden, Palestine, Texas, and Ft. Sumner, New Mexico. All operationally qualified balloons and test balloons launched during this period of performance were classified as operational and mission successes.

PSL/CSBF is commended for quick response to NASA changing requirements, with the launch of the "Cajun Probe" student payload launch from CSBF in Palestine, Texas, on April 1, 2011. NASA Headquarters had determined that the timely launch of Cajun Probe required immediate attention in order to facilitate the research of the student principle investigator (PI) who needed that flight in order to fulfill thesis requirements. Cajun Probe was originally scheduled to fly in the fall of 2010 as part of the Louisiana

State University High Altitude Student Payload configuration, which was forced to stand down during NASA's return to flight hiatus subsequent to Abort 23 in April 2010. PSL/CSBF responded to NASA's request to consider what may be done to support the Cajun Probe student payload, and then quickly went about with designing the flight configuration and with providing launch and flight operations support for a successful Cajun Probe mission. PSL/CSBF is highly commended for its responsiveness and flexibility in meeting this request.

PSL/CSBF is commended for its continued proactive implementation of new procedures and integration of personnel and roles that were implemented in the return to flight corrective actions subsequent to Abort 23. Working with NASA, PSL/CSBF has achieved and maintained the utmost extent possible, all the standards of excellence required by these new launch and operations procedures. Newly implemented security protocols at each launch site have been most effective. No compromise to safety or security protocols was ever observed, and each campaign was accomplished in the most professional and successful manner possible.

PSL/CSBF is commended for taking the extra steps necessary to accomplish successful launch and operation of all missions. This is no better exemplified than in the case of the Australia High Energy Replicated Optics Telescope (HERO) mission and the Jet Propulsion Laboratory Remote and University of New Hampshire Gamma-Ray Polarimeter Experiment (GRAPE) missions performed from Ft. Sumner this past fall. PSL/CSBF devoted additional meteorological analysis and support of HERO by increased, real-time monitoring and analysis of winds, coupled with prudent planning based upon understanding of the radiation environment on a real-time basis. This approach allowed for targeting the right launch opportunity in order to get the HERO mission the duration required. PSL/CSBF leveraged its resources during the fall Ft. Sumner campaign in order to take advantage of two launches, back-to-back, for the Jet Propulsion Laboratory (JPL) Remote and GRAPE missions. Prudent planning on the part of PSL/CSBF allowed for launch of these two missions the same morning, thus allowing them to fly during the final phase of fall turnaround, achieving desired flight durations requested by science investigators. Failure to have done this would have resulted in one of these missions not achieving their desired duration due to the lateness of the turnaround and subsequent strengthening of the float winds that would have prevented as long a duration flight from what was actually achieved.

PSL/CSBF experienced an anomaly with flight 618N, University of Delaware Low Energy Electron (LEE) payload that was launched in Sweden, whereby the parachute failed to separate at the end of the flight after impact on the ground. The LEE payload suffered substantial mechanical damage, but the data was fully recovered and the PI declared the mission a success. While there was substantial damage, it was reported by the PI that the LEE payload could be rebuilt and made ready for future missions. Given a different set of circumstances, this failure of the parachute to separate could have resulted in a more consequential outcome. PSL/CSBF was fully supportive and responsive to NASA endeavors to identify the cause and implement corrective actions to address this

anomaly. Subsequently, the remaining Sweden and fall Ft. Sumner missions were fully successful in all respects.

PSL/CSBF employees continue to demonstrate a positive and supportive attitude towards NASA's goals and requirements. PSL/CSBF continues to provide transparent and seamless support with integration of the NASA Mission Manager and NASA Safety personnel with launch and flight operations. PSL/CSBF is commended for timely and proactive support with identifying and correcting the procedures that contributed to the flight 618N parachute separation failure anomaly. As I have expressed previously, PSL/CSBF should maintain proactive vigilance in the areas of reliability and mission assurance, to include preventive analysis review of systems and procedures. NASA anticipates we will continue the current trend of lower numbers of flights having longer durations, which places additional premium on reliability and mission assurance.

Performance Factor 2

Technical Performance of Engineering Support/21% Factor Weight – Rating – 94.4%

PSL/CSBF has performed in an excellent manner with engineering and technical support, technical enhancements, and quality assurance. Engineering support at NASA's Wallops Flight Facility has fully met NASA requirements. Wallops PSL Engineering support of the last 22-day Antarctica Super Pressure Balloon (SPB) test flight was followed up with an excellent Test Report. PSL Engineering assisted in every area of SPB design, reviews, and monitoring. PSL Engineering provided necessary responses to reviews prior to the next SPB design and fabrication. Pre-production reviews, procedures, and processes for the 18.8 million cubic foot (MCF) volume SPB started in late summer were essential for the NASA project to remain on schedule. Quality of work has been extremely high as demonstrated further by authoring of publications by the American Institute of Aeronautics as Astronautics. Several new Indefinite Delivery Indefinite Quantity tasks have been quickly supported by PSL/CSBF responsiveness to NASA requirements.

It is noted that during production of the 18.8 MCF SPB balloon in September, an anomaly or failure of seal integrity was recurring at an alarming rate. Subsequently, production of this balloon was placed on hold until further investigation and analysis could be completed. This incurred a delay of the planned upcoming Antarctica test flight of the 18.8 SPB. It remains under investigation at this time. PSL/CSBF is commended for its forthright acknowledgement of the seal test failures as they occurred. PSL/CSBF is further commended for its proactive role in helping determine the cause and extent of these failed seals. I encourage PSL/CSBF to continue to support NASA in every way during this critical time to recover and get back on schedule with the SPB design and qualification endeavors. The cause and correction of these failed seal tests still remain under investigation, and I encourage PSL/CSBF to explore every possible venue to help NASA resolve this issue as quickly as possible.

PSL/CSBF is commended for its excellent initiatives with enhancements and design of flight support and ground support systems. The Open Port Iridium offers promise of greater bandwidth for balloon communications that will be a great compliment to that

offered by Tracking Data Relay Satellite (TDRS) communications. I encourage PSL/CSBF to continue its initiative in working with industry to implement this new system on a test evaluation basis. PSL/CSBF is further complimented for its work with industry for a new high gain TDRS balloon antenna, which holds the promise of a simpler, higher reliable replacement to the existing antenna, and at lower cost. Support of complimentary flight support systems for the SPB development project and implementation of off-the-shelf high definition video cameras on flight systems has resulted in tools necessary to compliment the SPB development initiative. PSL/CSBF's use of the Micro Instrument Package now used routinely on long duration balloon missions continues to exemplify PSL/CSBF's technical excellence resulting in tremendous gains for NASA science customers that illustrates the value added to NASA's balloon program and is a hallmark of PSL/CSBF capabilities in recent years.

PSL/CSBF maintained 99% surveillance at the balloon manufacturing facility this past rating period. In addition, PSL/CSBF exhibited excellence in the utilization of personnel by conducting surveillance at the film extrusion facility, as well. PSL/CSBF is commended for ongoing quality assurance endeavors. During a balloon section audit, it was noted that a gore width measurement yielded an off-nominal result that was more than that usually observed. It was also noted there was fullness in two caps. Because of PSL/CSBF's inspection and attention to details, the manufacturer quickly addressed these fullness deficiencies, and no more anomalies were noted.

Performance Factor 3

Management/24% Factor Weight – Rating – 95.8%

Once again, the excellence in performance of management by PSL/CSBF during this last performance period was instrumental in achieving the highly successful Australia, Sweden, and fall Ft. Sumner campaigns. PSL/CSBF management maintained a proactive approach with integration of new procedures and personnel that was started during the previous performance period as part of the return to flight corrective actions subsequent to Abort 23 in April 2010. It was of particular note that PSL/CSBF personnel have become more knowledgeable with all the changes brought about by the return to flight corrective actions, as noted by NASA management who participated in the 2011 Australia campaign and fall Fort Sumner campaign. CSBF personnel were noted to be more readily acquainted with, and proactive in, execution of new procedures and understanding of expectations. In no small way could this have occurred without the constant oversight and involvement by all PSL/CSBF management.

PSL/CSBF provided excellent support with planning and reporting. PSL/CSBF continues to provide both formal and informal weekly tagups to NASA that have been instrumental with identifying issues and concerns before they become problems. Milestones were accomplished on or ahead of time. Subcontracting goals continue to be worked but require attention for the remainder of the last 2 years of the contract. PSL/CSBF is highly commended for its mentoring/student outreach activities both at Las Cruces and at CSBF in Palestine. PSL/CSBF quickly responded to NASA's reminder of the need for an Annual Quality Assurance plan as noted during a recent NASA quality

assurance audit of the balloon program. But overall, PSL/CSBF planning and meeting milestones have been performed with an excellent degree of professionalism and accuracy.

Performance Factor 4

Cost Control/25% Factor Weight – Rating – 95.6%

Once again, PSL/CSBF has performed in an excellent manner regarding maintaining costs and seeking economy of operations through effective utilization of resources. PSL/CSBF maintains formal and informal tagups between NASA's Program and Business Management team, and the CSBF Site Management and Financial and Accounting Management team. Timely updates of the budget planning processes continue to allow NASA flexibility to most effectively manage requirements and resources. Timely and accurate submittals of 533s allow NASA to effectively manage. Explanation of variances is timely and accurate.

Working with NMSU, PSL/CSBF is commended for proactive measures to secure retention of a highly skilled workforce that is needed to support NASA's Balloon Program. PSL/CSBF performs in an excellent manner with ongoing cross training and assignment of its personnel. PSL/CSBF's prudent approach to assessment of new requirements that have an impact upon personnel resources allows for a better understanding of impacts upon the program imposed by new requirements or new operation procedures. The recent training and certification of Operation Safety Supervisors to be filled by CSBF personnel and the decision to weigh final decision as to the need to hire additional personnel as a result, thereof, are a hallmark of PSL/CSBF's prudent approach to the management of this contract in order to fully assess this new impact and to insure that resources are being leveraged as fully as possible. PSL/CSBF Administrative Support staff continues to be of the highest caliber in knowledge and professionalism with timely delivery and accuracy of reports and requests for authorizations, along with the usual excellence in support of CSBF operations and engineering elements.



William A. Wrobel
Fee Determination Officer

cc:

100/Mr. A. Obenschain

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May 31, 2011

Reply to Attn of 820

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Subject: Results of Performance Evaluation for Contract NAS5-03003, Operations and Maintenance of the Columbia Scientific Balloon Facility (CSBF) and Engineering Support for NASA's Balloon Program – Awarded to New Mexico State University/Physical Science Laboratory (NMSU/PSL), Rating Period 16 – October 1, 2010, through March 31, 2011

The performance evaluation for the above referenced contract, Performance Period 16, was conducted in accordance with the criteria set forth in the Performance Evaluation Plan, Revision 5, effective May 20, 2008. I am very pleased to inform you that PSL's rating for this evaluation period was in the "excellent" range which is described as "Of exceptional merit; exemplary performance in a timely, efficient and economical manner; very minor (if any) deficiencies with no adverse effect on overall performance." PSL has earned an overall rating of 94.7%. A maximum award fee of \$826,827 was possible and your organization has earned \$783,088.

Performance Factor 1

Technical Performance of Operations/30% Factor Weight - Rating – 91.25%

PSL/CSBF's activity relating to performance of operations was given an excellent rating in support of six flight missions. Five missions were conducted from Antarctica and one from Palestine, Texas. All operationally qualified balloons and test balloons launched during this period of performance were classified as operational and mission successes. Flight 614N in support of the Cosmic Ray Energetics and Mass (CREAM) instrument that was launched from McMurdo, Antarctica, experienced self-termination just short of the science defined pre-launch minimum success duration of 6 days; however, the principle investigator for CREAM was able to declare successful achievement for meeting minimum duration requirements, thus overall mission success was obtained. The 614N Anomaly Investigation Board (AIB) was unable to identify the exact cause of this early, unplanned self-termination. The 614N AIB concluded this failure was the result of either a catastrophic failure of the balloon or a failure associated with the burst detector switch. CSBF should continue to work

with the NASA Balloon Program Office (BPO) to address the concerns identified by the 614N AIB. The early termination of 614N is the single shortcoming to an otherwise near-perfect suite of flight operations conducted during this rating period.

PSL/CSBF is commended for its unwavering support of the BPO throughout this as well as the previous performance period, with implementation of the return-to-flight (RTF)/corrective action plan (CAP) subsequent to the Abort 23 mishap that occurred April 18, 2010. Without PSL/CSBF participation in helping define the responses of the CAP and the timely implementation of corrective actions, the fiscal year 2011 (FY11) Antarctica Campaign successes could not have been possible. PSL/CSBF technical responses were sound and well received by the NASA CAP review process. PSL/CSBF personnel made timely preparations for the FY11 Antarctic and preparations for the FY11 Australia Campaigns that helped ensure a well-integrated process with the new NASA safety protocols that were implemented as part of the RTF/CAP endeavor. Although the FY11 Australia launch did not occur until the current performance period, preparations for that campaign occurred during performance period 16, which in no small way led to the highly successful launch and flight in support of Flight 617N for the High Energy Replicated Optics mission. In both campaigns, it was evident that all CSBF personnel were well prepared and trained for the new NASA Safety and Mission Manager roles in the launch process.

PSL/CSBF is commended for excellence in maintaining highly motivated and well-trained staff. PSL/CSBF plans to train and qualify new launch crew chiefs to supplement exiting staff. The positive attitude demonstrated by all the CSBF personnel is a testimony of good-faith positive reinforcement by all PSL/CSBF Management, who is to be applauded for their superb support of NASA and the BPO throughout the past year. As we continue forward with operations that have a higher degree of integration of CSBF with NASA BPO and NASA Safety involvement, I encourage open and frank dialog to continue to be the hallmark, as it has for the past 6 months, in addressing all issues of safety and systems reliability. I expect CSBF to count on NASA BPO for support when dealing with all potential issues with Safety and payload integrity, even if such actions run counter to the wishes of the science investigators or their support teams. In turn, I expect NASA BPO to be vigilant to ensure that the CSBF/NASA field teams are proactive in all respects to ensure Safety and Systems Reliability compliance in order to reduce or mitigate risks as much as possible.

Performance Factor 2

Technical Performance of Engineering Support/21% Factor Weight – Rating – 95.5%

PSL/CSBF is commended for excellent support of NASA's engineering, enhancements, and quality initiatives. The PSL support of the BPO engineering work performed here at Wallops has been nothing short of outstanding. PSL's ongoing support of the super pressure balloon development project has been essential for the progress to date, which is best illustrated by the successful launch, deployment, and flight performance of last January's flight 616NT 14 million cubic foot volume Super Pressure test flight in Antarctica. PSL/CSBF's dedication and technical expertise of its personnel with support at the Aerostar manufacturing facility, support in the field during launch, and all the studies, analyses, and preparations leading up to this flight were crucial for the successful results we all celebrated. PSL/CSBF support of the Mars Ascent Vehicle study was excellent and was used in part for an Institute of Electrical and Electronic Engineers paper being prepared by NASA's Glenn Research Center

with PSL/WFF co-authors. The enhancements to the Ft. Sumner network and the flight ground station equipment software will help increase bandwidth, enhance security, and improve flight-monitoring integrity over the near term. PSL/CSBF thermal analysis support well deserves the recognition of excellence as the world-leader and authority for balloon environment applications.

PSL/CSBF's technical enhancements with the redesign and qualification of the new balloon launch head allowed the BPO to move forward with the RTF with an easier to operate, more reliable release for balloons at launch. The personnel protective cages for all balloon launch vehicles gave added protection to personnel conducting the balloon launch. All this was in addition to the nominal enhancements activities already ongoing to include development of the next generation Tracking and Data Relay Satellite high gain balloon antenna, pursuit of enhanced Iridium systems that hold promise of increased data bandwidth capabilities, enhanced high definition in-flight video support of balloons and payloads, and quick interim response to the flight 614N AIB recommendations. Balloon quality continues to be an area of concern to the program that by definition will always be, simply due to the fragile nature of thin film materials and the labor-intensive process for building these vehicles. CSBF is commended for its excellent performance in Quality Assurance (QA) monitoring of film extrusions and balloon builds. CSBF is commended for providing 100% QA surveillance for the super pressure balloon and near 100% surveillance for zero pressure balloons has in no small part contributed to the third balloon section audit in a row, as conducted this past December, wherein the flaw index continued on a downward trend, which is viewed as a positive outcome.

I know PSL/CSBF is acutely aware that the program is one or two deep in certain areas of technical expertise, whether it be balloon quality assurance, balloon environment thermal analysis, balloon launch director roles, management, or any one of the other technical functions that rely upon years of practical balloon operations experience, in addition to basic technical knowledge conditional to hiring. I encourage PSL/CSBF to continue moving toward addressing the potential voids such key positions may hold by ensuring recruiting, training, and retention for the long term.

Performance Factor 3

Management/24% Factor Weight – Rating – 97%

I believe the excellence exhibited in PSL/CSBF management this last performance period was key to the success of the program during the Antarctica Campaign and preparations for the Australia Campaign. As previously mentioned, the Abort 23 and subsequent mishap investigation resulting in the RTF and CAP was overwhelmingly supported by PSL/CSBF. The unfortunate events from last year caused all of us to take personal inventory of what we had perhaps taken too much for granted when it came to aspects of safety and mission reliability. PSL/CSBF stepped to the plate immediately to work with the BPO in a proactive and positive manner. This was a period of intense planning to restructure the launch operations to include added oversight by NASA BPO and NASA Safety involvement in field operations.

PSL/CSBF not only did an excellent job with redesign of deficient systems, but also provided timely, accurate, and detailed responses that addressed several NASA reviews and requests for follow-up testing and/or clarifications.

PSL/CSBF worked with NASA BPO and NASA Safety on a near-daily basis throughout the entire RTF initiative. PSL/CSBF is also commended for its excellence in taking the initiative during this whole process to offer suggestions for how to best implement corrective actions, ideas on how to redress design deficiencies in launch equipment, and guidance on definition for launch layouts needed for new safety plans. PSL/CSBF is commended for its excellent support of ongoing indefinite delivery/indefinite quantity (IDIQ) tasks in support of ongoing NASA balloon initiatives. Without fail, PSL/CSBF continued progress working ongoing IDIQ and in-house development while at the same time, addressing many new corrective actions that were implemented during the recent RTF.

PSL/CSBF management is commended for an excellent job in meeting schedules and critical milestones. It is greatly appreciated how PSL/CSBF kept the BPO informed on perceived or real liens that could affect the schedule, thus working with BPO to mitigate those risks. PSL/CSBF is commended for timely preparations and readiness for the Antarctica and Australia Campaigns, and with all administrative reporting.

Performance Factor 4

Cost Control/25% Factor Weight – Rating – 96%

PSL/CSBF demonstrated excellent performance in maintaining costs and seeking of economy of economic operations to reduce or more effectively utilize resources, thus further lowering costs. CSBF has been fully responsive in adjusting to program requirements in order to accommodate obligation thresholds to meet continuing resolution budget requirements. Regular tagups between the program Business Manager and CSBF Financial and Accounting Manager have resulted in timely updates so as to allow the program to effectively manage and understand the baseline performance. PSL/CSBF has done an excellent job with submission of timely and accurate 533s. When required, CSBF has provided the program with detailed explanations of variances, which has been a tremendous help to the program.

PSL/CSBF's excellent performance with ongoing cross training and utilization of the workforce in support of RTF, engineering projects, and operations has resulted in maximum leveraging of resources, thus further reducing the overall cost to the program. PSL/CSBF is encouraged to continue this tradition, which will maximize available program dollars to support more science and maintain the program's capability in an economic climate that is increasingly making more demands upon the program.



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National Aeronautics and Space Administration

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December 14, 2010

Reply to Attn of: 820

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Subject: Results of Performance Evaluation for Contract NAS5-03003, Operations and Maintenance of the Columbia Scientific Balloon Facility (CSBF) and Engineering Support for NASA's Balloon Program – Awarded to New Mexico State University/Physical Science Laboratory (NMSU/PSL), Rating Period 15 – April 1, 2010, through September 30, 2010

The performance evaluation for the above referenced contract, Performance Period 15, was conducted in accordance with the criteria set forth in the Performance Evaluation Plan, Revision. Unfortunately, this evaluation period was one in which a serious mishap occurred with the failed launch attempt of the Nuclear Compton Telescope (NCT) for Dr. Steve Boggs, University of California Berkeley, on April 28, 2010, at the Australia Balloon Launch Station in Alice Springs. The result of this mishap was that of significant damage to one of the vehicles owned by a member of the general public, significant damage to the NCT instrument, and a close call of incurring serious physical injury to the general public. In addition, a moratorium was placed on the launch of anymore NASA balloons until such time a Corrective Action Plan could be approved and implemented.

The NASA Mishap Investigation Board (MIB) findings listed several root causes and contributing causes that resulted in this failed attempt, classified by CSBF as Abort 23. Among the findings of the MIB was that CSBF personnel performing the launch operations observed members of the general public downrange of the balloon launch vehicle and had requested they be moved. The launch process proceeded without insuring these personnel were moved. In addition, the MIB found that no barrier to keep the public away from the launch process area existed. These constitute a major breach in safety and a major breach in risk mitigation and security. In accordance with the performance plan, no award fee shall be earned for any evaluation period in which a major breach occurs for either of these evaluation factors.

NASA, along with PSL/CSBF has worked hard to identify and correct the shortcomings that contributed to this launch failure and risk that was imposed on the public. All PSL/CSBF staff is to be commended for their quick response and excellent support given to NASA during the recent months in working toward return to flight. In no way should these findings be construed as the fault of any single individual. The NASA Balloon Program and CSBF have been, and will continue to be, recognized as the world leader in the field of scientific ballooning. While this was indeed an unfortunate and preventable occurrence, I am optimistic that PSL/CSBF's dedication to professionalism and its expertise in scientific ballooning will contribute immensely to the making of a safer and better NASA balloon program for years to come.

While this singular event has overshadowed all of NASA's balloon activities in recent months, please note the following assessment for each performance factor for this rating period.

Performance Factor 1

Technical Performance of Operations/30% Factor Weight - Rating – 42.3%

Performance Factor 1 includes both the "Health and Safety" and the "Risk Management" evaluation factors. Performance Factor 1 also includes the evaluation factors of "Technical – Performance of Missions," "Technical – Performance of Launch Operations," and "Technical – Reliability of Support Systems." The overall unsatisfactory rating is a direct result of the Abort 23 and resultant mishap. NASA will continue to work with PSL/CSBF with corrective actions that among others includes instituting the presence of independent safety authority and Balloon Program Office personnel at every launch. New operating plans will incorporate greater NASA oversight for each balloon mission. PSL/CSBF will continue in its role of doing what it does best; namely, the technical implementation of launch operations. Additional training and certification of PSL/CSBF personnel will be done in accordance with NASA requirements and procedures necessary for insuring proper training and certification of personnel who are involved with hazardous operations. By necessity, the return to flight activities now underway will require more scrutiny from NASA reviews from inside the Balloon Program Office, as well as NASA's Safety Office.

PSL/CSBF is to be commended for the highly successful launch and accomplishment of mission support for the TIGRE instrument launched from Alice Springs on April 15, 2010. Overall, the planning and preparation for the Australia campaign were conducted in a timely manner with attention to details as to readiness of flight support systems. Excellent management in coordinating and handling of logistics to Alice Springs was noted. This was complicated, to no small extent, near the beginning of the campaign due to unseasonal heavy rain and local flooding, which incurred unanticipated delays in arrival of equipment. CSBF is to be commended for working hard to stay on schedule, despite delays in delivery of equipment. CSBF is also to be commended for timely readiness and reliability of flight support systems for the Australia campaign as well as the pre-deployment integration and testing of payloads planned for launch during the upcoming Antarctica campaign.

Performance Factor 2Technical Performance of Engineering Support/21% Factor Weight – Rating – 94%

PSL/CSBF is congratulated for its excellent support of NASA's Super Pressure development project. PSL/CSBF engineering support of technical reviews in preparation for the construction of the 14 MCF Super Pressure balloon that is planned to be test flown during the upcoming Antarctica campaign helped to insure timely and concise verification and documentation necessary to meet project needs. PSL/CSBF support of in-plant monitoring and verification during production of the 14 MCF Super Pressure balloon helped insure the highest quality possible. PSL is commended for its Wallops Flight Facility (WFF) Engineering support in leading the Mars Ascent Vehicle planetary balloon vehicle study.

Quality at the balloon manufacturer's facility was noted to have a marked improvement as shown by balloon section audit and daily reports. CSBF's near 100 percent quality assurance (QA) presence at the manufacturer's fabrication and film extrusion facilities is to be commended.

PSL/CSBF enhancements to flight and ground support systems were excellent. CSBF is commended for its most timely and thorough response to the redesign of the balloon launch head. This is but one example of the excellent support that CSBF has given to NASA as part of the return to flight corrective action initiative. CSBF is commended for its continued progress towards enhancement of flight systems such as the inside mount balloon base camera, the Top Package System for the Super Pressure balloon, video synchronizer Ground Support Equipment (GSE), Long Duration Balloon GSE software auto e-mail notification system, over the horizon low bandwidth video system, Pilot Balloon sonde, GSE displays for Super Pressure balloon, and pursuit of lower cost Tracking and Data Relay Satellite System high gain antenna alternatives.

The Micro Instrument Package (MIP) is a proven enhancement that PSL and NASA can be proud of. Integration of Balloon Array for RBSP Relativistic Electron Losses, Near-Space Characterization of Advanced Photovoltaics, and Terrestrial Gamma-Ray Flashes payloads with the MIP has earned CSBF a well-deserved credit from experimenters and the balloon community.

Analytical support for thermal and materials engineering has earned PSL a well-deserved recognition as leading experts when it comes to operating in the balloon thermal environment and in defining, testing, and characterization of balloon materials. PSL is commended for maturing the technique of using photogrammetry for balloon materials testing, which has been an invaluable tool for the Super Pressure balloon development project. PSL's expertise with ABAQUS finite element analysis software in support of the Super Pressure development project has provided good correlation with similar analysis performed by Tensys.

PSL/CSBF has provided excellent support to NASA for engineering support and development initiatives. PSL's technology support and development have been a tremendous contributor towards NASA's achievements for enhanced capabilities, systems reliability, and economy of operations at WFF and at CSBF.

Performance Factor 3

Management/24% Factor Weight – Rating – 86.3%

PSL/CSBF has performed very well in planning, reporting, meeting milestones, meeting subcontracting goals, and maintaining a highly motivated and talented workforce. PSL/CSBF is to be highly commended for its excellent support with NASA's return to flight initiatives. In this regard, PSL and CSBF management have performed in an exceptional manner in response to all NASA requirements. PSL/CSBF senior management displayed exceptional qualities of leadership in response to the demands placed upon the program as a result of the Abort 23 mishap. PSL/CSBF is commended for giving the urgency and responsiveness that is required in order for NASA to resume flights as quickly as possible. All critical milestones were met on or ahead of schedule. Support of the NASA MIB was as responsive and as thorough as it could possibly be. Delivery of requested support as part of NASA's corrective action planning and implementation has been excellent.

Performance Factor 4

Cost Control/25% Factor Weight – Rating – 70.3%

PSL/CSBF has done an excellent job in the timely delivery of accurate financial reports. PSL/CSBF is congratulated for its thorough and timely management and accountability of finance and property. PSL/CSBF is again congratulated on its highly motivated and knowledgeable administrative staff, without which, the operation of the scientific balloon program would not be possible. Within the context of an otherwise excellent performance for meeting cost controls, the losses experienced with Abort 23 mishap carry a financial outcome as well, which earned PSL/CSBF a rating of satisfactory.

In closing, throughout the NASA balloon program, at Wallops and at CSBF, I encourage everyone to take the recent setback as an opportunity to take a fresh look at long held assumptions. Whether they are assumptions as to the training of the personnel supporting the mission or the procedures in the way we do things, management sets the tone and the attitudes that everyone else follows. I am most pleased to hear that PSL/CSBF management has demonstrated yeoman's effort in working with NASA to implement return to flight corrective actions over recent months. A keen awareness on the part of everyone in the balloon program, of all that is going on around our operations, is vital to maintaining a vibrant and safe program. PSL/CSBF personnel associated with the NASA balloon program have long held a special pride in the work that they do and the excellence in performing that which few other people are capable or willing to do. The events surrounding the program these past few months do not take away from that. I know that everyone in the balloon program shares to one degree or another in the responsibility for the events that occurred on April 28, 2010. I understand that everyone shares in the desire to take these lessons learned to improve upon what has

always been a great program and institution. I regret that as a result of the April mishap that there is no period 15 award fee, but I encourage everyone to continue that zeal of awareness and self-improvement. By doing so, NASA's balloon program will continue to be the world-class leader in scientific ballooning that it has always been.



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May 12, 2010

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Subject: Results of Performance Evaluation for Contract NAS5-03003, Operations and Maintenance of the Columbia Scientific Balloon Facility (CSBF) and Engineering Support for NASA's Balloon Program – Awarded to New Mexico State University/Physical Science Laboratory (NMSU/PSL), Rating Period 14 – October 1, 2009 through March 31, 2010

The performance evaluation for the above referenced contract, Performance Period 14, was conducted in accordance with the criteria set forth in the Performance Evaluation Plan, Revision. I am very pleased to inform you that PSL's rating for this evaluation period was in the "excellent" range, which is described as "Of exceptional merit; exemplary performance in a timely, efficient and economical manner; very minor (if any) deficiencies with no adverse effect on overall performance." PSL has earned an overall rating of 94.558%. A maximum award fee of \$773,371 was possible and your organization has earned \$731,284.

Performance Factor 1

Technical Performance of Operations/30% Factor Weight - Rating – 93.4%

PSL/CSBF's activity relating to performance of operations was given an excellent rating. For the sixth rating period in a row, PSL/CSBF's performance under this factor was exemplary performance in a timely, efficient manner and responsive to all the requirements. CSBF is applauded for the successful launch of three NASA qualified heavy lift balloons and four hand launch balloons for the Balloon Array for RBSP Relativistic Electron Loss (BARREL) Project from Fort Sumner and from Antarctica resulting in 100% mission success. Although, the launch of the SF-430B film qualification flight used to support Dr. Sofia's piggyback test flight last fall from Fort Sumner and launch of the Antarctica super pressure test flight are not evaluated for this performance factor, CSBF is commended for the excellent support given to these two test flight missions.

All but one launch attempt this past rating period occurred without incident and in a most timely manner. No launch opportunities were missed. The Abort 22 last fall at Fort Sumner was determined to have a root-cause associated to the manufacturing of the balloon. CSBF quickly reacted to what could have been an even less fortunate turn of events had the Abort 22 balloon been launched. CSBF operations personnel are commended for their attention to detail with spotting the separation between the inflation tube and the balloon, while still in the spool, and then calling for an abort; thereby, mitigating what would have otherwise been a mission failure and possible damage to the science payload. The science payload was then launched 6 days hence on a backup balloon, resulting in 100% mission success.

CSBF is commended for its planning, preparations, and execution of the FY 2010 Antarctica campaign resulting in a record-setting early launch of a heavy-lift mission. Recognizing the potential bottleneck with support of the Cosmic Ray Energetics And Mass (CREAM) V, super pressure test flight, and four BARREL test flight missions, CSBF managed the deployment of personnel, equipment, and pre-flight readiness preparations with the goal of being flight ready by December 1, 2009. By virtue of this planning and preparation, CSBF was able to take advantage of the early season establishment of the requisite polar anti-cyclone stratospheric wind regime, which normally sets up later in December of each year. Thus, CREAM V was launched on December 1, 2009, resulting in 100% mission success.

CSBF experienced one incident with failure of a flight support system element with failure of the High Gain Antenna (HGA) on the CREAM V mission. This failure was determined to be the result of a combination of inadvertent sending of a wrong command, combined with the system design that allowed for such vulnerability. The result of this did not yield a failure to achieve mission success, as all data was recovered from the on-board hard drives at the end of the mission. CSBF's excellence in technical insight and ingenuity provided an alternate solution by doing frequent scheduling of Tracking Data Relay Satellite System (TDRSS) Single Access (SA) events through the CREAM payload's omni TDRSS antenna, throughout the remainder of the mission. This provided the CREAM science team with sufficient in-flight data for daily instrument housekeeping checks necessary for assessment of their instrument's performance. CSBF is commended for its role in supporting the HGA failure investigation and quick response implementing ground station modifications to prevent inadvertent commands from happening in the future. CSBF is further commended for coming up with a HGA hardware modification solution to remove the previous vulnerability for inadvertent commands from causing similar failures in the future. Nonetheless, this failure is noted as the only deficiency this rating period affecting reliability of support systems, resulting in a minor deficiency with no adverse effect.

PSL/CSBF is congratulated for an excellent safety record. CSBF is commended for its proactive management in safety surveillance, safety training and enforcement of procedures. CSBF is applauded for its continued monitoring and testing of facility fire alarm systems and emphasis on fire awareness/prevention training for personnel. CSBF

is commended for its proactive steps in getting certification of key CSBF personnel to be able to conduct in-house training for Lifting Device & Equipment (LDE) certification of its employees.

CSBF has done an excellent job managing risk. Planning for the possibility of an early launch opportunity in Antarctica demonstrates management insight for a “possibility” that became “reality” thanks to excellent foresight. Employment of the TDRSS omni antenna in the SA mode to achieve higher data rates after failure of the HGA shows excellence in real time, proactive management and flexibility to maximize opportunities with changing situations throughout the mission. CSBF’s timely submission providing thorough documentation required by NASA’s Office of External Relations (OER) facilitated the timely international overflight and recovery approvals needed for the Antarctic super pressure test flight and the FY 2010 Australia campaign.

Performance Factor 2

Technical Performance of Engineering Support/21% Factor Weight – Rating – 93%

PSL/CSBF has provided excellent support to NASA for engineering support and development initiatives. PSL’s technology support and development, at Wallops Flight Facility (WFF) and at CSBF, has been a tremendous contributor towards NASA’s achievements for enhanced capabilities, systems reliability, and economy of operations. Technology support at WFF has been excellent in support of the launch of the super pressure test flight and subsequent support investigating the failed super pressure balloon. Support at WFF with biaxial diaphragm testing has yielded much needed data for the super pressure material numerical model. PSL’s support with investigation of the super pressure balloon has been critical in determining the cause of the balloon’s failure. PSL’s engineering interns at WFF have provided excellent support with review of the Echo Project, rotation rate analysis, inspection of the super pressure end fittings, and reefing sleeve tests. CSBF’s support of the joint NASA and Department of Defense Near Space Characterization of Advanced Photovoltaics (NSCAP) project has earned NASA’s Balloon Program and the CSBF with customer recognition for professionalism, dedication, and knowledge that has enabled the NSCAP Project to stay on schedule. PSL is commended for providing invaluable assistance to the numerous science customers needing thermal analysis support. PSL has become the world-recognized leader in knowledge of modeling for the balloon environment and with defining configurations and solutions that address thermal compliance requirements.

PSL/CSBF technical enhancements this rating period have been exceptional with the development and testing of the PiBAL sonde, which will give greater accuracy of data on inversions and conditions up to 3000 feet in order to better determine conditions prior to commencing launch operations. PSL/CSBF has made excellent progress with updates to engineering software and Long Duration Balloon (LDB) Operations Control Center (OCC) ground station software, development of the Maximum Power Point Tracking (MPPT) charge controller that offers promise of greater efficiency at reduced mass and cost, and Next Generation HGA that offers promise of reduced mass and cost. It was noted the HGA on the CREAM V mission failed due to inadvertent command error.

CSBF is commended for its quick response subsequent to this failure in utilizing the SA mode throughout the remainder of the mission and for support of the NASA investigation and recommendation on corrections.

Overall, CSBF did very well with regard to quality assurance of balloons and balloon films. The Balloon Section Audits (BSA) resulted in excellent findings of “no fullness.” BSA flaws were at very good levels. Reduction of tucks to nominal levels demonstrates attention to detail and responsiveness to program concerns. Advancements for qualification of the Charter SF-430 film as a qualified supplier adds much needed diversity for film supplier. Extrusion runs yielded very good results in quality as screened during production and post-production inspections. The new on-line inflation tube installation methods developed by Aerostar and approved by CSBF hold promise of reduction in handling flaws; thus, demonstrating initiative for stepping up to NASA’s challenge to look at all aspects of balloon production in order to improve balloon reliability as much as possible. Noted is the finding of lack of proper documentation by Aerostar that was found during the Abort 22 investigation and the number of unrepaired holes found during production. CSBF is encouraged to maintain its vigilance in this regard and to continually bring their issues and concerns before Aerostar Management for resolution. CSBF is to be commended for its excellent support to the program with continual status updates on balloon quality concerns and with providing of balloon manufacturing records as part of the program’s screening process prior to use.

Performance Factor 3

Management/24% Factor Weight – Rating – 94.2%

PSL/CSBF continues excellent performance in management, planning, reporting, meeting milestones, meeting sub-contracting goals, and maintaining a highly motivated and talented workforce. Weekly management tag-ups between PSL/CSBF senior management and program management continue to yield excellent insight and exchange of ideas necessary for highly effective program and mission planning as well as managing cost. Bi-monthly site visits continue to give the program needed insight into the activities at CSBF and Aerostar and are instrumental for effective management. CSBF is congratulated for its foresight in planning for early preparations on the last Antarctica campaign, which resulted in being able to achieve the earliest season heavy-lift mission launch ever. Regular updates on the program waterfall have allowed for highly effective management of cost. Reports and plans have been timely, thorough, and accurate.

PSL/CSBF is applauded for increased percentages for sub-contracting for small business and disadvantaged business this past rating period. CSBF’s cross utilization of engineering and technical personnel for both development and operations field support demonstrates excellent resource accountability. CSBF is congratulated for maintaining a vibrant, highly motivated, and talented workforce. NASA has received many customer compliments of CSBF’s personnel in recognition of their professionalism and dedication to customer satisfaction. Critical milestones have been consistently met on or ahead of schedule. CSBF management of the fall Fort Sumner, and Antarctica campaigns was

excellent. Schedules were maintained or exceeded resulting in reduced overall cost to the program. CSBF management maintained constant assessment of activities and was highly proactive keeping the program informed. CSBF management was proactive with formulation of alternative options with all aspects of program planning and campaign execution.

Performance Factor 4

Cost Control/25% Factor Weight – Rating – 97.6%

PSL/CSBF demonstrated excellent performance in maintaining costs and seeking of economy of operations to reduce or more effectively utilize resources, thus further lowering effective costs. CSBF came within 10% below its projections this past rating period, thus resulting in a cost savings to the program. CSBF has been fully responsive in adjusting to program requirements resulting from recent budget rescissions. Regular tag-ups between the Program Business Manager and CSBF Financial and Accounting Manager have resulted in timely updates, so as to allow the program to effectively manage and understand the baseline performance. PSL/CSBF has done an excellent job with submission of timely and accurate 533s. CSBF has provided the program with detailed explanations of variances, which has been a tremendous help to the program.

CSBF's excellent performance with ongoing cross training and utilization of the workforce in support of engineering projects and operations has resulted in maximum leveraging of resources; thus, further reducing the overall cost to the program. In-house design and enhancements of equipment has helped reduce overall costs by utilizing engineering, and technical resources from within the baseline of the contract. PSL/CSBF is encouraged to continue this tradition, which will maximize available program dollars to support more science and maintain the program's capability in an economic climate that is increasingly making more demands upon the program.

Australia Balloon Launch Mishap of April 28, 2010

The launch mishap on April 28, 2010, occurred in Evaluation Period 15, and as such is not accounted for in this current Period 14. A NASA board investigating the incident and those findings will be incorporated into the next evaluation rating period if completed.



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Fee Determination Officer

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National Aeronautics and Space Administration
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November 18, 2009

Reply to Attn of: 820

Ms. Diane Samuel
Assistant Director
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Subject: Results of Performance Evaluation for Contract NAS5-03003, Operations and Maintenance of the Columbia Scientific Balloon Facility (CSBF) and Engineering Support for NASA's Balloon Program – Awarded to New Mexico State University/Physical Science Laboratory (NMSU/PSL), Rating Period 13 – April 1, 2009 through September 30, 2009

The performance evaluation for the above referenced contract, Performance Period 13, was conducted in accordance with the criteria set forth in the Performance Evaluation Plan, Revision 4, effective June 7, 2007. I am very pleased to inform you that PSL's rating for this evaluation period was in the "excellent" range which is described as "Of exceptional merit; exemplary performance in a timely, efficient and economical manner; very minor (if any) deficiencies with no adverse effect on overall performance." PSL has earned an overall rating of 95.36%. A maximum award fee of \$878,221. was possible and your organization has earned \$837,472.

Performance Factor 1

Technical Performance of Operations/30% Factor Weight - Rating – 96%

PSL/CSBF's activity relating to performance of operations was given an excellent rating. For the fifth rating period in a row, PSL/CSBF's performance under this factor was exemplary performance in a timely, efficient manner and responsive to all the requirements. PSL is applauded for the successful launch of 10 heavy lift balloons from Fort Sumner and from Esrange resulting in 100% mission success. In addition, CSBF's integration of Cosmic Ray Energetics And Mass (CREAM), Balloon Array for RBSP Relativistic Electron Losses (BARREL), and the Super Pressure test flight payloads this past summer have made for a busy period, to which PSL/CSBF has been fully responsive and has demonstrated exceptional performance in planning and execution. Operations were completed in a highly efficient and economical manner.

CSBF performed launch of all balloons this past rating period without incident and in a most timely manner. No delays of launch occurred or opportunities were missed. Concurrent operations between the spring Fort Sumner and summer Sweden Esrange Long Duration Balloon (LDB) campaigns presented challenges in planning and logistics that were executed in an exceptional manner resulting in timely launches and superior efficiency in use of resources that in-turn yielded cost savings to NASA. The launch of five conventional and LDB payloads in a 17-day period and management of two LDB and one conventional mission in the air at the same time demonstrated the highest degree of professionalism in achieving readiness and taking advantage of opportunities as they arose. In addition, CSBF's outstanding support of several payloads undergoing requisite test flights in advance of future LDB missions in no small way contributed immensely to their reported achievements in meeting highly successful science objectives.

PSL/CSBF is congratulated for a very good safety record. NASA encourages PSL's continued proactive management in safety surveillance, safety training, enforcement of procedures. CSBF is commended for its support of the NASA Safety Office in conducting the investigation subsequent to the office fire in June and supporting their August site survey. CSBF's proactive management of corrections to the CSBF fire alarm and containment systems and the additional focus on human factors for fire prevention before waiting to get the report of the investigation further demonstrates PSL/CSBF's professionalism towards reducing or eliminating risk. CSBF should continue this renewed focus not only for the Palestine facility but also for Fort Sumner and all remote sites where CSBF is operating.

PSL/CSBF is commended for its excellence in risk management in planning and conducting missions. The planning and execution in preparing the LDB Support Instrument Package (SIP) for use on CREAM while at the same time supporting the refurbishment of the Command Data Module (CDM) and holding it in reserve while systems were being converted to support CREAM with the SIP, further demonstrates proactive planning and execution with an eye toward mitigating risk to the FY 2010 CREAM mission. Support provided to the Balloon Program Office subsequent to the award of the NASA contract for agency-wide helium procurement and in working with the NASA Kennedy Space Center's Contract Officer Technical Representative was critical toward modification of NASA's contract to insure successful delivery of helium for Antarctica. Congratulations go to all of CSBF Operations, Engineering, Administrative Support, and PSL/CSBF Management.

Performance Factor 2

Technical Performance of Engineering Support/21% Factor Weight – Rating – 93.8%

PSL/CSBF provided excellent support to the NASA balloon program this rating period for technology and engineering initiatives, in particular the Super Pressure balloon development project. CSBF's timeliness and accuracy have allowed NASA to stay on or ahead of schedule with review and correction for the anomaly experienced with the preparations for the upcoming 14 MCF Antarctica test flight. PSL/CSBF's field support with the test flight and in-plant monitoring and verification of Super Pressure builds

preparations for the upcoming 14 MCF Antarctica test flight. PSL/CSBF's field support with the test flight and in-plant monitoring and verification of Super Pressure builds further demonstrates dedication and the enduring commitment on the part of its personnel to spend the time wherever and whenever necessary to support NASA's requirements. The bi-axial testing conducted in support of the materials modeling has been excellent and continues to lead in cutting-edge application of photogrammetry measurements of thin films. PSL's comparison between photogrammetry and finite element analysis using Abaqus provided for refinements to the materials model stiffness properties and re-evaluation of the 14 MCF design.

PSL/CSBF is congratulated for bringing the new balloon burst detector into operation subsequent to NASA's review and approval. The Maximum Power Point Tracker charge controller for replacement of existing charge controllers was successfully test flown on conventional and LDB flights from Sweden and holds promise of even greater reliability for LDB SIP systems as well as light-weight Micro Instrument Package flight support systems. The new linear actuator designed for replacement of the more expensive globe motors as used on helium valves and ballast valves underwent successful NASA review and close-out of action items, and we look forward to its integration into CSBF flight systems over the coming months. PSL and CSBF are commended for their inclusion of NMSU Suborbital Center of Excellence interns at Wallops and University of Texas at Tyler senior engineering student capstone projects at Palestine; thus, continuing the ongoing efforts to promote scientific balloon careers among senior level engineering college students.

CSBF's modification of the LDB SIP to support the CREAM instrument has provided NASA with a much needed contingency for annual support of CREAM missions. Incorporation of using both SIP flight computers to support both the Tracking Data Relay Satellite System (TDRSS) and Iridium transceivers, increasing onboard data archive capacities, incorporation of the TDRSS high gain antenna to achieve 92 kilo-bit per second return rates, increasing the TDRSS and Iridium forward command rates, and increasing the forward file upload capability to accommodate 8 kilo-bit files were successfully accomplished on or ahead of schedule.

In addition, PSL/CSBF provided outstanding support preparing for the upcoming BARREL launch training and test flights to be conducted this year from Antarctica. Fabrication of five MIP systems and preparation of associated launch hardware will be critical to the BARREL's success.

Development of the new Antarctica Super Pressure balloon box sled was completed in a timely manner. The Super Pressure "Big Max" crane to be used in conjunction with handling the top fitting of Super Pressure balloons was also completed well ahead of schedule. The need for both of these specialty support items became known after National Science Foundation decided last season to move similar assets to the Pegasus site. CSBF's quick response for a solution on a relatively short schedule is a signature of the much-coveted "can do" attitude that NASA is dedicated to provide.

CSBF is commended for providing 100% surveillance at the balloon manufacturing facility for the Super Pressure balloon and near 100% for zero pressure balloons. PSL/CSBF is commended for its in-plant Quality Assurance (QA) work at both the

extrusion and balloon fabrication facilities. All NASA qualified balloons that were launched flew successfully. Successful completion of training and the on-the-job training of the recently hired balloon auditor and the resultant capability for increased presence at Aerostar is to be commended. CSBF is commended for timely and complete submission of balloon production records for review by BPO as part of the program's ongoing second-tier independent verification of balloon assignments prior to each campaign. CSBF is further commended for maximizing the fullest utilization of personnel to include use of the QA manager and occasional use of the retired CSBF QA auditor to backfill critical inspections and lab testing as necessary in order to stay on schedule and to avoid hiring of additional personnel. CSBF is encouraged to maintain stringent QA oversight of balloon production with an eye towards keeping the flaw indices low such as demonstrated on recent balloon section audits. The trend toward lower seal reruns by the balloon manufacturer during this rating period is highly commendable. NASA looks forward to seeing the improvements that are attributable to the two quality engineers recently hired by Aerostar.

PSL/CSBF should apply corrective actions that address the shortcomings that led to the Sweden 7 MCF Super Pressure flight 599NT design error, and incorporate such measures for all balloon table layouts, but most especially for off-design builds. It is commendable that the balloon manufacturer recognized this error and promptly raised this to the project management's attention. Nonetheless, it represents a significant preventable error that NASA expects CSBF's cognizance on and QA oversight for all future builds.

Performance Factor 3

Management/24% Factor Weight – Rating – 93.8%

Once again, PSL/CSBF's management of planning, reporting, meeting milestones, working toward subcontracting goals and maintaining a talented and versatile workforce have been done in an excellent manner this past rating period. PSL/CSBF has been fully responsive to NASA's requests in all aspects of programmatic support. The spring Fort Sumner, summer Sweden, and fall Fort Sumner Campaigns have been conducted in exemplary manner. All three of these Campaigns were conducted with utmost thoroughness in planning, preparation and execution. PSL/CSBF has been fully responsive for required deliverables of the contract that were provided on or ahead of schedule. Documentation has been accurate and complete, and delivered either on or ahead of schedule with only minor exceptions noted. No launch opportunities were missed or unnecessary delays incurred.

CSBF has done an outstanding job with reporting on campaign preparations, mission execution, balloon production issues and efficient utilization of personnel. PSL/CSBF support of weekly tagups with the BPO and support of bi-monthly site visits by NASA continues to foster a healthy, dynamic partnership between NASA and PSL management. This also provides NASA management with the information necessary to proactively deal with issues that arise from time-to-time. PSL/CSBF continues to maintain a highly skilled work force that is technically competent to perform all the missions and to provide needed engineering support as previously made evident by three highly successful

campaigns and delivery of needed technology support and development during this rating period.

CSBF is commended for successful completion of the new Alice Springs payload preparation facility in time for the 2010 Australia Campaign. NASA is very pleased with PSL/CSBF's responsiveness to meeting the balloon program's milestone for accelerated payment for this facility in order to assist the balloon program with achieving its FY 2009 spending objectives.

In the past, NASA has recognized the difficulty that PSL/CSBF has had with meeting sub-contracting goals. PSL/CSBF has stated that this deficiency was due primarily to the loss of its principle target-goal supplier for helium, which was in place when PSL agreed to the sub-contracting goals at the beginning of the contract. This business has since been sold and no longer meets the qualification for the goal. Given that NASA has completed review and concurrence on PSL's suggested modification to the contract that would remedy this shortcoming, it is expected that sub-contracting goals can now be reasonably achieved, and NASA looks forward to metrics that substantiate this change during the next performance period.

Performance Factor 4

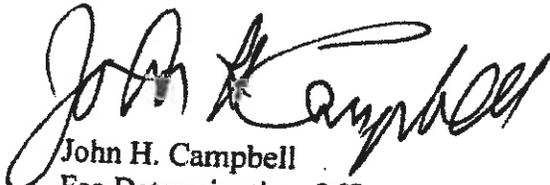
Cost Control/25% Factor Weight – Rating – 97.4%

PSL/CSBF is commended for keeping actual baseline and Indefinite Delivery/Indefinite Quantity (IDIQ) costs under contract baseline and negotiated IDIQ cost limits. Cross utilization between engineering technical support and that of operations support has provided cost savings to NASA. This has been done while maintaining 100% mission success. PSL/CSBF continues to perform in excellent manner in the timely and accurate delivery of 533s and support in working with the BPO to manage the budget waterfall. Frequent budget and cost updates have given the program the insight needed to most effectively manage its resources.

PSL/CSBF has also done an excellent job at seeking to reduce costs and to economize in all its procurement and resource utilizations. While PSL/CSBF has very effectively achieved all of NASA's requirements for operations, engineering and administrative support, it is noteworthy that extra measures have been taken to further reduce costs. Cross utilization of technical personnel in support of missions and operations is to be commended. CSBF's ongoing contracting for Esrange facilities and labor has resulted in reduced northern hemisphere LDB campaign costs. CSBF's initiative to replace globe motors used in the helium and ballast valves not only simplified the overall design, but also will result with reduced cost for flight support systems.

CSBF successfully demonstrated for the first time the efficiency and ability to complete a LDB preflight integration and test for the Sunrise payload at the Esrange launch site. Normally performed at CSBF in Palestine, Texas, prior to shipment to the LDB launch site, CSBF working with the Sunrise team proposed to perform this integration and testing at Esrange due to the logistics of the Sunrise German payload, which could greatly reduce overall costs. With BPO approval, CSBF met the challenge and Sunrise

achieved a highly successful mission. Along with maintaining close coordination with the Sunrise science team prior to the campaign, CSBF sent an additional mechanical technician to Esrange for 2 weeks to complete tasks otherwise normally performed at Palestine during first time integration. The result was a tremendous savings in cost to both NASA and the Sunrise project team. For the first time ever, CSBF most effectively managed people and resources for performing this phase of LDB operations, thus establishing the effectiveness for this approach for European based payloads that will result in cost savings for future Esrange LDB missions. All the PSL/CSBF operations, engineering, and administrative support personnel are to be commended for this highly successful period of performance.


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