

National Aeronautics and
Space Administration
Goddard Space Flight Center
Greenbelt, MD 20771



December 2, 2011

Reply to Attn of:

400

Ms. Susan Chang
ITT Corporation Information Systems
7855 Walker Drive
Greenbelt MD 20770

Dear Ms. Chang:

The performance of ITT Corporation Information Systems during the first award fee period for the Space Communications Network Services (SCNS) under contract number NNG09DA01C has been evaluated. This assessment included an evaluation of Program/Business Management, Technical/Schedule, and Cost Performance according to the SCNS Performance Evaluation Plan (PEP), 450-MGMT-0005. The performance factors and their percentage weights as stated in the PEP are: Program/Business Management (15 percent), Technical/Schedule Performance (60 percent), and Cost Performance (25 percent). The Contracting Officer will issue a contract modification for payment of the earned fee under separate cover.

For this award fee evaluation period (January 9, 2011 through October 8, 2011), which includes contract phase-in, ITT received a consolidated Indefinite Delivery Indefinite Quantity (IDIQ) Service Task and Core performance score of 87 percent (an adjectival score of "Very Good"), earning \$3,031,774 of the available fee of [REDACTED]. For End Item Task Orders (TO's) ITT earned \$551,475 of the available fee of [REDACTED]. End Item TO award fee earned was a combination of "final" fee for tasks whose final deliveries were made during this period, and "interim" fee for tasks whose deliverables will be completed during a future award fee period (Final End Item TO fee determination is made when final deliveries are made). See Enclosure for details.

The consolidated IDIQ Service Task and Core performance score is comprised of the following element scores:

Program/Business Management:

ITT is awarded a score of 88 percent for the Program/Business Management Performance factor, representing a "Very Good" adjectival rating.

This evaluation period included a three-month phase-in period and six months of contract performance. Overall, ITT exhibited an ability to effectively manage work priorities and

successfully achieve most of its goals.

During contract Phase-In, ITT ensured that on day one of contract cutover, a qualified staff was in place and all required contract functions were transitioned. ITT did experience coordination challenges putting in place the necessary tools such as acquiring Maximo, and importing Electronic Data Information Management System data in a timely manner. In addition, although the transition of the Satellite Laser Ranging (SLR) and Very Long Baseline Interferometry activities did generate numerous issues and concerns, ITT worked well with the Government to overcome these challenges. As a result, the transition and the Phase-In Operational Readiness Review were completed on schedule with no Request for Actions.

During this initial performance period, ITT implemented three key process improvements for cost and operational efficiency:

- New risk management system across the SCNS contract,
- Improved Significant Event Report process and documentation,
- Reduced Near Earth Network (NEN) commercial service subcontracts fees.

In the area of contract administration, ITT worked effectively to generate reporting, such as supplemental financial reporting and task order proposal formats, consistent with Government needs. ITT, under short time constraints, effectively negotiated subcontract terms and conditions with subcontractors [REDACTED] to transition task order subcontracts early, enabling required work to be accomplished to meet Government schedules. Reports, such as the Phase-in Plan, Organizational Conflict of Interest Avoidance Plan, Risk Management Plan, Emergency Preparedness and Disaster Recovery Plan, were submitted on-time and accurate. Although the Government found errors in a number of the 533 financial reports, the Contractor addressed these issues quickly and provided corrections. The Contractor should ensure that adequate quality assurance processes are in place and ensure the quality of all delivered products.

ITT exceeded its goals in Total Small Business and Small Disadvantaged Business participation. In the categories of Women Owned Small Business (WOSB), Historically Black Colleges and Universities (HBCU), HubZone, Veteran Owned small business (VOSB), and Small Disadvantaged Veteran Owned small businesses (SDVOSB), dollar expenditures were [REDACTED]. In future periods it is recommended that the Contractor work to improve performance in the WOSB, HBCU, HubZone, VOSB, and SDVOSB subcontracting goal categories.

ITT showed incentive in transitioning Government Accountable Property from the predecessor contract by initiating an inventory inspection to account for items contract- wide and worldwide. ITT assisted with the effort to physically affix Government property tags to those items that were virtually tagged.

During the initial evaluation period, detailed Equal Employment Office (EEO) data were provided for the workforce categories as delineated in the EEO-1 form. ITT's representation of minorities and women in the "Total Workforce" and "Officials & Managers" categories is below norms in all groups. In the "Professionals" category, the "Female" and "Minority Female" groups are above norms, while the "Minority" group is below norms. ITT should

take action to reach parity in the underrepresented areas and should initiate recruitment, career development activities, training programs and other activities to improve representation.

ITT conformed to NASA IT Security requirements. Each IT Security deliverable was submitted on time with very few errors. ITT was also responsive to contract safety requirements and fully responsive to IT Security requests, such as Penetration Testing exercises, IT Security audits, and ad-hoc data call requests.

Technical/Schedule Performance:

ITT is awarded a score of 87 percent for the Technical Performance factor, representing a "Very Good" adjectival rating.

The Space Network (SN) operational performance metrics are shown below:

Performance Metrics		
SN Operations Proficiency	Level of Expectation (LOE) (≥ 99.90)	Standard of Excellence (SOE) (≥ 99.97)
SN Operations Availability	LOE (≥ 97.0)	SOE (≥ 98.0)

The SN Proficiency SOE was exceeded for two months this reporting period, while the LOE was exceeded for all six months of the period.

It is worth noting that the proficiency for the last month of the period was largely impacted by an outage that occurred as the result of an operator error. A customer test in September developed issues due to configuration problems outside the SN. In an effort to salvage the test, an operator at White Sands Complex (WSC) performed multiple reconfigurations, during which an inadvertent ground vector was sent to the operational system that resulted in an outage affecting multiple customers. Even though an error occurred that affected users, the action was inadvertent, and the ITT team is commended for their effort in support of the SpaceX/Dragon mission, a new, high profile SN customer.

SN Availability is measured as a one-year rolling average. Due to the SCNS contract start in April 2011, it would not be an accurate depiction of performance to include the previous six months of the NENS contract. During this six months performance period, the SN availability average was 97 percent, thereby achieving the LOE.

ITT performed at a very good level in the management of the Tracking and Data Relay Satellites (TDRS) constellation, activating TDRS 9 and 3 and placing them into operations. ITT also initiated the drift of TDRS-10, but had problems reactivating the TDRS-3 services. ITT should have performed a more thorough review of the data contained in the Spacecraft Orbital Anomaly Report.

ITT also initiated the preparations and planning for the TDRS-4 End of Mission activities. ITT initially proceeded at a slower-than-planned pace, however once ITT program management was made aware of this condition, they implemented corrective actions and by the end of the period had completed a successful Disposal Review.

ITT performed SN Engineering and Maintenance activities in an excellent fashion during this period, making several software deliveries in order to support new customer requirements. Notably, the Software Engineering group accelerated the 25 Mega bit per second (Mbps) forward software delivery schedule. They developed a compressed test and implementation schedule for the software delivery in response to the TDRS-K Project's need date. The ITT team assigned extra personnel and worked additional shifts to meet this requirement. The SN has benefited from engineering skill at the Guam Remote Site, where a local engineer dissected the existing waveguide installation and identified some design deficiencies that are the likely cause of corrosion problems. The correction of this long-standing issue will be a major benefit to NASA.

ITT performance in the diverse set of Core functions at WSC that support operations was excellent. These include Facilities, Logistics, Security, and Administrative Computing, Networking, and Telecommunications. These functions are vital to safely and reliably, provide secure operational support to an extensive array of SN customers.

There was an increase in SN Operator Errors (OEs) during this reporting period. Of particular note were OEs that impacted the critical support the SN provides to a variety of Expendable Launch Vehicle (ELV) missions. They were predominantly due to inattention to detail. This is an area of concern for SN management. ITT has implemented a recovery plan to address the cause of OEs that impacted ELV missions, but it is too early to measure the effectiveness of these changes. ITT is encouraged to pursue approaches that will simplify processes and lessen the likelihood of future OEs in support of all SN customers.

ITT successfully accomplished a number of significant milestones during this period. These include: (1) a new 25 Mbps Ku-Band forward capability (2) IR Frequency Search Expansion to support new customers, (3) transition of the Mission Operation Voice Enhancement system into operation. The new system replaced an obsolete voice system that supports mission operations. Performance on the GSFC Communication Center (GCC) was outstanding. A study performed to investigate options for transitioning or relocating this capability was thorough, and has enabled NASA to chart a new course for the GCC functions. Additionally, support provided by the ITT Systems Engineering was outstanding, and ITT is encouraged to maintain this level of excellence in future periods and transfer this systems engineering prowess to other tasks on the SCNS contract.

The SN Systems Engineering task is a technically diverse scope of work that is critical to the overall success of projects that are executed within the SN, as well as SN support to the larger SCaN Program. In particular, ITT worked independently, requiring minimal oversight by the Government, and achieved outstanding results. The analysis, plans, studies, notional designs, and other products were of high quality and value to the Government. Of special note was the timeliness of the delivered products, which enabled the Government to make high impact, and value-based decisions. ITT also performed exceptionally on SN Special Projects and Missions by working with several prospective customers on the technical details of SN compatibility. The team creatively completed a significant number of activities, and in particular successfully performed the planning and implementation of a monitoring capability for the TDRSS Digital Signal Distribution system. This capability was needed on very short notice, on an aggressive schedule, and ITT applied highly skilled personnel to achieve success.

ITT achieved a very good level of performance on a number of large and complex tasks that included development work, such as the Blossom Point Antenna System, Augmented Telemetry Tracking and Command, and the User Service Subsystem Component Replacement (USS-CR). ITT also performed well in support of the TDRS-K Project, which covers the spectrum of systems engineering, preparation for operations, and review of test and verification data. ITT achieved a very good level of performance in providing support to the SN Project on TO-66, the SN Ground Segment Sustainment (SGSS) Ground Segment and Operations Support, wherein ITT provided the technical review of documents.

There are several areas of concern in the SN area. The Administrative Local Area Network (LAN) Sustainment (TO-77) suffered from a lack of progress that resulted in minor impacts during this period. ITT will need to implement a recovery plan and complete the integration and test, as well as begin to transition users to the new LAN during the next period to avoid future impacts. There were crosscutting issues that affected several SN tasks. First, the procurement process itself, or a lack of familiarity by ITT employees with this process, resulted in slow progress on procurements where ITT was unable to attract bids from multiple sources, including those for readily available items. ITT is encouraged to improve the diversity of bids it obtains for procurements, and keep the SN Project informed of their progress. Secondly, several technical task managers struggled with anticipating and avoiding technical issues, which is a cause for concern as the development tasks enter the integration and test phase. Third, ITT struggled to identify a rationale for the maintainability of hardware systems within the SN. This was reflected in the State of Health charts and supporting analysis, thereby leaving the Government with a lack of information related to the obsolescence of the SN. These delays affected the Government's ability to plan for resources and establish an accurate budget forecast. The SN Project looks forward to the corrective actions ITT will undertake to mitigate these occurrences during the next period.

ITT provided very good support from NASA NEN tracking stations for a variety of scientific missions, while providing successful launch, on-orbit and landing services to the final three Space Shuttle missions. Both NASA and commercial stations achieved an operational proficiency above 99.1 percent. While, ITT provided successful launch services to the SAC-D mission, it was unsuccessful on the GRAIL mission. ITT is encouraged to establish clear lessons learned from the GRAIL support failure, and to apply these lessons learned to improve NEN operations.

ITT performance was outstanding in the NEN engineering and development areas. Highlights include: the McMurdo Ground Station antenna system Depot Level Maintenance Upgrade project, where ITT successfully integrated the S-band receive subsystem, and the NEN scheduling system obsolescence replacement project where ITT successfully addressed legacy issues from a previous contract. ITT is to be commended for establishing a highly functioning team of engineering and operations personnel who were able to accomplish an extensive recompile of code into the Mac Native environment. This translated into significantly improved scheduling system operations. ITT also provided excellent services associated with the development and deployment of the Svalbard Ka-Band characterization monitoring station.

ITT accomplished a very good job of meeting the SLR station operations and engineering

requirements: ranging, returning systems to operations after a failure, and supporting the International Laser Ranging Service. ITT enabled a good transition at these stations, despite being behind schedule for setting up a functional laser laboratory. ITT performed satisfactorily in the following areas: transition and data flow through the ITT SLR Operations Center, change notification to stations and customers, and spacecraft prediction generation. However, Contractor performance issues resulted in numerous outages. Although SLR data were not lost during these outages, it did delay data delivery for analysis, impacting our customers. ITT needs to improve their ability to recognize and quickly remedy data processing problems. Lunar Reconnaissance Orbiter (LRO) laser ranging operations have been very successful; Contractor personnel did an excellent job tracking the required passes. However LRO laser ranging data flow on numerous occasions failed to meet delivery requirements. Data received at ITT's operational center did not always get delivered to NASA's Crustal Dynamics Data Information System on a daily basis, and in some cases the Government had to inform ITT of missing data. ITT needs to recognize, identify, and inform the Government when there are data flow issues.

The Commercial Services support for LRO experienced numerous issues, which resulted in ITT not meeting the expected efficiency of 99.1 percent during the months of May and September. ITT experienced a wide range of problems, resulting in only acceptable performance. ITT is encouraged to thoroughly analyze the root cause of these problems and implement necessary process improvements.

In the Network Integration and Management area, ITT did a good job of integrating network services for STS-134 & -135, and ITT's human space flight team performed operational integration activities in support of two Soyuz flights and numerous critical International Space Station (ISS) activities. ITT's ELV team supported 8 launches, including the rather abrupt return of Sea Launch mission operation. The Earth science team responded well to anomalies encountered during the initial phase of the SAC-D mission by increasing coordination with the mission team and extending the Network Operations Manager's shifts. However, during the period, there were two flight anomalies associated with Delta IV/GPS IIF-5 and Sea Launch-39 support. Both incidents exposed complacency during pre-launch preparation and an absence of essential quality assurance steps. In addition, ITT was slow to respond to several ISS VHF failures and noise issues.

ITT performance in the analysis area was very good. The Networks Loading and Modeling team successfully completed Network Feasibility and Geometric Coverage analyses. On average, analyses were completed a week ahead of the required timeframe. The Joint Polar Satellite System SN Feasibility Assessment was noteworthy. This high visibility analysis was particularly demanding because of a short delivery date requirement. On the other hand, the MetOp assessment exhibited problems due to poor communications with the mission team and the analysis group. It should be standard practice to ensure agreement and understanding of the analysis requested and approach to that analysis.

Cost Performance:

ITT is awarded a score of 86 percent for the Cost Performance factor, yielding a "Very Good" adjectival rating.

ITT's assessment of overhead rates exceeded the proposed planned rates, resulting in a cost overrun of \$0.143M for the first period. The average actual direct labor rates for ITT and the subcontractors rates are slightly under by -5.1 percent, totaling a \$0.396M underrun.

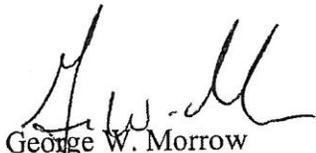
Overall, negotiated versus actual cost for this period under-ran by \$10.9M. However, this under-run was primarily due to forecast costs being significantly understated by \$14.9M, resulting in the inability of the Government to plan costs for this period and assure adequate funding levels. Poor forecasting caused a \$0.5m impact on a GN task. Second, forecasts for the USS-CR were not accurate. ITT did implement a recovery plan by the end of this performance period, however data were not available to ascertain its impacts. This is a significant concern, and ITT is advised to establish procedures to ensure that forecasting accuracy is greatly improved in future performance periods.

ITT was responsive to cost and financial issues during this period. ITT also provided financial data required by the Government to accomplish a wide variety of actions. ITT did a very good job in reducing Core 1 cost this period to bring it in line with proposed costs.

Summary:

ITT's performance on the contract was very good during the first period of the contract. The communication and dedication during the phase-in transition period were notably sound. I am very pleased with your overall performance; however I urge you to take note of the areas for improvement, and continue to strive for excellence in the future.

Sincerely,



George W. Morrow
Fee Determination Official

Under Separate Cover:
Award Fee Modification to the Contract

Enclosure:
Award Fee Matrix

cc:

100/Mr. A. Obenschain
210.P/Ms. T. Anthony
210.P/Ms. M. Nieves-Torres
400/Mrs. F. Selden-Jones
400/Mr. S. Shinn
450/Ms. T. Felton

450/Ms. S. Janicki
450/Mr. J. Volosin
450/ Mr. N. Wright
450/Mr. B. D. Seery
ITT/Mrs. S. Chang
ITT/Mr. J. McGeehan

End Item Task Orders
 Available and Earned Award Fee Matrix
 NNG09DA01C
 April 9, 2011 through October 8, 2011

Task Order	Task Description	End Date	Interim / Final	Available for the period	Overall	Dollars Earned	
034	NEN MG1/MG2 Development	11/15/11	Interim			\$28,652	
060	Blossom Point Antenna System	1/23/13	Interim			\$46,948	
063	SN Obsolescence Mitigation support for USS-CR Project	5/30/13	Interim			\$64,487	
064	SN USS-CR Project - Materials	9/30/13	Interim			\$185,350	
065	ATTC Systems Development	10/31/12	Interim			\$68,466	
071	25 Mbps KSA Forward Service	8/10/11	Final			\$3,230	
072	IR Acquisition Bandwidth Exp	7/29/11	Final			\$3,235	
074	WSC Antenna SSCIII Replacement	11/30/11	Interim			\$3,734	
075	WSC MOVE Installation	12/23/11	Interim			\$3,082	
077	Administrative LAN Sustainment	3/30/12	Interim			\$0	
079	NCCDS/DIS Interface Replacement	12/30/11	Interim			\$26,014	
081	Monitoring System Sustainment	6/29/13	Interim			\$22,531	
084	SN Support to Orion Flight Test 1	9/30/13	Interim			\$41,124	
085	Digital Architecture Testing	6/1/12	Interim			\$9,996	
086	WSC Telephone Sys Replacement	5/23/12	Interim			\$11,437	
087	WSGT T-1 Roof Replacement	12/26/11	Interim			\$10,415	
091	MMS Telemetry Study	9/30/11	Final			\$2,712	
094	Shuttle Termination and Retirement Network Activities	9/30/12	Interim			\$20,062	
TOTAL							\$551,475

Enclosure