NYISO 2004 Projects Summary

Budget, Standards & Performance Subcommittee September 26, 2003

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Summary of 2004 Project Costs

(\$ in millions)

Project Name	Labor	<u>Capital</u>	<u>Other</u>	<u>Total</u>
SMD 2.0	\$4.6	\$8.9	\$10.3	\$23.8
Market Data Ex. Enhancements (Portal)	\$0.8	\$0.7	\$ 1.0	\$ 2.5
DSS	\$0.9	\$0.3	\$ 1.3	\$ 2.5
Facilitated Checkout	\$0.8	\$0.0	\$ 1.5	\$ 2.3
Computer System Availability Monitoring	\$0.4	\$0.7	\$ 0.5	\$ 1.6
TCC & UCAP Automation	\$0.7	\$0.0	\$ 0.8	\$ 1.5
New Technology Initiatives	\$0.7	\$0.2	\$ 0.3	\$ 1.2
LDAP/SSO	\$0.3	\$0.5	\$ 0.2	\$ 1.0
Billing Projects	\$0.9	\$0.0	\$ 0.1	\$ 1.0
Software Dev. Lifecycle Tools (Rational)	\$0.3	\$0.6	\$ 0.0	\$ 0.9
TransEnergie Cross Sound Cable	\$0.4	\$0.0	\$ 0.5	\$ 0.9
Operational Information to the Marketplace	\$0.2	\$0.3	\$ 0.3	\$ 0.8
Documentum Implementation	\$0.3	\$0.1	\$ 0.3	\$ 0.7
Inter-ISO Standards	\$0.3	\$0.0	\$ 0.3	\$ 0.6
VRTO Support	\$0.1	\$0.0	\$ 0.5	\$ 0.6
Evaluate Options to Shorten Billing Cycle	\$0.1	\$0.0	\$ 0.4	\$ 0.5
New Facilities (Office Space)	\$0.1	\$0.0	\$ 0.4	\$ 0.5
Other Projects	<u>\$1.4</u>	\$0.0	\$ 0.9	\$ 2.3
Total	\$13.3	\$12.3	\$19.6	\$45.2

Project Name: SMD 2.0

Project Number(s): A559, A573, A574, A577, A620

Project Sponsor(s): Calimano and King

Brief Description of Project:

The SMD2 project involves replacement of the existing NYISO Energy Management and Market Systems with an integrated product solution from ABB. The real-time dispatch system will be redesigned to provide tighter integration between the Day-Ahead and Real-time markets.

Primary Driver of Project:

Convergence of Day-Ahead and Real-time results by integrating all market software onto a common platform with a single data model. Refresh power system application infrastructure with state of the art technology and vendor supported tools.

Anticipated Deliverables / Benefits:

- Delivery of integrated, vendor-supported Energy Management and Market systems
- Convergence of Day-Ahead and Real-time results
- Refreshment of Energy Management and Market technical infrastructure
- Integration of vendor solution with existing NYISO infrastructure
- Achievement of business plan to deliver return on investment within 2 years of system launch (as previously reviewed during 2003 Budget presentations)

(\$ in millions)	<u>Labor</u>	<u>Capital</u>	<u>Other</u>	<u>Total</u>
2004	\$4.6	\$8.9	\$10.3	\$23.8
Post-2004	<u>\$1.5</u>	<u>\$0.0</u>	<u>\$ 1.0</u>	<u>\$ 2.5</u>
Total	\$6.1	\$8.9	\$11.3	\$26.3

Project Name: Market Data Exchange Enhancements (Portal)

Project Number(s): TBD

Project Sponsor(s): Carol Murphy

Brief Description of Project:

Building on the Market Data Exchange (MDEX) released as Portal in 2003, NYISO will expand the capabilities for delivery of information and reorganize the presentation of system and market conditions. Includes enhanced security features for content access and online help.

Primary Driver of Project:

Market Participant mandates for improvements to the usability of the NYISO website as passed through various committee resolutions drive the MDEX solution. This will facilitate the flow of information between NYISO and its market participants. Establishing protocols to secure information via the web required by market participants and DOE.

Anticipated Deliverables / Benefits:

Deliverables include:

- Improved access of operational data, including real-time, SMD and outage information
- Addition of external market data from ISO-NE, PJM and others
- Consolidation of web content including generation and load bidding to single user interface
- Expansion of security capabilities to facilitate groups and data access methods
- Continued migration towards single sign-on for accessing all NYISO information

Benefits include:

- Easy to find and customizable information services
- Common look and feel of data presentation, including data from other markets
- Reduction in the number of NYISO accounts for a MP while maintaining security
- Improved time-to-market solutions

(\$ in millions)	<u>Labor</u>	<u>Capital</u>	<u>Other</u>	<u>Total</u>
2004	\$0.8	\$0.7	\$1.0	\$2.5
Post-2004	<u>TBD</u>	<u>TBD</u>	<u>TBD</u>	<u>TBD</u>
Total	TBD	TBD	TBD	TBD

Project Name: DSS

Project Number(s): A661 - A664

Project Sponsor(s): Several

Brief Description of Project:

Evolve DSS to become an industry-leading Business Intelligence (BI) platform for market and settlements analysis. Create an enterprise metadata repository and associated applications as part of a data analysis framework.

Primary Driver of Project:

As DSS becomes more vital for data analysis and final bill verification, it will be necessary to expand its reporting and processing capabilities to meet the dynamic business needs of NYISO and the MPs. Having these tools and a common language for describing the data will enable more sophisticated analysis and easier ability to share the results.

Anticipated Deliverables / Benefits:

Deliverables include:

- Enhance DSS product with additional data and reports, as defined and prioritized by BAWG, to enable comprehensive settlements analysis
- Creation of a database and applications to access settlements business and technical metadata Benefits include:
 - Increased visibility, accuracy and timeliness of data analysis and context
 - Reduced time for impact analysis and development
 - Reduced operational costs and increased efficiency in response to customer inquiries
 - Increased ability to make better business decisions and share results across the enterprise

(\$ in millions)	<u>Labor</u>	<u>Capital</u>	<u>Other</u>	<u>Total</u>
2004	\$0.9	\$0.3	\$1.3	\$ 2.5
Post-2004	<u>TBD</u>	<u>TBD</u>	<u>TBD</u>	<u>TBD</u>
Total	TBD	TBD	TBD	TBD

Project Name: Facilitated Checkout

Project Number(s): A657-A660

Project Sponsor(s): Mike Calimano

Brief Description of Project:

Extend the use of Facilitated Checkout and E-tagging by NYISO to enhance information sharing between control areas. Publish expanded outage information for the benefit of control areas and the Market Participants.

Primary Driver of Project:

The need for information sharing between control areas is more important than ever to ensure greater reliability and compliance with standards. Initial efforts have already demonstrated efficiencies to be gained in the checkout process and in resolution of seams issues.

Anticipated Deliverables / Benefits:

Deliverables include:

- Extension of Facilitated Checkout to additional control areas and DAM checkout (IMO and ISO NE in 2004)
- Expansion of E-Tag update process by NYISO and Market Participants
- Enhance current publication of outage information to reflect real-time conditions

Benefits include:

- Enhanced efficiency of Grid Operations
- More secure commitment process by NYISO and neighboring control areas
- Reduced cost to MPs for management of inter-ISO transactions and for curtailed transactions
- Maintain compliance with NERC and NPCC standards

(\$ in millions)	<u>Labor</u>	<u>Capital</u>	<u>Other</u>	<u>Total</u>
2004	\$0.8	\$0.0	\$1.5	\$2.3
Post-2004	<u>TBD</u>	<u>TBD</u>	<u>TBD</u>	<u>TBD</u>
Total	TBD	TBD	TBD`	TBD

Project Name: Computer System Availability Monitoring

Project Number(s): TBD

Project Sponsor(s): Ken Fell

Brief Description of Project:

BMC's Patrol suite provides enterprise level system monitoring for NYISO. It helps to ensure maximum data center reliability, scalability, and manageability while utilizing minimum resources to manage a complex data center(s) environment.

Primary Driver of Project:

- Increase system availability & minimize system downtime
- Enhance server utilization / optimization
- Improve capacity planning capability
- Reduce mean time to resolve issues
- Maintain a growing and more sophisticated data center with minimum resources

Anticipated Deliverables / Benefits:

Service Assurance (Reliability)

- Real time: Monitoring; Alerts; Root Cause Identification; Corrective Action Suggestions, etc.
 - High availability focus

Service Forecast (Scalability)

- Increased server utilization & capacity planning capability through data aggregation & analytical evaluation
 - Reduced server/ hardware costs

Service Verification (Manageability)

- Reporting of actual system service levels to ensure targeted expectations are either met or exceeded.
 - SLA Management/ Improved customer satisfaction

(\$ in millions)	<u>Labor</u>	<u>Capital</u>	<u>Other</u>	<u>Total</u>
2004	\$0.4	\$0.7	\$0.5	\$1.6
Post-2004	<u>\$0.4</u>	<u>\$1.2</u>	<u>\$0.0</u>	<u>\$1.6</u>
Total	\$0.8	\$1.9	\$0.5	\$3.2

Project Name: TCC & UCAP Automation

Project Number(s): A541, A543
Project Sponsor(s): Chuck King

Brief Description of Project:

- Develop user interfaces that can support online data entry and reporting of TCC auction information and provide auction data to the auction analysis products
 - Software to automate ICAP Process, develop web-enabled interface to facilitate online bidding, bid validation and posting in support of the ICAP auction process

Primary Driver of Project:

The current TCC and UCAP processes is a labor-intensive, potentially error-prone auction process that affects internal and external users of TCC data. The project will replace the existing manually intensive and spreadsheet-oriented process used to administer the TCC/UCAP markets.

Anticipated Deliverables / Benefits:

The TCC/UCAP Automation System will enable market participants to send and receive information via a web-enabled system, which will interface with existing NYISO legacy systems. Benefits include:

- Eliminating data redundancy and reducing data errors
- Providing easy access to data
- Improving data integrity and data security
- Reducing manual/human interfaces
- Improving timeliness of communication between NYISO and market participants
- Providing flexibility to support future changes

(\$ in millions)	<u>Labor</u>	<u>Capital</u>	<u>Other</u>	<u>Total</u>
2004	\$0.7	\$0.0	\$0.8	\$1.5
Post-2004	<u>\$0.0</u>	<u>\$0.0</u>	<u>\$0.0</u>	<u>\$0.0</u>
Total	\$0.7	\$0.0	\$0.8	\$1.5

Project Name: New Technology Initiatives

Project Number(s): TBD

Project Sponsor(s): Ken Fell

Brief Description of Project:

Investigation of new technologies and their appropriateness for NYISO use. Mentoring development staff on new technologies that have been included in the NYISO environment.

Primary Driver of Project:

To continue the migration of the NYISO environment to the most appropriate set of technologies. Continue the concept of continuous improvements, rather than "forklift replacement".

Anticipated Deliverables / Benefits:

- Increased portability of software with use of modular/object-oriented components
- Improved Security User Identity management through the use of Policy Servers
- Improved maintainability of system with the introduction of Business Process Management software

(\$ in millions)	<u>Labor</u>	<u>Capital</u>	<u>Other</u>	<u>Total</u>
2004	\$0.7	\$0.2	\$0.3	\$1.2
Post-2004	<u>TBD</u>	<u>TBD</u>	<u>TBD</u>	<u>TBD</u>
Total	TBD	TBD	TBD	TBD

Project Name: LDAP/ SSO

Project Number(s): TBD

Project Sponsor(s): Ken Fell

Brief Description of Project:

LDAP (Lightweight Directory Access Protocol) – Develop a centralized user account management system

SSO (Single Sign-On) – Develop the ability for users to log-in once and access any NYISO application

Primary Driver of Project:

SAS 70 requirement – For adherence to the process recommended by DOE and external auditors Reduce the risk of mismanaged user identity information

Reduce the number of unique log-in interfaces for NYISO users

Anticipated Deliverables / Benefits:

LDAP

- Guarantee uniform enforcement of user access
- Reduce the effort to manage user identity information
- Provide user access decision as a service to all applications rather than building it into each individual application

SSO

- Improve User Experience with a single log-in that allows access to any allowed application

(\$ in millions)	<u>Labor</u>	<u>Capital</u>	<u>Other</u>	<u>Total</u>
2004	\$0.3	\$0.5	\$0.2	\$1.0
Post-2004	<u>TBD</u>	<u>TBD</u>	<u>TBD</u>	<u>TBD</u>
Total	TBD	TBD	TBD	TBD

Project Name: Billing Projects

Project Number(s): A600, A636, A647, A685, A686, A689

(Open Billing Issues, 85/15 RS1 Split, Station Power Accounting, New Billing Allocations, Store Intermediate Billing Calc. Data)

Project Sponsor(s): Frank Frankowski

Brief Description of Project:

Develop requirements and products to automate the billing determinates currently done manually or calculated by contractors

Primary Driver of Project:

Improve audit capabilities of identified billing determinates and conform to SAS 70 requirements

Reduce risks associated with performing manually billing processes & invoice adjustments

Provide more timely and accurate invoice adjustments

Anticipated Deliverables / Benefits:

- Provide daily settlement information (manual method only provides for monthly accounting)
- Automated calculations for TCC Congestion Shortfall Allocation, Thunderstorm Alert, and Quick Start Reserves (estimated labor savings from manual process approximate \$200 - \$300K annually)

(\$ in millions)	<u>Labor</u>	<u>Capital</u>	<u>Other</u>	<u>Total</u>
2004	\$0.9*	\$0.0	\$0.1	\$1.0
Post-2004	<u>\$0.0</u>	<u>\$0.0</u>	<u>\$0.0</u>	<u>\$0.0</u>
Total	\$0.9	\$0.0	\$0.1	\$1.0

Project Name: Software Dev. Lifecycle Tools (Rational)

Project Number(s): TBD

Project Sponsor(s): Ken Fell

Brief Description of Project:

Advance the use of Rational tools and processes within the IT development lifecycle

Primary Driver of Project:

Reduce number of "911" fixes and new application "rework" in the production system Increase production system reliability to comply with IT goal of system availability Provide a stronger tie between test plans and application requirements/functions

Anticipated Deliverables / Benefits:

- Improved Quality of Deployed Software
- Increased System Availability
- Improved Software Development Cycle
- Improved Software Testing Cycle

(\$ in millions)	<u>Labor</u>	<u>Capital</u>	<u>Other</u>	<u>Total</u>
2004	\$0.3	\$0.6	\$0.0	\$0.9
Post-2004	<u>\$0.2</u>	<u>\$0.3</u>	<u>\$0.0</u>	<u>\$0.5</u>
Total	\$0.5	\$0.9	\$0.0	\$1.4

Project Name: TransEnergie Cross Sound Cable

Project Number(s): A619

Project Sponsor(s): Mike Calimano

Brief Description of Project:

Develop user interfaces and functionality to support bidding and scheduling of controllable transmission interfaces and support secondary service of transmission for merchant facilities.

Primary Driver of Project:

Cross Sound Cable and Norwalk-Northport are two existing transmission facilities which have merchant sales capability which can be bid and scheduled by one market participant. This project will provide on a confidential basis the ability for secondary purchases of transmission service by all market participants.

Anticipated Deliverables / Benefits:

- Bidding and scheduling of inter-control area transactions across controllable lines / provides secondary service on a competitive bid based system / User transparency and open transmission service.
- Provide NYISO Operations capabilities to monitor and control transactions across controllable ties / Improved coordination between control areas.
- Provides controllable ties transaction scheduling within the SCUC and RTS systems / Accurate constrained scheduling on an economic basis.
- Provides confidential settlements of MP transactions

(\$ in millions)	<u>Labor</u>	<u>Capital</u>	<u>Other</u>	<u>Total</u>
2004	\$0.4	\$0.0	\$0.5	\$0.9
Post-2004	<u>\$0.0</u>	<u>\$0.0</u>	<u>\$0.0</u>	<u>\$0.0</u>
Total	\$0.4	\$0.0	\$0.5	\$0.9

Project Name: Operational Information to the Marketplace

Project Number(s): TBD

Project Sponsor(s): Chuck King

Brief Description of Project:

This project will provide integrated processes and tools that will improve communication of ongoing system and market conditions, as well as special conditions or unusual events.

Primary Driver of Project:

With better operational information, market participants can make informed decisions about participation in our markets.

Anticipated Deliverables / Benefits:

Deliverables include:

- Resources dedicated to communicating information to the market place; labor costs post-2004 are to be determined and will be covered by reallocation of existing resources where possible
- Posting of additional historical, real-time and forward-looking operational information
- Automated notification of unusual events
- Automation of required regulatory and security communications

Benefits include:

- Better decision making capability in response to operational conditions
- Faster response in reaction to changing operational conditions

(\$ in millions)	<u>Labor</u>	<u>Capital</u>	<u>Other</u>	<u>Total</u>
2004	\$0.2	\$0.3	\$0.3	\$0.8
Post-2004	<u>TBD</u>	<u>TBD</u>	<u>TBD</u>	<u>TBD</u>
Total	TBD	TBD	TBD	TBD

Project Name: Documentum Implementation

Project Number(s): A556

Project Sponsor(s): Sandy Sanford

Brief Description of Project:

The Documentum project consists of two major phases, which will be completed by both internal and external resources. The first phase consists of implementing two pilot departments and the second phase consists of implementing the entire NYISO enterprise. The pilot phase is ongoing and expected to be completed Q1 2004. The enterprise implementation is planned to begin Q1 2005. Documentum will provide a number of key functions including: version control, workflow, check-in/out, document level security, full-text search, and e-mail integration and tracking.

Primary Driver of Project:

The NYISO has a growing number of critical business documents, which are information assets and need to be managed as such. Documentum will provide the tools to manage these critical documents.

In addition, Documentum can satisfy the demand for increased efficiency, quality and control in the document lifecycle process through an enterprise-wide repository for all documents, automation of life cycle processes, document retention/archival, and SAS70 compliance requirements.

Anticipated Deliverables / Benefits:

Documentum will provide the following benefits:

- Enable regulatory and SAS70 compliance while promoting good business practices throughout the enterprise.
- Improve quality by routing key business documents through the appropriate review and approval processes.
- Boost productivity by enabling users to access and repurpose critical information stored in business documents.
- Increase operational efficiency and collaboration among all users.

(\$ in millions)	<u>Labor</u>	<u>Capital</u>	<u>Other</u>	<u>Total</u>
2004	\$0.3	\$0.1	\$0.3	\$0.7
Post-2004	<u>\$0.1</u>	<u>\$0.2</u>	<u>\$0.2</u>	<u>\$0.5</u>
Total	\$0.4	\$0.3	\$0.5	\$1.2

Project Name: Inter-ISO Standards

Project Number(s): TBD

Project Sponsor(s): Ken Fell

Brief Description of Project:

Develop a set of standard messages for Day-Ahead and Real-time Market data. These messages would be a vehicle for sharing Market data between ISOs and between applications within an ISO.

Primary Driver of Project:

Facilitate the sharing of Market data to enable more coordinated Market within a region. The use of standards by BMS vendors will enable ISO to select any vendor rather than be locked into a single vendor.

Anticipated Deliverables / Benefits:

Deliverables include:

- Common language for describing SCUC, RTS, and LBMP input/output
- Message management system and repository

Benefits include:

- Enhanced efficiency of Grid and Market Operations
- Reduced reliance on specific application vendors
- Reduced staff to manage inter-ISO transactions and cost to MPs to cut transactions
- Eases support for other activities such as Market Monitoring

(\$ in millions)	<u>Labor</u>	<u>Capital</u>	<u>Other</u>	<u>Total</u>
2004	\$0.3	\$0.0	\$0.3	\$0.6
Post-2004	<u>\$0.0</u>	<u>\$0.0</u>	<u>\$0.5</u>	<u>\$0.5</u>
Total	\$0.3	\$0.0	\$0.8	\$1.1

Project Name: VRTO Support

Project Number(s): TBD

Project Sponsor(s): Chuck King

Brief Description of Project:

Initial project is to develop a Virtual Regional Dispatch between NYISO and ISO-NE. The project will allow for in-hour schedule changes based upon price differentials between the ISOs, most likely on a 15-minute basis.

Primary Driver of Project:

Drivers include the need to resolve seams issues in the Northeast and improve the liquidity of the ISO spot markets

Anticipated Deliverables / Benefits:

VRD pilot between NYISO and ISO-NE which includes a cross-border instrument.

Post-2004, savings of 100's of thousands in production costs, and potentially millions in consumers savings (refer to VRD report produced by David Patton)

(\$ in millions)	<u>Labor</u>	<u>Capital</u>	<u>Other</u>	<u>Total</u>
2004	\$0.1	\$0.0	\$0.5	\$0.6
Post-2004	<u>TBD</u>	<u>TBD</u>	<u>TBD</u>	<u>TBD</u>
Total	TBD	TBD	TBD	TBD

Project Name: Evaluate Options to Potentially Shorten Billing Cycle

Project Number(s): TBD

Project Sponsor(s): Frank Frankowski

Brief Description of Project:

To conduct a study identifying constraints which limit the ability to perform sub-monthly invoicing. Identify products and business processes, and develop the implementation plan for providing the capability to perform daily invoicing.

Primary Driver of Project:

Improved ability to manage market uncertainties and credit exposure. Market participants would likely be able to reduce their collateral requirements.

Anticipated Deliverables / Benefits:

- Recommendations to achieve reduced level of exposure to market participant settlement defaults and lower collateral requirements for market participants
- Load Profiling software for error identification and replacement of reported LSE loan measurements / improved accuracy of LSE bills
- Prioritized list of constraining conditions that prevent daily reconciliations / Identifies action plans
- Identification and recommendation for any required metering improvements /
 Identification of metering and measurement deficiencies

(\$ in millions)	<u>Labor</u>	<u>Capital</u>	<u>Other</u>	<u>Total</u>
2004	\$0.1	\$0.0	\$0.4	\$0.5
Post-2004	<u>TBD</u>	<u>TBD</u>	<u>TBD</u>	<u>TBD</u>
Total	TBD	TBD	TBD	TBD

Project Name: New Facilities (Office Space)

Project Number(s): TBD

Project Sponsor(s): Andy Ragogna

Brief Description of Project:

This project seeks to secure during 2005 ~150,000 square feet of office space to include administrative offices, alternate control center and back-up IT/disaster recovery functionality. During 2006, this facility would replace the current NYISO locations at Washington Avenue, Wolf Road, and Western Turnpike.

Primary Driver of Project:

1) Geographical separation of PCC and ACC. 2) Consolidation of Administration offices

Anticipated Deliverables / Benefits:

<u>Deliverables – A single, permanent, fully-functional ACC and IT back-up facility that is:</u>

1) Sufficiently distant from PCC, 2) Capable of housing all of NYISO's employees that are currently located in three geographically-separate leased facilities.

<u>Benefits</u> – 1) Minimize the probability of simultaneous loss of the PCC and ACC. Maximize capability to maintain system reliability and Market Operations in the event of disaster, 2) Enhanced communication, productivity, and efficiency by centrally locating approximately 300 NYISO employees in a single facility.

3) Meeting and conference room capacity with state of the art communications technology, to facilitate/accommodate most NYISO committee meetings. 4) Although "initial/preliminary" estimates indicate potential incremental costs of \$1M per year (after 2005), goal is to "at least" break even.

(\$ in millions)	<u>Labor</u>	<u>Capital</u>	<u>Other</u>	<u>Total</u>
2004	\$0.1	\$0.0	\$0.4	\$0.5
Post-2004	\$0.8	\$5.5	\$2.1	\$8.4
Total	\$0.9	\$5.5	\$2.5	\$8.9

Project Name: Other Projects

Project Number(s): A564, A625, A630, A668, A675, A676,

A687, A690, TBD

(Bi-Directional Modeling of Generators, Direct Generator Communications, Automate Voltage Support Billing Calculation, Scheduling & Pricing Non-Competitive Proxy interfaces, Billing Simulator, Automate DAM Congestion Billing Calculation, Automate Local Black Start Billing Calculation, Separate Grouped Units Billing Data)

Project Sponsor(s): Several

This category, Other Projects, is meant to capture 1) new projects that may potentially arise during 2004 and 2) existing projects that have not been otherwise detailed throughout this presentation. A pool of resources, totaling approximately 20,000 hours and 11 FTEs is available for assignment to such projects, which would be prioritized through the Projects Priority Team (PPT) process.

However, NYISO anticipates that new initiatives arising during 2004 will consume this entire resource allocation. <u>Therefore, the projects listed above are not likely to be undertaken during 2004, unless the level of new 2004 initiatives is significantly lower than previous years.</u>

(\$ in millions)	<u>Labor</u>	<u>Capital</u>	<u>Other</u>	<u>Total</u>
2004	\$1.4	\$0.0	\$0.9	\$2.3
Post-2004	<u>TBD</u>	<u>TBD</u>	<u>TBD</u>	<u>TBD</u>
Total	TBD	TBD	TBD	TBD