

DATA CENTER RELOCATION PROJECT OVERSIGHT REPORT FOR MARCH 2009

CURRENT RISK RATING ▼ Attention is needed to address the budget deficit and current risks described below.



PROJECT DESCRIPTION

The Data Center Relocation Project will create a dedicated King County facility in leased space at the Sabey Data Center in Tukwila to replace the county's existing data center in the Seattle Metropolitan Tower (SMT). The new facility will house 60% of the county's data network systems, with room for expansion. Project delivery is being managed by the Facilities Management Division (FMD) and the Office of Information Resources Management (OIRM). Build-to-suit, design-build, and county-force delivery methods are being used. The project is currently in implementation.

PROJECT STATUS ● = No Current Concerns ▼ = Attention Needed ◆ = Corrective Action Needed

● **SCOPE**

The baseline scope includes: construction of 7,500 square feet (sf) of data center space, 580 sf of storage, and 3,982 sf of office space; installation of redundant fiber lines connecting to the county's wide area network core in downtown Seattle; installation of new or relocated IT network equipment; and data center staff relocation. The office space was removed from scope prior to construction to save \$1,322,318 in rent over the life of the lease.

● **SCHEDULE** (Completion Dates)

<u>Milestone</u>	<u>Approved Schedule</u>	<u>Current Forecast</u>	<u>Comment</u>
Design	11/21/08	Complete	Completed On Schedule
Construction	04/10/09	03/31/09	Completed early
Phased IT Equipment Installation	10/25/09	10/25/09	On Schedule
Decommissioning SMT	12/15/09	12/15/09	On Schedule
Phased Fiber Line Installation	04/06/10	04/06/10	On Schedule

▼ **COST** (Through March 31, 2009)

Project	Budget Appropriations	Life-to-Date Expenses	% of Budget Appropriations Expended	Estimated Cost at Completion	Estimated Balance at Completion
FMD	10,756,213	1,142,637	10.6%	10,736,688	19,525
OIRM	6,891,293	363,814	5.3%	8,372,785	(1,481,492)
Contingency	1,238,607	0	0.0%	1,163,658	74,949
Total	\$18,886,113	\$1,506,451	8.0%	\$20,273,131	(\$1,387,018)

▼ **ISSUES AND RISKS**

Submission and approval of a supplemental appropriation is urgently needed. The current appropriation, as anticipated, is not sufficient to complete the project. This creates a risk that the project will run out of money before council acts to appropriate additional funds. This could lead to schedule delays.

For detailed information regarding this project, see the following pages.

King County Auditor's Office – Cheryle Broom, County Auditor

The King County Auditor's Office was created in 1969 by the King County Home Rule Charter as an independent agency within the legislative branch of county government. Its mission is to promote public trust in King County Government by providing audits and other services that improve performance, accountability and transparency.

Capital Projects Oversight Program – Tina Rogers, Manager

The Capital Projects Oversight Program (CPO) was established within the Auditor's Office by the Metropolitan King County Council through Ordinance 16725 in 2007. Its goal is to promote the delivery of capital projects in accordance with the council approved scope, schedule, and budget; and to provide timely and accurate capital project reporting.

CPO oversight reports are available on the Auditor's Web site (www.kingcounty.gov/operations/auditor/reports) under the year of publication. Copies of reports can also be requested by mail at 516 Third Avenue, Rm. W-1033, Seattle, WA 98104, or by phone at 206-296-1655.

**ALTERNATIVE FORMATS AVAILABLE UPON REQUEST
CONTACT 206-296-1655 OR TTY 206-296-1024**

INTRODUCTION

This is the sixth monthly oversight report prepared for and submitted to council by the Capital Projects Oversight Program on the status of the scope, schedule, budget, and risk for the Data Center Relocation project. Oversight is conducted through monthly meetings with the project team members from FMD and OIRM and representatives from the Office of Management and Budget (OMB), who are assisting with the budget. Information has also been obtained through site visits and direct contact with Data Center staff. FMD, OIRM, and OMB produce a separate monthly progress report and their update for March is attached.

PROJECT STATUS UPDATE

Scope

No new scope changes were considered in March. As described in the December 2008 report, an amendment to the Data Center lease has been agreed to in principle with the landlord to remove 3,982 square feet (sf) of office space. This will result in \$1,322,318 in rent savings over the life of the lease. The OIRM staff originally planned to occupy this office space will utilize existing OIRM space in the Chinook Building instead. The remaining Data Center space, including work space for the necessary on-site operators, is not altered by this scope change. The King County Executive will notify council of the intent to modify the lease by separate letter. No schedule for finalizing the lease amendment has been given.

Schedule

The baseline schedule for the project was partially modified during March. As reported earlier, it still shows: finishing the physical move of county equipment from Seattle to Tukwila on October 12, 2009; and completion of the secondary fiber installation by April 6, 2010. However, commissioning of the data center was completed on April 24, 2009 instead of May 22, 2009 as originally planned. The project team continues to report that the project is on track to meet these milestones on or before the baseline schedule dates. OIRM has confirmed that they will be purchasing a refurbished IBM mainframe computer instead of relocating the existing machine. They are targeting installation by late August / early September, which will not impact the critical path for the project. Based on the information available at this time, we do not have any major schedule concerns, unless cash-flow constraints discussed in the Risk section below cause the project team to delay activities on the critical path.

As was reported last month, the relocation consultant has started working on the development of the high-level move strategy for the project. This will be followed by the development of detailed move plan for the mainframe computer and servers included in the project, which is scheduled to be completed by July 17, 2009. These deliverables will provide independent verification of the baseline schedule. We will monitor the results of the relocation consultant's work and report on the adjustments, if any, that they recommend to the project schedule.

An ongoing focus of oversight will be to understand and report on the cost impacts of any schedule delays which develop and to recommend mitigation strategies, if needed, to the project team for consideration.

Cost

This project has a budget of \$18,886,113 based on the current appropriations. This includes \$1,238,607 in contingency funds. Through March, the project expenditures total \$1,506,451 or approximately 8.0% of the approved budget allocation. These expenditures do not include any tenant improvement costs which are due in one lump-sum payment to the landlord upon substantial completion of construction.

As first noted in January, the project team is reporting that the county's cost for landlord-provided tenant improvements has increased by \$241,527 over the \$9,500,000 specified in the lease agreement. This amount was negotiated in response to scope of work changes claimed by the landlord and minor design changes requested by the county. We are researching this issue and will report on our findings in a future oversight report.

The project team continues to forecast a \$1,387,018 deficit at project completion unless a 2009 supplemental budget increase is approved. This amount is equal to the estimated 2009 appropriation anticipated by the project team and reported in the staff report to council as part of the 2008 appropriation request. The project team is working with OMB on the 2009 supplemental budget request, which they now anticipate will be transmitted to council in June, instead of May as previously reported.

Issues and Risks

As first reported for January, the project continues to face a significant, but resolvable, budget risk which has potential to impact the schedule. The current project appropriation, as anticipated, is not sufficient to pay for the project through completion even if all available contingency is used. The project team now anticipates transmittal of a supplemental budget request to council in June, instead of May as previously reported.

We believe that submitting the supplemental appropriation request this late is a risky strategy. Because of the time ordinarily needed to review and schedule supplemental budget requests for council consideration, the project could potentially run out of money before council acts to appropriate additional funds. This could put the relocation schedule at risk if the project needs to be delayed while awaiting additional appropriation. Although the February 2009 report indicated that the project could run out of funds as soon as late summer, the project team has been re-evaluating their cash-flow and now believe they can stretch out their current funding into fall, including drawing down on contingency if needed. We will be reviewing this with them once their analysis is complete.

RECOMMENDATIONS

As stated in the January report, we continue to recommend that the King County Executive submit the supplemental 2009 budget appropriation request to council as soon as possible. The submittal should be based on the best available information on the forecast project costs at completion. To date, no submittal has been made.

As stated in the February report, we further recommend that documentation of the assumptions used in developing the estimate be provided to our office, so that we can evaluate and comment upon the

adequacy of the project contingency available to support the remainder of the project. We have yet to receive this information for our review.

Additional actions may be needed to mitigate the impacts of potential cash-flow constraints on project delivery. We will continue to monitor the cash-flow and schedule projections and the schedule for action on the appropriation request and make additional recommendations if needed. There are no additional recommendations at this time.

ACKNOWLEDGEMENTS

We appreciate the collaborative efforts of FMD, OIRM, and OMB in providing for effective oversight of the Data Center Relocation project consistent with council intent. This report was prepared by a team from the King County Auditor's Office, including Ron Perry, Tina Rogers, and Tom Wood. No formal presentation of this monthly report has been scheduled for the Government Accountability and Oversight Committee. Should you have questions or comments on the report, please contact Tina Rogers, the Capital Projects Oversight Manager or Ron Perry, Deputy County Auditor.

DISTRIBUTION

King County Government Accountability and Oversight Committee

cc: Metropolitan King County Councilmembers
Kurt Triplett, King County Executive
David Martinez, County Chief Information Officer, Office of Information Resource Management
Jim Buck, County Administrative Officer Designee, Department of Executive Services (DES)
Bob Cowan, Budget Office Director, King County Executive Office
Kathy Brown, Director Facilities Management Division
Saroja Reddy, Policy Staff Director, King County Council
Mike Alvine, Senior Principal Legislative Analyst, King County Council
Mark Melroy, Senior Principal Legislative Analyst, King County Council

ATTACHMENT

FMD, OIRM and OMB Monthly Data Center Relocation Report for March 2009

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DATA CENTER RELOCATION

Facilities Management Division & Office of Information Resource Management
March 2009 Monthly Report



Project Summary

The Data Center Relocation Project will create a dedicated King County facility in the new Sabey Data Center located in Tukwila, Washington. The project will develop approximately 7,500 s.f. of data space and 580 s.f. of storage. The total budget is \$18.8 million which includes \$9.9 million for tenant improvements. The Data Center currently resides in leased space in the Seattle Municipal Tower. Through April 2010 the Facilities Management Division, Office of Information Management and the Sabey Company will collaborate on designing, constructing, equipping and relocating approximately 60% of King County government's IT equipment and Data systems to this new, state-of-the-art facility. The facility has additional capacity to house all King County Agencies IT systems. In addition, the project will provide two diversely routed, secure fiber networks to serve as redundant connections between the Data Center and King County's Wide Area Network 'cores' in downtown Seattle. This new fiber line system will accommodate 100% of today's IT needs with capacity for growth.



King County

Progress Highlights

- Construction is Substantially Complete. Tukwila issued a temporary certificate of Occupancy
- Network Equipment ordered, tentative delivery mid April.
- Fiber infrastructure by City of Seattle crews continues on schedule.
- There were no new project risk items identified in the month of March.

Project Milestone Chronology

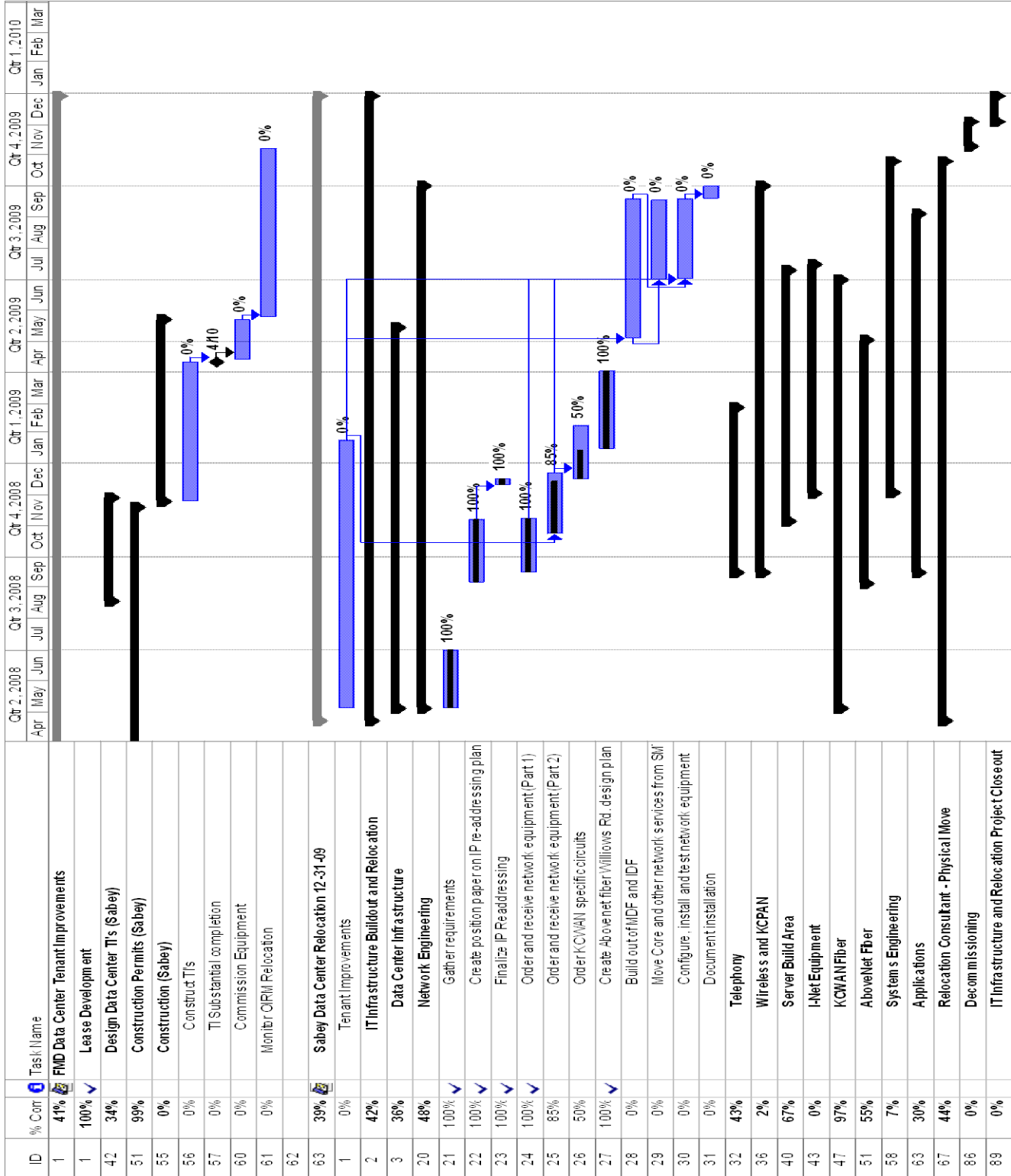
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| • July 2008 | Data Center Legislation Approved |
| • August 2008 | King County Lease with the Sabey Data Center LLC |
| • August 2008 | Sazan Contract – CM and Technical Consultant |
| • October 2008 | Monthly Reporting to Auditor's Office and County Council |
| • November 2008 | MOU Between FMD, OIRM and the Budget Office |
| • November 2008 | Contingency Review Process established |
| • November 2008 | Responsibility Matrix established |
| • December 2008 | Relocation Consultant Contract Finalized |
| • January 2009 | Conditional design approval granted |
| • February 2009 | 100% Construction Documents submitted |
| • March 2009 | Temporary Certificate of Occupancy issued |

Summary Schedule

Complete		Start	Finish	Start	Finish	Start	Finish
100%	Lease Development	2/4/08	8/15/08	2/4/08	8/15/08		
100%	Design TI's	8/18/08	11/21/08	8/18/08	11/12/08		
100%	Permits	10/24/08	11/21/08	10/30/08	11/18/08		
90%	Construct TI's	11/24/08	4/10/09	11/19/08			3/31/09
0%	Commissioning	4/13/09	5/22/09			4/2/09	4/24/08
60%	Data Center Infrastructure	5/5/08	5/11/09	5/5/08			5/14/09
40%	Network Engineering	5/5/08	9/30/09	5/5/08			10/20/09
10%	Telephony	9/15/08	6/22/09	9/15/08			6/24/09
40%	Wireless & KCPAN	9/15/08	10/7/09	9/15/08			9/30/09
60%	Server Build Area	11/12/08	7/25/09	11/15/08			7/9/09
20%	I-Net Equipment	3/9/09	6/29/09	3/21/09			7/15/09
80%	KCWAN Fiber-Primary Line	5/5/08	6/15/09	5/5/08			6/30/09
40%	KCWAN Fiber-Secondary Line	5/5/08	4/6/10	5/5/08			4/6/10
90%	Temporary Fiber (AboveNet)	9/4/08	4/30/09	9/4/08			5/1/09
50%	Systems Engineering	12/3/08	9/23/09	12/3/08			10/25/09
20%	Applications	9/15/08	8/10/09	9/15/08			9/3/09
20%	Relocation Consultant Physical	4/22/08	10/12/09	4/22/08			10/25/09

Schedule Detail:

Tenant Improvement work is on track according to Sabey's proposed construction schedule. Contractor anticipates early completion of TI.



Budget Detail

Budget expenditures are tracking consistently with the schedule and planned expenditure levels.

Contingency

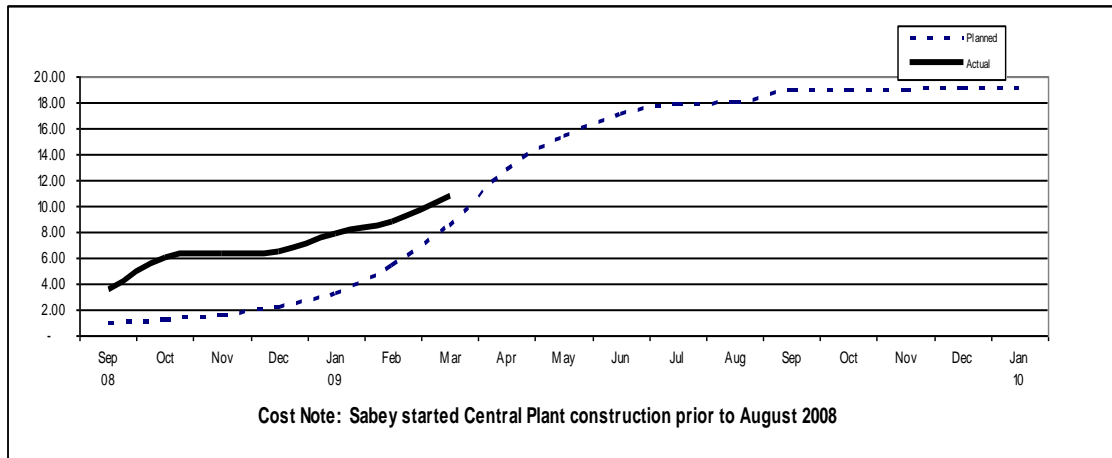
Contingency Budget	\$1,238,607
Proposed transfer to project 377219 in 09 Supplemental	\$ (74,949)
Subtotal (Estimate to complete)	\$1,163,658
Pending items	\$ (241,527)
Contingency available	\$ 922,031

Contingency has not been utilized for items anticipated to be included in the planned 2009 supplemental appropriation request. The contingency available in relation to remaining cost risk is being continuously monitored.

A supplemental appropriation request currently estimated at \$1,387,018 is planned for May 2009.

Cost Element	Description	Current Budget	Expenditures	Encumbrances	Current Balance	Estimate to Complete	Estimate at Completion	Projected Balance
395657	FMD Data Center Relocation							
001	Design	646,580	564,141	82,428	11	10,000	656,569	(9,989)
003	Construction	9,632,053	10,587	-	9,621,466	9,500,000	9,510,587	121,466
004	Equipment/Furnishings	268,984	268,983		1	-	268,983	1
005	Contingency				-	-	-	-
006	1% for Art				-	-	-	-
007	County Force Design				-	-	-	-
009	Project Management	208,596	298,926	-	(90,330)	1,623	300,549	(91,953)
	Totals	\$ 10,756,213	\$ 1,142,637	\$ 82,428	\$ 9,531,148	\$ 9,511,623	\$ 10,736,688	\$ 19,525
377219	OIRM Data Center Relocation							
101	Data center Infrastructure	730,936	-	-	730,936	565,447	565,447	165,489
102	Network Engineering	1,883,060	125,088	1,604,503	153,469	98,244	1,827,835	55,225
103	Telephony	28,276	-	2,489	25,787	26,721	29,210	(935)
104	Wireless & KCPAN	5,914	-	5,431	483		5,431	483
105	Server Build Area	10,890	-	-	10,890	-	-	10,890
106	I-Net Equipment	107,101	-	-	107,101	107,691	107,691	(590)
107	KCWAN Fiber	1,839,866	24,257	4,349	1,811,260	1,821,397	1,850,003	(10,137)
108	Abovenet Fiber	704,861	-	1,478,859	(773,998)	-	1,478,859	(773,998)
109	Systems Engineering	-	-		-	136,875	136,875	(136,875)
110	Relocation Consultant	1,000,000	-	1,366,404	(366,404)	-	1,366,404	(366,404)
111	OIRM Labor	580,390	214,469	60,319	305,602	730,242	1,005,030	(424,640)
112	Misc.							
		\$ 6,891,293	\$ 363,814	\$ 4,522,354	\$ 2,005,125	\$ 3,486,617	\$ 8,372,785	\$ (1,481,492)
377220	OIRM Data Center Contingency							
005	Contingency on 377219 budg	1,238,607	-	-	1,238,607	1,163,658	1,163,658	74,949
	Grand Total All Projects	18,886,113	1,506,451	4,604,782	12,774,880	14,161,898	20,273,131	(1,387,018)

Cashflow: Actual Versus Planned Expenditure



- ⊕ Original legislation included a supplemental appropriation in 2009.
- ⊕ Expenditures reported from IBIS/ARMS as of 30th each month
- ⊕ Cashflow will be refined as new encumbrance data from consultants is received. .

Planned Contract Listing

Description of each contract	Estimated Amount	Estimated Timeframe	Possible Vendor List
The contract would focus on consulting services for planning, scheduling and executing the relocation of the King County Enterprise Data Center. A sole source waiver has been received	\$1.5M	12/08 - 12/09	HP
Blanking panels and shelving for cabinets, power cords, patch cables, horizontal power, MDF caging	\$33,000	1/09-6/09	Graybar
Digital KVM and associated equipment, console controllers	\$324,000	1/09-6/09	Net IG (Carlyle)
Network switches	\$1.7M	3/09-8/09	Cisco
I-Net switch	\$86,000	3/09-6/09	Verizon (Marconi)
Other move related expense (e.g., surplus)	\$20,000	9/09-10/09	Emerald City Movers
Mainframe processor	\$240,000	7/09 – 10/09	IBM
Telephony, voice circuits	16,500	8/09 - 12/09	Qwest
Telephone testing	\$10,500	8/09 – 12/09	Cochran electric
Decommissioning of SMT	TBD	9/09-12/09	DoIT (City of Seattle usually requests their own inside staff)
Decommissioning Fortress Co-location (Auxiliary Server Room I and II)	TBD	9/09-10/09	Fortress
Closeout of lease at Fortress Co-location	TBD	9/09	Fortress with assistance of FMD
Seed equipment for distributed moves requiring minimal downtime	\$170,400	5/09 – 10/09	HP, Dell
Construction Management and Design Oversight.	\$197,000	09/08 – 07/09	Sazan Group Inc.
'Tenant Contribution' to lease Tenant Improvement	\$9,500,000	5/09 – 6/09	Sabey Data Center –

Feature of the month

Building Commissioning

Commissioning Scope and Philosophy

The commissioning process plan describes the project commissioning process from design through post-construction, summarizing commissioning tasks and procedures, and the responsibilities, authority, and lines of communication for the Commissioning Team. The commissioning plan is supplemental to the project specifications and does not relieve any contractor or consultant of contractual requirements specified elsewhere in the project documents and contracts.

- A. **Commissioning Definition:** New building commissioning is a quality-assurance process for achieving, verifying, and documenting that the performance of facilities, systems, and assemblies meet the owner's documented objectives and criteria. The Design Team, and contractors provide the quality control for design, the installation, and startup of the building systems. Commissioning provides review and quantitative functional testing in order to provide assurance that the quality control efforts of the designers and contractors are carried out.
- B. **Commissioning Goal:** The goal of commissioning this project is to provide documented confirmation that the systems within the commissioning scope of work fulfill the owner's functional requirements, including the long-term performance and maintenance requirements of the building owner, occupants, and operators.
- C. **Process Synopsis:** Building commissioning is a process that is preformed as a team effort including the owner, designers, builders, and the Commissioning Authority. The entire team owns the process and its success. The process is used to verify and document that the documented owner's project requirements and the project basis of design are implemented. Before the owner accepts the project, installation verification and functional performance testing is performed to document that the equipment and systems within the commissioning scope of work comply with the specified systems' acceptance criteria and the owner's documented requirements for performance and maintainability.

The commissioning of KCDC will test the new equipment and determine whether that equipment is correctly integrated with the existing systems to support KCDC operations.

Sigma Six and EEI commissioned the existing Central Plant equipment in an earlier phase of SDC 52, and the equipment is operational in support of another SDC 52 tenant. Therefore, KCDC commissioning does not include re-commissioning of Central Plant air handlers, unit substations, generators, chilled water pumps or house distribution panels, beyond what is needed to verify proper integration of new equipment.

For example, Sigma Six will witness operation of the new UPS modules on generator to verify there is no unexpected UPS/generator interaction. However, Sigma Six will not specifically script generator/utility transfer tests. Sigma Six tested that function in the first phase and the new equipment will not affect that specific function. These test results are available for review.

Subcontractors and commissioning agents will conduct testing in a manner that minimizes risks to other existing data center operations. For example, before certain equipment tests, existing tenant critical loads on static transfer switches will be transferred to the alternate bus.

McKinstry is integrating new mechanical equipment into the existing mechanical infrastructure, balancing the new systems, and testing the new controls, while the existing mechanical equipment runs in support of other existing operations.

KBA will commission these new systems and their integration into the existing system. KBA will also perform the necessary observations and documentation to confirm performance for Seattle City Light's energy conservation rebate.

During acceptance testing, TAB, and FPT, the responsible parties will verify correct operation of the equipment and individual systems. During IST, the commissioning team will verify operation of the system as a whole, including likely failure scenarios.

Commissioning Events and Responsibilities

Events

1. Equipment Start-up and Acceptance Testing
 - a. Electrical and Mechanical Subcontractors
2. Testing and Balancing (TAB) – Mechanical Subcontractor
3. Equipment Functional Performance Testing (FPT)
 - a. Electrical and Mechanical Commissioning Agents
4. Integrated Systems Testing (IST)
5. Corrections (all)

Load Simulation

SCI has rented sufficient load banks to simulate the full load capability of 1.05MW UPS load. Primarily, these are "suitcase" load banks.

SCI will stage the load banks inside KCDC for utilization during FPT, TAB and IST. Sigma Six is providing additional load banks near the UPS Room to simplify the logistics of testing the UPS modules.

SCI will set up the load banks in the space in such a way that they will simulate the effect of heat load containment utilizing the Chatsworth Vertical Exhaust Ducts (VED). SCI will place the heat load banks in the cold aisles with the heated air going into a "tented" area in front of the cabinets. This will direct the heated air into the server cabinets and VEDs, simulating server heat load.

Integrated Systems Testing

During IST, the commissioning team will load the space up to full load and simulate failures to determine that the systems work together to meet the design intent.

Some failures the commissioning team will simulate during IST include:

- Utility outage
 - Trend temperature rises in the suite during the utility outage
 - Transfer KC UPS modules between bypass and normal operation while on generators.
- Simulated bus failure
 - Transfer of STS to alternate bus
 - Performance of mechanical and other loads during simulated bus failure

Corrections

SCI will keep an Issue Resolution Log (IRL) based on input from the Commissioning Agents and subcontractors. SCI included time in the schedule for correction of deficiencies found during IST.