

**Board Of Water Works
REGULAR CALLED MEETING MINUTES
May 16, 2017**

Board Members Present:

Mr. Creighton Mershon, Chair
Dr. Sundeeep “Sunny” Dronawat
Dr. Sharon Kerrick
Ms. Marita Willis

Not Present:

Mayor Greg Fischer
Mr. Glenn Sullivan, Vice Chair
Mr. Craig Willman

Others Present:

Mr. Spencer Bruce, President and Chief Executive Officer
Mr. Daniel Frockt, CFO, Louisville / Jefferson County Metro Government
Mr. Dave Vogel, Executive Vice President, Customer Service and Distribution Operations
Ms. Kelley Dearing-Smith, Vice President, Communications and Marketing
Mr. Tim Kraus, Vice President, Production Operations and Chief Engineer
Dr. Tom Lockett, Vice President and Chief Information Officer
Ms. Lynn Pearson, Vice President, Finance and Treasurer
Mr. Terrence Spence, Vice President, Human Resources and Labor Relations
Mr. Michael Tigue, Vice President, Compliance, General Counsel and Corporate Secretary
Mr. Kevin Kastensmidt, Director, Information Technology
Ms. Kim Reed, Director, One Water Project Liaison
Ms. Jenni Schelling, Director, Internal Audit
Mr. Matthew Griffith, Strategic Planning & Performance Specialists
Mr. Blake Steenbergen, System Administrator, Oracle
Mr. Adam Carter, Union President
Ms. Beverly Soice, Paralegal

Visitors:

The regular called meeting of the Board of Water Works (BOWW) was held on Tuesday, May 16, 2017 at the Louisville Water Company (Louisville Water) located at 550 South Third Street, Louisville, Kentucky. Chair Creighton Mershon called the meeting to order at 11:10 a.m.

Minutes of the Previous Regular BOWW Meeting Approved

Dr. Sharon Kerrick moved to approve the Regular Called Meeting Minutes of April 18, 2017, seconded by Dr. Sunny Dronawat and the motion was unanimously carried.

Mr. Mershon announced that this would be Ms. Marita Willis’ last meeting as a Director of the Board of Water Work. Mr. Mershon thanked Ms. Willis for her years of service to the Board, to the Louisville Water Company and to the community. Ms. Willis has served on the Board since 2003, holding positions of Director, Vice Chair and Chair and has been a member on most, if not all, of the BOWW subcommittees. As a token of appreciation, Mr. Mershon presented Ms. Willis with a Louisville Stoneware replica of the Louisville Water

Company Corporate office building.

Mr. Mershon stated that Ms. Willis has been nominated by the Mayor and approved by Metro Council to be a Director for the Louisville / Jefferson County Metropolitan Sewer District (MSD).

Mr. Mershon also announced that Mr. Glenn Sullivan's term on the Board ended on April 30, 2017.

Report Provided by the President/Chief Executive Office

Mr. Spencer Bruce advised Louisville Water assisted Mayor Greg Fischer's office and Louisville Forward with activities around the Kentucky Derby. As part of the "Liquid Assets" campaign to highlight Louisville Water, staff created branded drinking water stations at the downtown Hyatt Hotel and at an Oaks reception. In addition, key prospects received a package from Louisville Water that included information on water quality, rates and supply as well as products that make a "hydrated" Derby experience.

On May 9, Louisville Water announced the start of a partnership with Bulleit's Stitzel Weller with displays installed at the Shively distillery that highlights water's connection to the bourbon industry. As part of a social responsibility effort, the distillery will use a branded drinking water dispenser. Mayor Fischer and representatives from Bulleit Whiskey joined Louisville Water to announce the partnership. This effort will eventually include a special tour at Louisville Water Tower Park and partnerships with other distillers and organizations that are part of the Kentucky bourbon experience.

Change Order Approved for Project 14321 - Eastern Parkway 48-inch Water Main Rehabilitation Phase 2A

Mr. Tim Kraus reported that Phase 1 of this project, which is now substantially complete and in-service, included the first 11,200 feet of sliplining a 42-inch outer diameter spiral welded steel main inside the existing 48-inch inner diameter cast iron main, located between Grinstead Drive at Cherokee Park to Beargrass Creek at the crossing of Eastern Parkway.

Phase 2A of the Project will continue west along Eastern Parkway from the end of Phase 1 at the intersection of Eastern Parkway and Beargrass Creek and extend approximately 9,125 feet to the east side of I-65. Construction for Phase 2A will occur during our low water demand period beginning in early November 2017 and be completed by mid-April 2018.

Garney Companies, Inc. (Garney), the successful low bidder on Phase 1, performed well on the challenging Phase 1 project by conducting their work in a safe and professional manner while minimizing disruptions to the public. Garney also successfully met construction requirements and tight scheduling deadlines. Phase 1 was completed on-time and with change orders totaling less than 1% of the original bid price.

The Phase 1 bid documents included language to allow Louisville Water the option to enter into and/or negotiate a mutually acceptable change order for Phase 2 and/or Phase 3 premised on the successful bidder's Phase 1 supplementary unit prices. At Louisville Water's request, Garney has submitted a change order quote for Phase 2A in the amount of \$6,310,000, which is lower than the Engineer's independent estimate of \$6,553,435, using supplementary unit prices from the Phase 1 contract and construction cost estimates for items not included in the Phase 1 supplementary unit prices. It should be noted that there were six (6) bidders on Phase 1 and Garney's bid was 29% lower than the 2nd low bidder on this project. Staff believes that, as demonstrated in Phase 1, Garney is well qualified to perform this project and their quote for Phase 2A provides good value to Louisville Water. Staff recommends that this change order quote be accepted.

Ms. Willis asked if staff would keep the residents and business affected by the project apprised of the work progress similar to what was done during Phase 1. Ms. Kelley Dearing Smith advised that Phase 2 goes through more residential areas and plans will be made for similar communication efforts. Ms. Smith also noted that Phase 2 will pass behind the University of Louisville J.B. Speed School of Engineering and staff plans to communicate with the school in hopes of providing an educational opportunity around the project.

Dr. Dronawat moved to approve a change order in the amount of \$6,310,000 to Garney Companies, Inc. for Project 14321 - Eastern Parkway 48-Inch Transmission Main Rehabilitation - Phase 2A. Seconded by Ms. Willis and the motion unanimously approved.

Contract Change Order Ratified for Project 14515 – Condition 2016 – Crescent Hill Yard Piping and Valves

Mr. Kraus advised the Louisville Water's 2016 Condition Assessment Project was initiated to rehabilitate and/or replace valves and inspect yard piping at the Crescent Hill facility. The area covered by this project includes all yard valves and piping south of Frankfort Avenue, including evaluation of the 48-inch, 60-inch, and 78-inch discharge headers inside the pump station. A companion project was set up and approved for 2017 to address the piping and valves in the vicinity of the North and South Reservoir located north of Frankfort Avenue. This work was recommended in the Facilities Plan.

Louisville Water's site contractor, MAC Construction & Excavating, has been working on making all of the yard valves accessible for inspection. The valve assessment contractor, Wachs Water Services, completed the assessment and identified several valves that were in need of repair. One 60" butterfly valve was deemed inoperable after much work and was recommended for replacement. In addition, Louisville Water employed an acoustic leak detection company, Echologics, to perform a leak detection survey of the Crescent Hill yard piping. One leak was discovered on the 60" main near the back parking lot.

A change order quote was requested from MAC Construction & Excavating to supply and install the necessary items to replace an inoperable 60" valve, fix an identified leak on the 60" water main, pave the asphalt driveway from the security gates to Stilz Avenue, prepare the pump station headers for external inspection, install scaffolding, and provide assistance to condition assessment contractor inspecting the pump station header pipes. The change order was received on April 28, 2017, in the amount of \$610,020 and was 12.2% lower than the Project Engineer's cost estimate. Previous change orders had been approved in the cumulative amount of \$148,632 to fund minor repairs identified during the valve assessment work and the excavation of the 78" butterfly valve to make it accessible for inspection. The budget of record for the Condition 2016-Crescent Hill Yard Piping & Valves, does not need to be increased as the possibility for this work was budgeted in the original project scope of work.

Due to the critical nature of this transmission main and the need to return it to service during the potential high demand season, the exigent provisions of the Capital Projects Authorization Procedure (CPAP) and Contract Change Order Procedure (CCOP) were utilized. Dr. Dronawat moved to ratify the award of the contract change orders with a cumulative value of \$758,652.13 increasing MAC Construction & Excavating's contract to \$2,062,478.14, Dr. Kerrick, seconded and the motion unanimously carried.

Contract Awarded for Project 14544 – Brooks Hill 300,000 Gallon Elevated Water Storage Tank and Establish a New Budget of Record

Mr. Kraus advised the Capital Improvement Plan (CIP) includes funding for the demolition of the existing standpipe and construction of a new water storage tank located on Louisville Water property at 409 Old Brooks Hill Road to serve the Brooks Hill Pressure Zone (760PZ), support the Brooks Hill 880 Pressure Zone and the

1030 Pressure Zone. The project scope consists of demolishing a 300,000 gallon ground-supported standpipe water tank, and constructing a new 300,000 gallon elevated water storage tank, inclusive of electrical, piping, telemetry controls, and site work.

On December 21, 2016, a total of two (2) bids were opened for this project. Both bids were rejected on February 3, 2017. The apparent low bid was deemed non-responsive due to listing a non-pre-qualified subcontractor for 4"-16" ductile iron water main. The second bid was rejected due to it greatly exceeding the budget estimate for the work. In an effort to reduce costs, Staff worked with both bidders to determine why costs were perceivably high, and to identify any scope revisions and associated cost savings that could be achieved, including eliminating prevailing wage requirements. The project was re-scoped and re-bid.

On April 29, 2017, a total of two (2) bids were opened. The submitted bids ranged from \$1,523,000 to \$1,700,875. The apparent low bidder was Caldwell Tanks with a bid of \$1,523,000 which was 21% greater than the engineer's original estimate of \$1,200,000. Review of the bid tabulation indicates that we received bids from two (2) separate tank manufacturers indicating a level of market competition. The spread of bid values, approximately 12%, indicates a good bid sequence and market value for this tank. Staff recommends awarding the Brooks Hill Elevated Water Storage Tank project to Caldwell Tanks for \$1,523,000. Based on the apparent low bid, design costs and estimated contract administration costs, the requested revised budget estimate is increased to \$1,970,000.

Ms. Willis moved to award Project 14544 – Brooks Hill Elevated Water Storage Tank to Caldwell Tanks in the amount of \$1,523,000 and to establish a new budget of record of \$1,970,000 for this project. Dr. Kerrick seconded and the motion unanimously carried.

Unbudgeted Preliminary Project No. 366-17-0026 North Buckeye Lane Water Main Extension Approved

Mr. Kraus advised heavy rains on April 28 and 29, 2017 resulted in a main break to an exposed a 6-inch PVC water main located in Taylor Creek in Oldham County, Kentucky. This cross-country water main provides the only source of water service to approximately 45 homes. Louisville Water crews responded to the main break by making a short-term repair in very difficult conditions, which was compounded by the remote nature of the stream crossing. Since the main break and repair, Louisville Water initiated an in-depth review of the existing water main to identify options to permanently repair or replace the main while minimizing future operating risk.

The existing 40-45 year old water main is a part of the system that was acquired from Goshen Utilities in 2002 and currently provides domestic and fire service for approximately 45 customers along N. Buckeye Lane, Tartans Hill Rd, Tartans Landing Marina and Overlook Circle. The water main is approximately 4,400 feet long and is routed cross-country in a 15-foot easement. The majority of the main is located in heavy vegetation with several creek crossings and steep terrain (> 25% slope). The location of the main makes it very difficult and dangerous to locate, access, and maintain. The water main was not installed with a tracer wire, which makes the main all but un-locatable without invasive digging or vacuum excavation efforts. Due to the rocky nature of the creek bed, the remote access and steep slopes involved, the cost estimates for the permanent repair of the exposed main in Taylor Creek ranged from \$70,000 to \$135,000, and does not solve the other problems associated with this main such as accessibility, rough terrain and difficulty locating the position of the main.

Staff evaluated the installation of approximately 3,800 feet of 8-inch water main to replace the existing 6-inch water main. The majority of the proposed 8-inch water main will be located along the right-of-way of North Buckeye Lane, making it readily accessible for future maintenance. The estimated cost of the proposed water

main is \$330,000. Staff recommends that the existing cross-county main be replaced with a new main to correct accessibility and maintenance issues associated with the existing main.

Dr. Kerrick moved to approve unbudgeted Project No. 366-17-0026 North Buckeye Lane Water Main Extension in the amount of \$330,000. Seconded by Ms. Willis and the motion unanimously carried.

Additional 2017 Lead Service Renewal Projects Approved

Mr. Kraus advised that as of January 2017, Louisville Water had approximately 6,500 lead services remaining in its system and an aggressive goal to remove all of the lead services by 2020. The 2017 Capital Improvement Plan (CIP) includes \$5,884,000 and an additional \$1.5 million in early 2018 for the removal of an estimated 1,700 lead service lines. Five (5) lead service block renewal projects have been designed, bid and awarded to contractors in 2017. Bid prices received for these projects as well as several other CIP projects have been consistently below the Project Manager's estimate. Total savings due to lower bid prices year-to-date exceed \$5 million.

Staff recommends that four (4) additional lead service block renewal projects be initiated to replace an additional 700 services at an estimated cost of \$2,450,000. The four projects include the replacement of 200 lead services at an estimated cost of \$700,000 in an area referred to as N. 25th Street Area, 200 lead services at an estimated cost of \$700,000 in an area referred to as Bluegrass Avenue Area, 200 lead services at an estimated cost of \$700,000 in an area referred to as the Atwood Street Area, and 100 services at an estimated cost of \$350,000 in an area referred to as Oxford Place Area. All projects are targeted for bidding to local contractors.

Dr. Dronawat moved to establish a total budget in the amount of \$2,450,000 for four Area Lead Service Renewal Projects: \$700,000 for the N. 25th Street, \$700,000 for the Bluegrass Avenue, \$700,000 for the Atwood Street and \$350,000 for the Oxford Place. Dr. Kerrick seconded and the motion unanimously carried.

Unbudgeted Capital Project and Purchase of Automic Enterprise License Agreement Approved

Mr. Kevin Kastensmidt advised that Louisville Water relies on the Automic Enterprise Scheduler to manage and execute all Oracle CC&B, MWM, and related scheduled activities. This request is for approval of an unbudgeted capital project and the associated purchase for an Automic Enterprise License Agreement (ELA) to improve capabilities and add licenses due to system growth.

The Automic system processes over 30,000 jobs each day, some of which include scheduled application workflows based upon configured calendars; nightly billing processes; all file transfers without human intervention including banking and billing related file transfers; encryption and decryption of files for secure handling of customer data; notifications via custom emails of errors with process details; file processing; making decisions about process paths and communicating based upon file contents; data refreshes of test environments for BSA Testing; and, application monitoring and alerting to ensure critical functions are completed.

The existing implementation has been so successful that we were requested by Automic to co-present at the 2017 Oracle Utilities User Group on automating and simplifying the CC&B Billing Process. The presentation was well received with many follow-up contacts after the event.

The original Automic purchase in 2014 included the Automation Engines, Application Managers, Deployment Nodes, Application Nodes, and implementation of the Automic enterprise scheduler solution. These are the base components required to define targets and automate tasks between them. A renewal in 2015 added additional licenses and features due to the growth of the CC&B and related server environments. As staff

began to use the system, alternative uses were found for the system beyond original plans including the file transfer automations to external vendors which also contributed to license growth. The 2015 purchase was also a two-year agreement, expiring in May 2017.

This purchase for a new four-year ELA adds two additional automation engines due to growth, unlimited workload, release, and orchestration endpoints, predictive analytics for detecting and analyzing event processes, service orchestration, and application release automation.

Automic provided incentives to purchase the four-year ELA in May during their fiscal year-end. For comparison, we received pricing on a limited single year agreement, an unlimited single year agreement, and the four-year unlimited agreement. All pricings included Predictive Analytics and would be in addition to the current maintenance for existing licenses already deployed.

With the unlimited licenses, the Automic solution can be extended to other systems such as the Oracle E-Business Suite financials, Oracle PeopleSoft HR, and others. This would allow further automation of scheduled activities through a single solution. Predictive analytics along with the other implemented systems would provide more insight into event processing planning, error detection, and problem prevention across our entire enterprise. There are also potential One Water impacts as Automic also includes SAP endpoints which could be extended to MSD through our automation engine. Currently, there are several data exchanges between Louisville and MSD that could be more automated in the MSD systems by taking advantage of the unlimited license agreement.

The Application Release Automation and Service Orchestration further enhance the application and system deployment processes. Application Release Automation extends the system management to coordinate application release and deployment processing alongside critical business processes. It provides several compliance controls including separation of duties, change tracking, and corporate, legal, or regulatory compliance standards.

After a short discussion, Dr. Dronawat moved to approve the unbudgeted capital project and the purchase of the four-year Automic Enterprise License Agreement in the amount of \$986,000, seconded by Dr. Kerrick and unanimously carried.

Purchase of Two-Year Oracle Unlimited License Agreement Approved

Mr. Kastensmidt stated Louisville Water continues to partner with Oracle for our enterprise applications including customer information systems, mobile workforce, financials, HR, asset management, and more. Included in the 2017 IT – Oracle License budget are funds for increasing Disaster Recovery capabilities, adding for system growth, and upgrading licenses. The budget was based upon Oracle pricing in the existing CC&B Ordering Documents. Products included Database, associated management packs, Advanced Security, Data Masking, Audit Vault, and Golden Gate.

During a design session with Oracle to develop quotes, Oracle recommended we instead look at a more comprehensive licensing structure through a two-year Unlimited License Agreement (ULA). To develop the ULA, Louisville Water and Oracle agreed upon a list of products to include in the agreement. Oracle then analyzed the information and provided a cost. In addition to the licenses planned for purchase, several other products are added including Cloud Management, WebLogic, WebCenter, SOA, E-Business Suite Adapter, and upgraded Identity Management suite.

This does not include all of Louisville Water's Oracle licenses. Licensing of the included products is based upon the physical server processors that run each component. Many of our licenses are not based on hardware.

They are based upon customer or employee counts and those type licenses are not included in the ULA. The products identified for the ULA are the licenses most impacted by hardware changes and have the highest rate of change.

With Oracle's fiscal year-end incentives, the ULA cost is below the current budget by \$340,780 if a May purchase is completed. List price of the included licenses is \$16,801,000. Compared to other recent Oracle purchases, which have resulted in up to 67% discounts, a discounted estimate for the included licenses is \$5,544,330, yielding a savings of \$3,537,430. Louisville Water will continue to pay the existing budgeted Oracle maintenance which was negotiated to 12/31/2019.

During the budget planning processes in 2018 for the 2019 Operations and Maintenance budget, staff is already planning to work with Oracle to renegotiate our support contract due to the end of the existing multi-year renewal. Renewal pricing would now also be impacted by the ULA.

The Oracle ULA is different than other License Agreements in the industry. Typically, vendors require a "True Up" payment for licenses used above what is included in the license agreement. With Oracle's, it is to our benefit to deploy as much as possible of the products in the ULA above and beyond the quantities used to generate the pricing. There is no "True Up" payment. At the end of the two years, we will provide an inventory of the products and quantities deployed from the ULA. This will become our fixed license inventory. The ongoing maintenance, no matter how much more we have deployed during the two-year term, will continue to be the same annual support cost negotiated with the ULA.

Because of the potential to deploy much higher quantities, this could impact One Water efforts by providing application and system access to both organizations.

After a short discussion, Dr. Kerrick moved to approve the purchase of a two-year Oracle Unlimited License Agreement in the amount of \$2,006,900, seconded by Dr. Dronawat, and the motion unanimously carried.

Strategic Business Plan Measures Overview and Extension Approved

Mr. Bruce advised Louisville Water's five-year Strategic Business Plan serves as a guide for the Company's overall strategic direction. It was completed and approved by the Board of Water Works in October 2012 and currently runs from 2013-2017. The Plan identifies six guiding strategies. Within each strategy, actionable tactics are presented to achieve the strategies – 98 in total. In addition, the Plan identifies 53 key performance indicators, or "metrics," across six constituent groups and presents measurable targets for each. Through 2016, Louisville Water achieved "complete, significant, or moderate progress" in 86 of its 98 tactics (88%) and achieved 60% of its metric targets. The Company is currently in the final year of its 2013-2017 Strategic Business Plan. Louisville Water Executive staff is requesting an extension of the current Plan by one year through 2018 for three primary reasons: (1) In the spirit of the One Water initiative, Louisville Water will align its strategic planning process with that of MSD's, whose Plan runs through 2018. While each company will have separate, independent strategic business planning processes and plans, there may be an opportunity to collaborate on a One Water component. And while the extent of such collaboration is unclear at this time, there may be cost savings realized by issuing a joint RFP for strategic planning consultation, assuming both companies intend to utilize such services; (2) Typically, a twelve to fifteen month planning and development period allows the requisite time to conduct the strategic business planning process. Given the period of transition the Company experienced over the past two years and the unknown of who would be appointed as the President and CEO in 2016, extending the current plan by one year is essential. This extension will also allow new members of the Executive Leadership Team adequate time to become acquainted with the Company Plan and their roles and allows the full team to engage in the process of developing the next five-year Plan; and (3) In 2015, Louisville Water adopted the Effective Utility Management (EUM) performance

benchmarking framework and will complete its implementation of the framework in 2017. Once EUM is fully implemented, Louisville Water will be in a superior position to consider the best way to integrate EUM into the Company's new strategic business plan.

Staff is currently conducting "pre-planning" for the 2019-2023 Plan. The process to develop and produce the Plan will likely initiate in the 3rd Quarter of 2017.

Dr. Dronawat moved to extend the current Plan by one year through 2018, seconded by Ms. Willis and the motion unanimously carried.

One Water Executive Consulting and Management Agreement

Mr. Bruce stated in an effort to continue to implement the One Water Partnership which is designed to be a joint services program consolidating and aligning specific functions and processes of Louisville Water and MSD through a multi-phased approach in accordance with the Amended and Restated Interlocal Cooperation Agreement, Mr. Tony Parrott has been asked to perform certain One Water services which include, but are not limited to, executive consulting and management.

As part of a proposed agreement, MSD requested that Louisville Water consider paying one-half of an additional stipend to be paid to Mr. Parrott in the amount of \$5,000 per month as compensation for the additional services to be performed.

After a discussion of the proposal, the Board requested additional information be obtained and brought back at a future meeting for further discussion.

Dr. Kerrick moved to table this matter for discussion after the requested information is obtained. Dr. Dronawat seconded, and the motion unanimously carried.

Employee Safety Discussion

Mr. Bruce advised this matter would be discussed in closed session later in the meeting.

Mr. Mershon asked that Ms. Lynn Pearson provided her Financial Report now, prior to closed session.

Financial Report Given

Ms. Pearson provided a summary of the Financial Report for April.

The Kentucky Retirement System (KRS) has not yet released its final audited financial report for 2016. Issuance of the Company's audited financial statements and annual report will be delayed until the final, audited KRS financial report is released. The latest communication that we have received from KRS indicates that the audited financial report will be available by the end of May.

Total water consumption and water revenue for April 2017 is lower than budget. Other operating revenue is also under budget for the month, contributing to an overall shortfall in operating revenue of \$1.7 million. Operating expenses performed favorably to budget for the month offsetting a small portion of the revenue shortfall. As a result, net income for the month is \$1.4 million lower than budgeted. Details of the Company's financial performance as compared to budget and prior year are as follows.

Consumption of 2.1 billion gallons for April 2017 is 311 million gallons less than budget, and 254 million

gallons less than April 2016. All customer classes in April are under budget with the exception of private fire services. Year-to-date consumption is under budget and prior year by 2.7% and 0.9% respectively. Through April, the residential and commercial customer classes are primarily driving the unfavorable variance to budget. The shortage to budget is partially a result of timing issues with the meter reads through the end of April.

Water Revenue for April 2017 is \$1.6 million under budget and \$977,000 lower than the prior year. Water revenue through April is \$898,000 lower than budget and \$1.2 million higher than last year. Lower consumption is the key factor driving water revenue to fall short of budget for the month and year-to-date period.

Closed Session Held

Dr. Dronawat moved to go into Closed Session to discuss proposed or pending litigation pursuant to KRS 61.810(c) at 1:58 p.m., seconded by Dr. Kerrick, and the motion unanimously carried.

Open Session Resumed

Dr. Dronawat moved to return to Open Session at 2:54 p.m., seconded by Dr. Kerrick and the motion unanimously carried.

No action was taken in Executive Session.

Regionalization Update

In the interest of time, it was decided that this item would be brought back for review by the Board at a later meeting.

One Water Update, Customer Service and Distribution Operations Report, Engineering and Production Operation Report, Communications and Marketing Report, and Human Resources Report

In the interest of time Mr. Bruce asked that the remaining reports be taken under advisement.

There being no further business for the Board, Dr. Dronawat moved to adjourn at 2:55 p.m., seconded by Ms. Willis, and the motion unanimously carried.

Respectfully submitted,



Michael F. Tighe
Vice President, Compliance, General Counsel
and Corporate Secretary