DISTRICT OF COLUMBIA
WATER AND SEWER AUTHORITY

Board of Directors

Audit Committee

October 28, 2021

9:30 a.m.

Microsoft Teams Meeting
Join on your computer or mobile app
Click here to join the meeting
Or call in (audio only)
+1 202-753-6714,,998021031#
Phone Conference ID: 998 021 031#

1. **Call to Order**……………………………………………........................ Floyd Holt, Chairperson

2. **Roll Call**………………………………………….. .... Linda Manley, Board Secretary

3. **Proposed Recommendation for Committee Name Change**……Wayne Griffith, EVP Performance

4. **Internal Audit Update**……….………………….................Dan Whelan, RSM, Auditor General
   A. FY 2021 Internal Audit Plan Status Update
   B. Status Update on Prior Audit Findings
   C. Materials Management Internal Audit
   D. Hotline Update
   E. FY 2022 Risk Assessment and Proposed Audit Plan

5. **Executive Session*** …………….……………….. .... Floyd Holt, Chairperson

6. **Adjournment**…………………………………………… .... Floyd Holt, Chairperson

*The DC Water Board of Directors may go into executive session at this meeting pursuant to the District of Columbia Open Meetings Act of 2010, if such action is approved by a majority vote of the Board members who constitute a quorum to discuss: matters prohibited from public disclosure pursuant to a court order or law under D.C. Official Code § 2-575(b)(1); contract negotiations under D.C. Official Code § 2-575(b)(2); legal, confidential or privileged matters under D.C. Official Code § 2-575(b)(4)(A); collective bargaining negotiations under D.C. Official Code § 2-575(b)(5); facility security under D.C. Official Code § 2-575(b)(8); disciplinary matters under D.C. Official Code § 2-575(b)(9); personnel matters under D.C. Official Code § 2-575(b)(10); proprietary matters under D.C. Official Code § 2-575(b)(11); train and develop members of a public body and staff under D.C. Official Codes § 2-575(b)(12); decision in an adjudication action under D.C. Official Code § 2-575(b)(13); civil or criminal matters where disclosure to the public may harm the investigation under D.C. Official Code § 2-575(b)(14), and other matters provided in the Act.

Strategy & Performance

DISTRICT OF COLUMBIA WATER AND SEWER AUTHORITY   Wayne Griffith, EVP Strategy & Performance

Management Recommendation to the Audit Committee

1. Expand the Audit Committee's title/name and responsibility area to the proposed "Audit & Risk Committee" which also expands current responsibility to include Enterprise Risk Management board oversight.

Background

Problem

Historically, the organization has functioned as **siloed and independent** business units. One of the several independently managed functions included the function of risk management. As an independently managed function, the management of risk was accomplished in a variety of ways which lacked a **common understanding, effective collaboration, and efficient coordination** across the enterprise.

Solution

The Authority has determined that Enterprise Risk Management (ERM) will become a function within the Enterprise. ERM differs from traditional approaches to risk oversight that focuses on managing silos or distinct areas of risk. The **ERM** business process manages risk at an **entity level** to **effectively** support the **Authority's capacity** to **identify**, **evaluate**, and **mitigate emerging or identified areas** of **risk** internal or external to the organization.
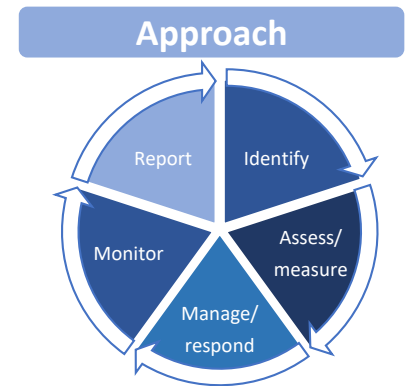
Approach

Benefits

- Strategic performance focused
- Consistent risk management approach across the enterprise
- Holistic view of key risks
- Considers risk interactions

- Business decisions based on a clear understanding of risks
- Driven by the Board and owned by the business
- Supported by a "risk culture"

Value to the Enterprise

ERM's scope is **far broader** and more **strategic,** operating across the enterprise in order to produce **improved decision making** and **performance** of the organization as it endeavors to meet its mission and achieve its strategies and business objectives.
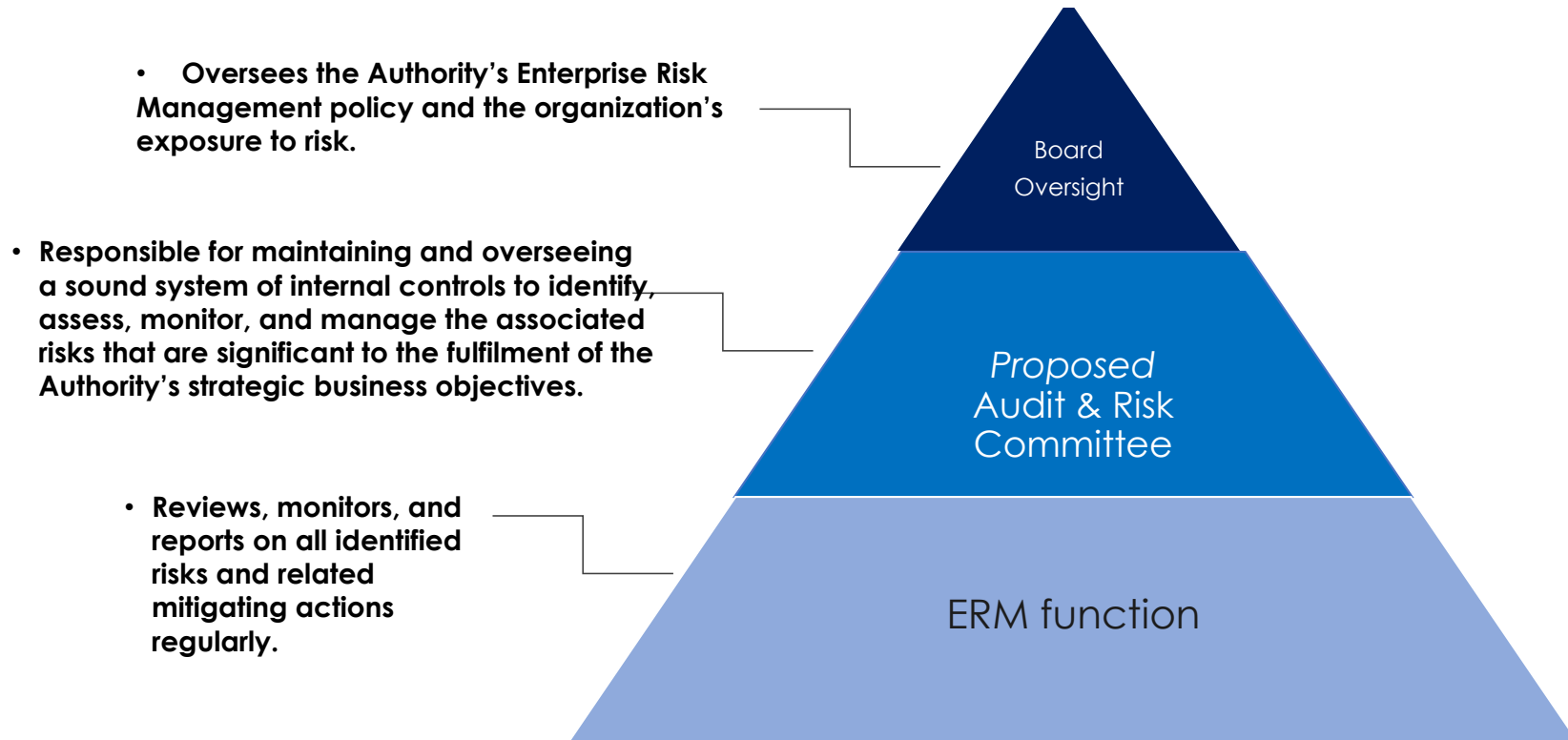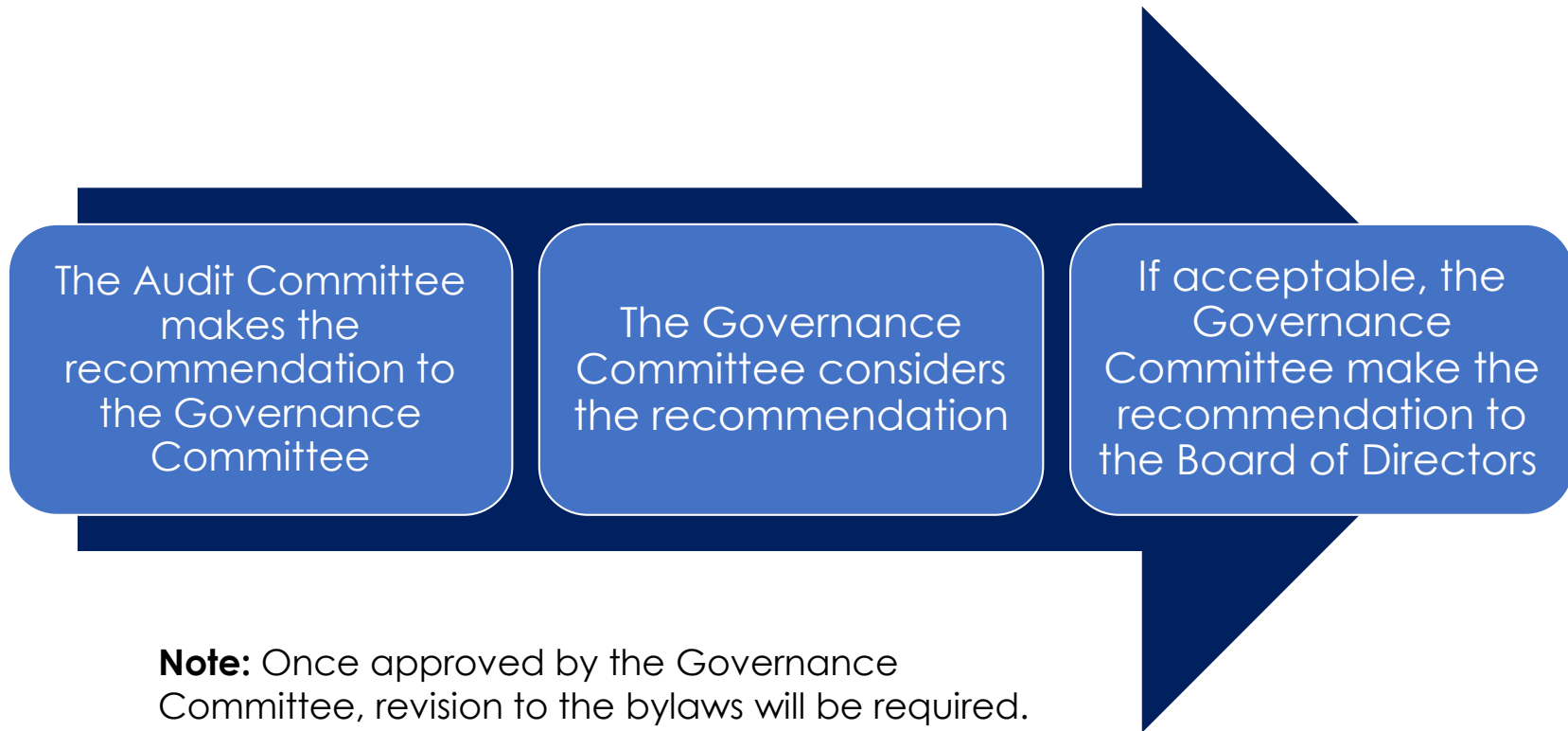
Implementation Status

Key Milestones

DC Water ERM Policy

- Developed DC Water Enterprise Risk Management policy
- ERM framework development is underway
- Conduct an Enterprise-wide Annual Risk Assessment
- Develop and maintain DC Water Enterprise Risk Register
- Develop and maintain DC Water Enterprise Risk Management Action Plans

Proposed DC Water Governance Structure

- Oversees the Authority's Enterprise Risk Management policy and the organization's exposure to risk.

- Responsible for maintaining and overseeing a sound system of internal controls to identify, assess, monitor, and manage the associated risks that are significant to the fulfilment of the Authority's strategic business objectives.

- Reviews, monitors, and reports on all identified risks and related mitigating actions regularly.

Board Oversight

Proposed Audit & Risk Committee

ERM function

Next Steps: Process for advancing the change to the Audit Committee Name

The Audit Committee makes the recommendation to the Governance Committee

The Governance Committee considers the recommendation

If acceptable, the Governance Committee make the recommendation to the Board of Directors

Note: Once approved by the Governance Committee, revision to the bylaws will be required.

DC WATER

Audit Committee Meeting

October 28, 2021

Agenda

- FY 2021 Internal Audit Plan Status Update

- Status Update on Prior Audit Findings

- Report on Completed Audits
  - Materials Management Internal Audit

- Hotline Update

- Risk Assessment Results & Proposed FY22 Audit Plan

- Executive Session
  - PCS Review

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AUDIT PLAN STATUS UPDATE

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Internal Audit Plan Status Update

Audit	Status
FY 2021	
Work Order Management – DMS	Report Complete
Procurement Audit	Report Complete
Succession Planning Assessment	Report Complete
Remote Workforce Security Assessment	Report Complete
Contract Compliance Audit	Report Complete
PCS Review	**Report Complete**
Strategic Plan Monitoring Audit	*Deferred to next FY*
Materials Management Audit	**Report Complete**
Remediation Follow Up Procedures	On-going
Hotline Management	On-going

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Internal Audit Plan FY 2021 Timeline

	Oct – 20	Nov – 20	Dec – 20	Jan – 21	Feb – 21	Mar – 21	Apr – 21	May– 21	Jun – 21	Jul – 21	Aug – 21	Sep - 21	Oct - 21
► FY20 Oracle Embedded Risk Assurance	███												
► Work Order Management – DMS		████████											
► Procurement Audit				████████									
► Succession Planning Assessment				████████									
► Remote Workforce Security Assessment				████████									
► Contract Compliance Audit							██████						
► PCS Review								███████					
► Materials Management Audit										██████			
► FY 2022 Risk Assessment											████		
► Ongoing Follow-up Procedures	██												
► Ongoing Hotline Monitoring	██												

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PRIOR AUDIT FINDINGS – FOLLOW UP STATUS

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Open High Risk Prior Audit Findings

|	Audit FY	Issue Date	Audit Report	High Risk Open Finding	Original Target Date	New Target Date	# Extensions
1	2016	7/28/2016	**Training, Licensing, and Certification**	**Identification and monitoring of training requirements by position**	9/30/2017	1/1/2022	4
				Status notes: Three training buckets (safety, compliance, and technical) have been configured in Cornerstone LMS. Technical training requirements are being identified by department. Trainings will be assigned by role when the Oracle LMS module is implemented. **Reason for extension**: Multiple changes in leadership within People & Talent, not prioritized under previous leadership, difficulty organizing technical trainings requiring cross-departmental support, delay in Oracle implementation go-live.			
2	2017	4/27/2017	**Data Privacy Assessment**	***Finding Issued in Executive Session***	5/1/2017	11/30/2021	7
3	2017	10/26/2017	**Entity Level Assessment**	**Lack of a comprehensive risk management function to evaluate entity-wide risk**	10/1/2018	3/31/2022	3
4				**Lack of Authority-wide policy and procedure management function**	9/30/2018	2/28/2022	3
				Status notes: EPMO has developed an Enterprise Risk Management (ERM) Policy to be institutionalized across the enterprise. EPMO has also developed a policy regarding policy and procedure administration to address Authority-wide policy development, issuance, and maintenance. A DC Water Policy Administrator position will be created. **Reason for extension**: Continued change in ownership of action plans. Difficulty executing cross-departmental initiatives.			
5	2018	1/24/2019	**Enterprise Work Order Management Assessment**	**DWO – Inadequate capture of labor and materials cost data in Maximo work orders**	9/30/2020	12/3/2021	2
				Status notes: Pilot for hydrant program is complete. Roll out of valve application in progress; application is undergoing user acceptance testing in parallel with training for the field crew staff. **Reason for extension**: Deprioritized due to COVID. Emergencies and vacations of field crew staff delayed user acceptance testing.			
6	2019	4/25/2019	**Occupational Safety and Health Internal Audit**	**Outdated comprehensive safety plan for the Authority**	3/1/2020	11/30/2021	5
				Status notes: Safety policies are now going through the process of leadership review. A schedule has been developed to track progress towards review of all policies leading up to the new target date. **Reason for extension**: Delays in development of large volume of policies. COVID-19 delays for pandemic priorities. Transition in Safety leadership.			

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Open High Risk Prior Audit Findings

	Audit FY	Issue Date	Audit Report	High Risk Open Finding	Original Target Date	New Target Date	# Extensions
7	2019	7/25/2019	**Purchasing Card Internal Audit**	**Non-compliance with documented PCard and TCard policies**	5/25/2020	11/1/21	2
				Status notes: PCard policy has been updated and updated training conducted for all cardholders. Travel policy updates have been completed and is with Legal for review. *Reason for extension:* Travel policy updates were put on-hold at the beginning of the pandemic given other COVID-19 response priorities and limited TCard usage.			

Legend	
	Past due
	Original target date has not yet come due

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Status Update on Prior Audit Findings

Audit Report/Subject	Report Issue Date	Corrective Actions			
		Total	Open	Closed	Pending Testing[1]
Prior to FY20 Audit Findings					
Training, Licensing & Certification	7/28/2016	7	1	6	0
HR/Employee Privacy Review	4/27/2017	7	1	6	0
Entity Level Assessment	10/26/2017	7	2	5	0
Integrated Work Order Management	1/24/2019	10	1	8	1
Legal Operations	4/25/2019	4	1	3	0
Occupational Safety and Health	4/25/2019	4	2	2	0
Purchasing Card Internal Audit	7/25/2019	3	1	1	1
CIS Application Security SOD Review	10/24/2019	4	0	4	0
Asset Management Assessment	1/23/2020	2	0	1	1
Total		**48**	**9**	**36**	**3**

FY16 – FY19 Prior Audit Findings Status
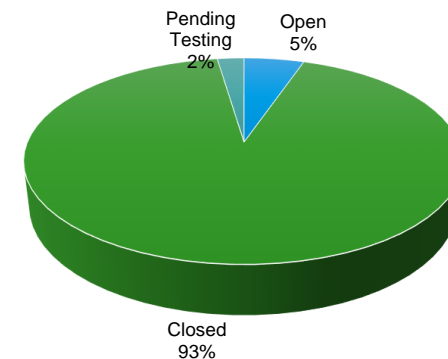
Pending Testing 2%
Open 5%
Closed 93%

[1] "Pending Testing" indicates that Management represents that the Action Plan is Completed, but Internal Audit has not yet performed testing to validate the status.

Note that the audit findings reported above only represent findings prior to FY19 with the status of "Pending Testing" or "Open". Audits conducted prior to FY19 for which all findings have been closed are not represented in this table. However, the pie chart to the right includes status of all audit findings FY16 - FY19.

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Color Key	
	At least 1 original remediation target date has been extended

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Status Update on Prior Audit Findings

Audit Report/Subject	Report Issue Date	Corrective Actions			
		Total	Open	Closed	Pending Testing[1]
FY20 Audit Findings					
Work Order Planning Assessment	4/23/2020	4	0	4	0
Phase 2: Physical Security Penetration Testing	4/23/2020	3	0	3	0
Facilities Management Audit	4/23/2020	3	0	3	0
Benefits and Compensation Audit	4/23/2020	5	0	5	0
Engineering Change Order Assessment	10/22/2020	3	0	3	0
SCADA ICS Review	10/22/2020	16	5	11	0
Customer Billing and Collections Audit	10/22/2020	3	1	2	0
Total		**37**	**6**	**31**	**0**

FY20 Prior Audit Findings Status
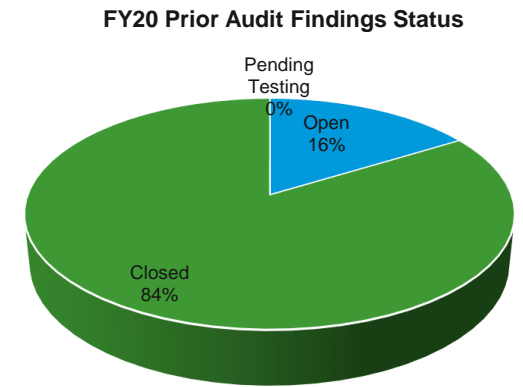
Color Key	
	At least 1 original remediation target date has been extended

[1] "Pending Testing" indicates that Management represents that the Action Plan is Completed, but Internal Audit has not yet performed testing to validate the status.

In total, 95% of all prior audit findings from FY14 – FY20 are closed. Management's target closure rate is 90%.

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MATERIALS MANAGEMENT

Materials Management Internal Audit

Purpose

The purpose of this review was to evaluate the design and operating effectiveness of the materials management operations and inventory control environment. Our testing period covered the period of 8/1/2020 – 7/30/2021. The scope was based upon the following objectives:
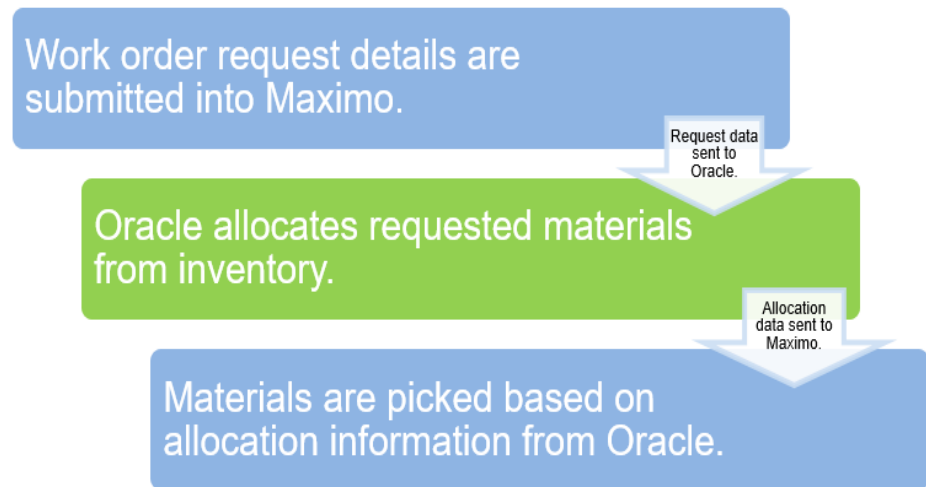
Scope

- Develop an understanding of the materials management operations and inventory processes through review of policies, procedures, SOPs;
- Understand changes that have been implemented as a result of the Oracle implementation;
- Validate remediation of prior audit findings related to materials management and inventory;
- Assess appropriateness of warehouse operations controls to capture all materials management movement at the Authority:
  - Validate that all new items added to the inventory are approved appropriately within Maximo and Oracle;
  - Validate that all materials requests are processed and approved appropriately within Maximo for materials movement;
  - Validate that goods are acquired through the Authority's approved procurement process;
  - Validate that received inventory is accounted for appropriately within Maximo and Oracle;
  - Validate that a cycle count process is performed to verify physical inventory and necessary adjustments are approved appropriately;
- Identified process improvement opportunities and recommend internal control enhancements to improve the overall process.

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Materials Management Internal Audit

The DC Water Materials Management team within the Department of Procurement is responsible for managing warehouse operations and all inventory stored within Authority warehouses. The goal of Materials Management operations is to provide a supply chain of materials to enable DC Water maintenance and service operations to perform scheduled and emergency work orders without delay.

Materials Management utilizes the Maximo work order system for order requests and workflow, as well as the Oracle financial system to track inventory within the warehouses.

Work order request details are submitted into Maximo.

Request data sent to Oracle.

Oracle allocates requested materials from inventory.

Allocation data sent to Maximo.

Materials are picked based on allocation information from Oracle.

One low risk finding is included in the full report.

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HOTLINE UPDATE

Hotline Update

No new calls have been received since last Audit Committee meeting.
As of 10/13/2021:

FY 21 Hotline Call Summary	
FY 21 Calls Received	7
FY 21 Cases Closed	7
FY 21 Calls Open	0

Total calls by Fiscal Year:

Year	FY 13	FY 14	FY 15	FY 16	FY 17	FY 18	FY19	FY20	FY21
# of calls	10	20	16	36	31	21	28	10	7
Action Taken	0	2	7	7	2	0	1	0	0

*the numbers in the chart above may be inflated based on repeat calls regarding the same matters

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FY22 RISK ASSESSMENT

Risk Assessment approach

Internal Audit conducted a Risk Assessment, considering the following:

- Interviewed various members of management and the Board

- Distributed a survey to all Board members (see next slide)

- Revisited risks identified in prior year audits

- Considered current DC Water environment (operational, reputational, financial, strategic)

- Considered strategic initiatives at DC Water and industry trends

Based on the results of the Risk Assessment, Internal Audit performed the following:

- Compiled a risk register of risks identified, rated by impact and likelihood

- Considered open prior audit finding follow-up that management is in the process of remediating

- Considered each process' previous audit exposure

- Prioritized risks where internal audit can provide value

- Created an audit plan based on top priority risks for the year

- *Note: Internal Audit is a finite resource – Internal Audit cannot incorporate all risks discussed during Risk Assessment interviews into the Audit Plan. Risks are prioritized based on the factors listed above.*

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Risks identified during Risk Assessment

- Risk Likelihood

- Risk Impact

- Open prior audit finding follow-up

- Previous audit exposure

Risks incorporated into Audit Plan

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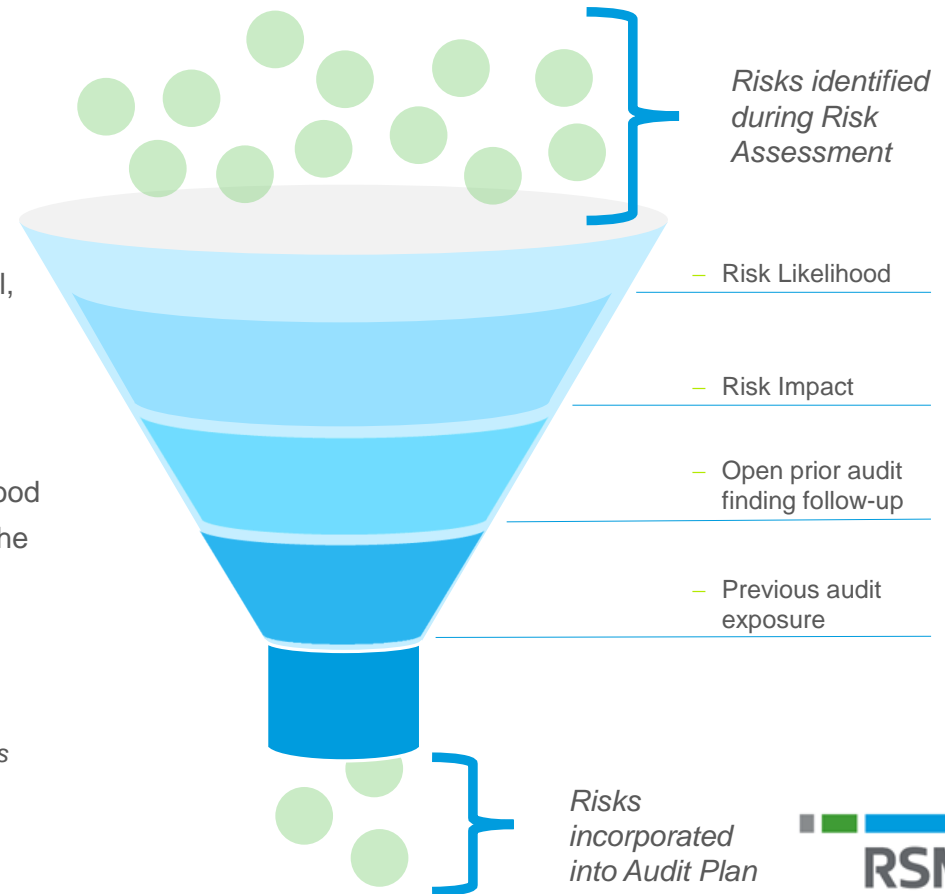
Risk Assessment interviews

Internal Audit conducted 28 interviews to inform our risk assessment results:

2022 interviewees:

1. David Gadis, CEO
2. Kishia Powell, COO
3. Matt Brown, EVP Finance and Procurement
4. Lisa Stone, EVP People & Talent
5. Wayne Griffith, EVP Performance
6. Marc Battle, EVP Legal Affairs
7. Kristen Williams, Chief Communications & Stakeholder Engagement Officer and EVP
8. Maureen Holman, VP Shared Services
9. Salil Kharkar, Senior Technical Advisor to the COO
10. Len Benson, Acting SVP of Watershed Management
11. Carlton Ray, VP Clean Rivers
12. Tom Kuczynski, VP IT
13. Aklile Tesfaye, VP Wastewater Operations

14. Jason Hughes, VP Water Operations
15. Dan Bae, VP Procurement and Compliance
16. Genes Malasy, Controller
17. Nelson Sims, Sr Advisor Information Security
18. Brent Christ, Director Facilities
19. Dusti Lowndes, Director Emergency Management
20. Chad Carter, Director of Total Rewards
21. George Spears, Director Labor Relations
22. Korey Gray, Director Compliance and Business Development
23. Joe Edwards, Director IT Infrastructure
24. Hari Kurup, Director IT Enterprise Solutions
25. Reginald Jacques, Manager IT Project Management Office
26. Floyd Holt, Board Member
27. Jed Ross, Board Member
28. Tony Giancola, Board Member

Additionally, Internal Audit distributed a risk assessment survey to all Board members, of which we received 9 responses. Due to the anonymity of the survey responses, there could be overlap with the list above.

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Risk themes

Below are the top risk themes that emerged during the risk assessment.

Cybersecurity	**Retention of workforce and employee satisfaction**	**Capital program management**
Policies and procedures management and governance	**Asset management and aging infrastructure**	**Compliance governance**
Spend management	**Training**	**Capital procurement process**

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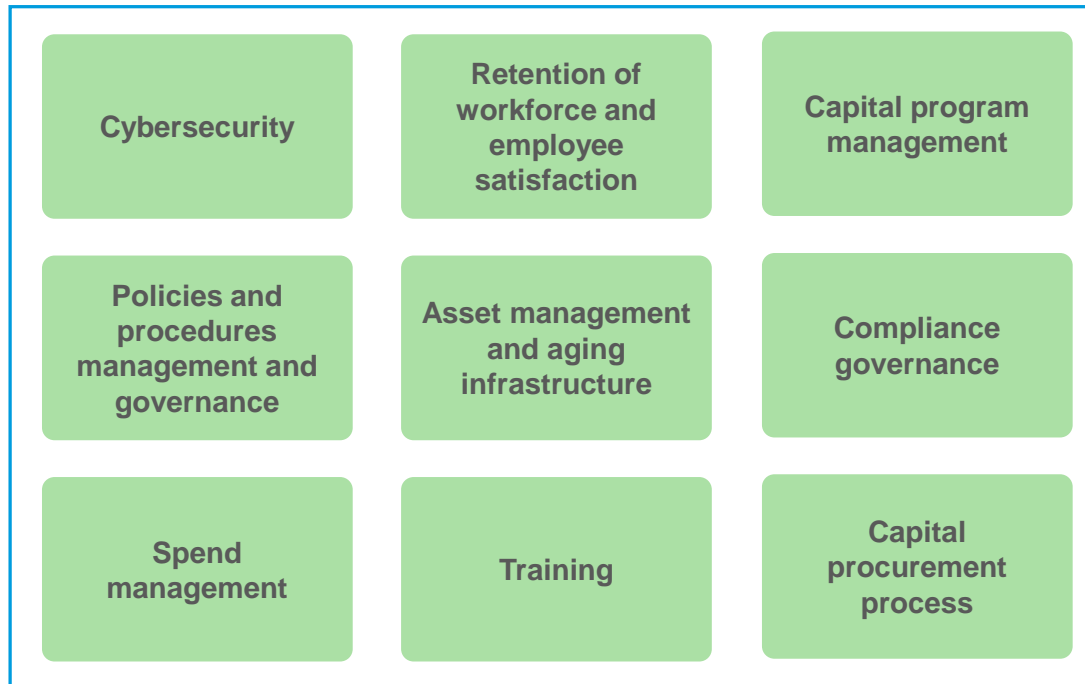
Board survey results

Internal Audit distributed a risk assessment survey to all Board members, of which we received 9 responses. The top four **Blueprint 2.0 strategic plan imperatives** that Board members identified as a priority to DC Water's success in FY22 were the following:

1. Healthy, Safe and Well: Delivering world-class, healthy water services
2. Resilience: Protecting against the current and future cybersecurity risks
3. Equitable: Providing affordable and equitable rates
4. Reliable: Delivering excellent service for customers in a timely manner

The chart on the right represents where Board members identified the highest degree of exposure to the Authority (i.e. could potentially pose a threat or disruption to productivity, effectiveness or achievement of strategic imperatives).

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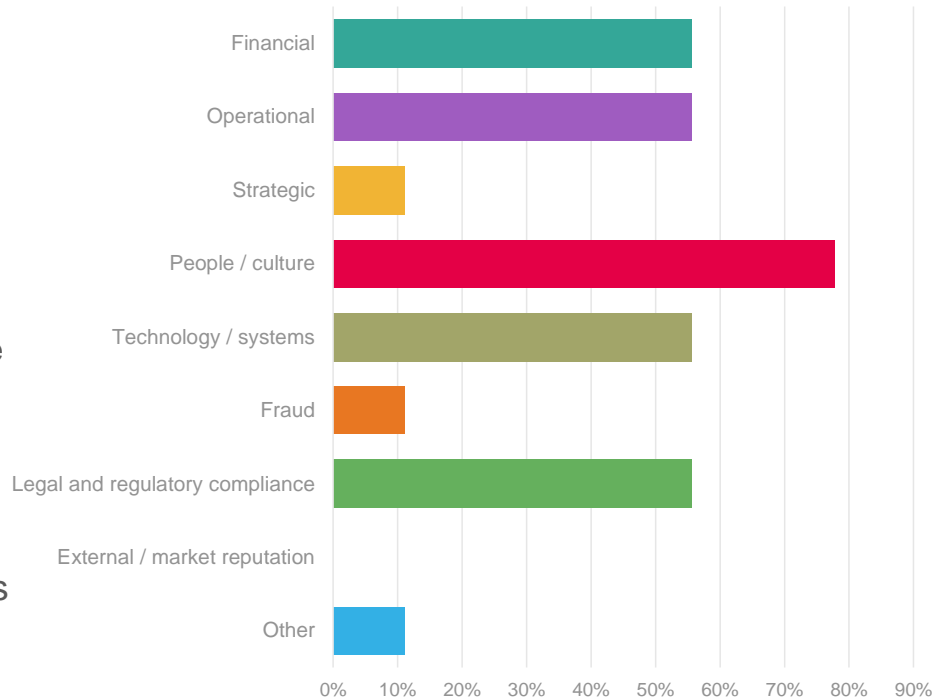
Internal Audit approach

- Project types:
  - **Cycle audits** - Conduct formal reviews of management's controls at a specified frequency based on highly transactional processes that have elevated risk exposure across the industry
  - **Ad hoc audits** - Perform formal reviews of management's control environment over a specific area/process with elevated risk or limited audit exposure
  - **Management assessments** - Leverage Internal Audit's expertise and institutional knowledge to assist in identifying process improvements, best practices, automation opportunities, benchmarking, etc. Assessment results will be delivered to management to help inform future strategic decision-making.

- Approach:
  - For each audit conducted, Internal Audit evaluates the design and operating effectiveness of the internal control environment (draft process flowcharts, establish risk and control matrix, conduct sample-based transactional testing, issue audit report)
  - For management assessments conducted, Internal Audit will review and analyze existing processes and data to identify strategic improvement opportunities for management.

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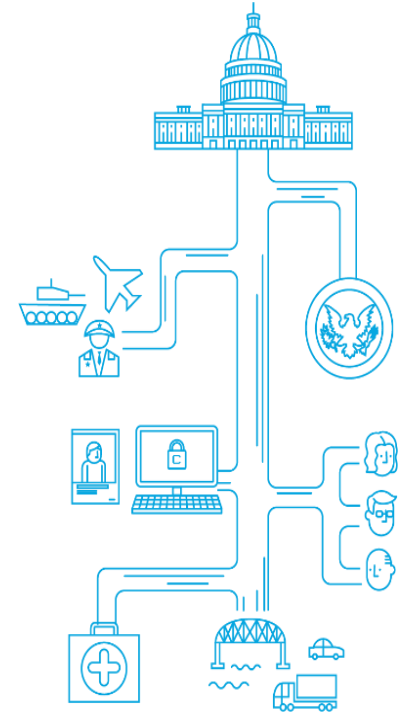
Internal Audit approach (continued)

Internal Audit is committed to developing and deploying innovative solutions to inform scoping and sample selections, facilitate audit fieldwork, highlight business process trends and/or inefficiencies, and identify outliers. Opportunities for incorporation of data analytics into the audit process are below.

Internal Audit has started leveraging process intelligence for select projects. Process intelligence allows Internal Audit to visualize workflow permutations, analyze time and cost to complete, identify time consuming process steps, and determine correlation between transaction variables. The chart on the right illustrates an example macro-level visual of a most common path transaction derived from a large dataset.

Plan the audit

- Data profiling and trending
- Visual and statistical analysis
- Refine risk-oriented audit plan
- Assess and plan additional data acquisition
- Plan automated audit steps

Controls testing

- Rules-based exception testing
- Ad-hoc data analysis
- Indicators of missing controls

Reporting audit findings

- Data-driven quantification of findings and risks
- Evaluate need for additional continuous audit procedures
- Assess potential future analytic improvements
- Provide management with analytic prototypes

Follow up on findings

- Automated re-testing of resolution
  - Quality
  - Timing
- Visual issue trending

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Proposed FY22 Internal Audit Plan

Proposed Project	Cycle Audit	Ad Hoc Audit	Management Assessment
Finance & Procurement			
1. Accounts Payable Audit	X		
2. Expenditure Analytics Assessment			X
3. Supply Chain Assessment			X
Shared Services			
4. Physical Security Audit – HQO	X		
5. Physical Security Audit - Ft Reno	X		
Ops & Engineering			
6. Work Order Management Audit – DSO	X		
7. Contract Compliance Audit	X		
People & Talent			
8. Employee Retention Assessment			X

Proposed Project	Cycle Audit	Ad Hoc Audit	Management Assessment
Information Technology			
9. Incident Response Tabletop Audit		X	
10. Cyber Threat Intelligence (CTI) Program Development Assistance			X
Strategy & Performance			
11. Strategic Plan Monitoring Audit	X		
Ongoing Activities			
12. Hotline Case Management			
13. Open Action Items - Remediation & Follow Up			
Authority-Wide			
14. FY23 Risk Assessment			

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Proposed FY22 Internal Audit Plan – project justification

Auditable entity	Project justification
Accounts Payable	Accounts payable materially impacts the completeness and accuracy of DC Water's balance sheet. Internal Audit will review the processes surrounding payments, segregation of duties, and system access that can expose the Authority to fraud and misstatement if controls are not properly operating. *Risk themes addressed: Policies and procedures management, compliance governance, spend management*
Expenditure Analytics Assessment	To perform data analytics over financial data and flag any transactions with indicators for potential fraud for management review. The analysis will allow management to scrutinize transactions following the implementation of a new ERP system and the introduction of new application and IT general controls into the environment. *Risk themes addressed: Spend management, policies and procedures management*
Physical Security Audits	DC Water maintains a robust physical security program to secure its various offices and water operations. Physical intrusion threats remain a high risk and area of focus from advisories in WaterISAC and cybersecurity trends. Internal Audit will conduct a physical security penetration exercise to determine vulnerabilities at DC Water locations where a threat actor may have the ability to breach the premise and access significant technology (i.e. data rooms). Adequate security controls are important to data security and employee safety. *Risk themes addressed: cybersecurity, policies and procedures management, training*
Work Order Management - DSO	Maximo work orders facilitate all maintenance of DC Water assets. The controls surrounding appropriate workflow, data capture, and overall utilization of the system are critical to the Authority's ability to quantify the effectiveness of asset management and execute on data-driven strategic decisions. *Risk themes addressed: Asset management and aging infrastructure, policies and procedures management, training*

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Proposed FY22 Internal Audit Plan – project justification

Auditable entity	Project justification
Supply Chain Assessment	The COVID-19 pandemic introduced a heightened level of supply chain risk into areas such as chemicals, fleet parts, parts, PPE, etc. The purpose of this project is to evaluate DC Water's demand planning and inventory management processes that protect the Authority against an inability to secure materials critical to day-to-day operations. *Risk themes addressed: asset management and aging infrastructure, spend management*
Contract Compliance Audit	To evaluate individual contracts from departments throughout the Authority. Internal Audit will evaluate for compliance with contract terms and conditions, contract monitoring best practices, and invoice payment controls. Internal Audit will look for Authority-wide themes regarding reliance on and engagement with contractors that may emerge consistently in year-over-year reviews. *Risk themes addressed: Spend management, policies and procedures management, compliance governance, capital procurement*
Employee Retention Assessment	Employee satisfaction was a major theme coming out of the Board survey results and interviews and is a focus area within DC Water's Blueprint 2.0 strategic plan (Healthy, Safe and Well). COVID-19 has resulted in major changes to the way DC Water operates day-to-day, how employees work (hybrid, telework, etc.) and multiple reorganizations have occurred over the past few years. The purpose of this assessment is to gage employee morale through an anonymous survey, confidential interviews, and a review of People & Talent policies and procedures. *Risk themes addressed: retention of workforce and employee satisfaction, training, policy and procedures management*
Incident Response Tabletop	The operability of DC Water systems and processes are mission critical - as a result, internal audit will evaluate DC Water's overall incident response plan and failover strategy by simulating a discussion based cyber attack scenario with key stakeholders in a tabletop to evaluate preparation, identification, response, and plan of actions. Note: This is a carry over audit (deferred from 2020 due to COVID-19). *Risk themes addressed: cybersecurity, policies and procedures management, training*

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Proposed FY22 Internal Audit Plan – project justification

Auditable entity	Project justification
CTI Program Development Assistance	Assist DC Water with the enhancements to the existing cyber threat program to understand the scope of cyber threat and risk landscape and how to act on current and future threats identified during briefing and trend analysis. Additionally, to provide industry common practice considerations aimed at the identification of potentially damaging information spread across the open and closed internet by defining high-level requirements for investigations and reporting, along with aiding DC Water's in assessing the attack surface. Furthermore, we will assist with the identification of key stakeholders and enhancing existing reporting structures and cadence to ensure appropriate collaboration and delivery of actionable and timely intelligence. *Risk themes addressed: cybersecurity, policies and procedures management*
Strategic Plan Monitoring	To evaluate the controls in place regarding the creation, updating, enforcing, monitoring, validating, and reporting out on strategic plan initiatives. Blueprint provides the foundation for the Authority to execute in a way that is aligned with strategy decided on by leadership and the Board. A lack of control effectiveness can result in operations misaligned with long-term strategy. *Risk themes addressed: retention of workforce and employee satisfaction, capital program funding, asset management and aging infrastructure, training*

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APPENDIX

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Illustrative 5 Year Audit Plan

Legend:
- Business Process Cycle Audit
- IT Cycle Audit
- Business Process Ad Hoc Audit
- IT Ad Hoc Audit
- Ongoing IA Activity

	Year 1	Year 2	Year 3	Year 4	Year 5	Frequency
Internal Audit Projects						
Shared Services						
	Physical Security - HQO		Physical Security - Fleet & Sewer Facilities		Physical Security - Blue Plains	every 2 years (rotating locations)
	Physical Security - Ft Reno				Physical Security - Bryant Street	
				WOM Facilities		every 1 year (rotating depts - other c
		Fleet Management	Safety	Office of Emergency Mgmt Assessment		Ad hoc
Finance & Procurement						
		Payroll & Timekeeping			Payroll & Timekeeping	every 3 years
	Accounts Payable			Accounts Payable		every 3 years
			Pcard / Tcard			every 3 years
	Contract Compliance	Contract Compliance	Contract Compliance	Contract Compliance	Contract Compliance	every 1 year
		Procurement		Procurement		every 2 years
	Fraud Analytics Assessment				Budgeting & Planning	Ad hoc
	Supply Chain Assessment					
People & Talent						
			Training			every 3 years
	Employee Retention Review		Recruiting Alignment Assessment			Ad hoc
Customer Care						
		Billing and Collections			Billing and Collections	every 3 years
Information Technology						
	Incident Response Tabletop Exercise	Oracle ITGC Review (CM & CO)	IT Contract Management & Service Provider A	Information Security & Threat Management (i	Records Management Audit	Ad hoc
	Cyber Threat Intelligence Program Developme	Oracle Identity & Access Management Review	Software & Asset Management Review	HR Onboarding / Offboarding Review (Provisi	IT Risk Management & Compliance	Ad hoc
				Enterprise SDLC Assessment		Ad hoc
		Pen Testing external network	Pen Testing Mobile Web Application	Pen Testing SCADA	Pen Testing PCS	every 1 year (rotating systems)
Strategy & Performance						
	Strategic Plan Monitoring			Strategic Plan Monitoring		every 3 years
					ESG Management Assessment	
Ops & Engineering						
	WOM DSO	WOM DWO	WOM DPO		WOM DMS	every 1 year (rotating departments)
		Business Development Plan Subcontractor Assessment		Permit Operations	Construction Design and Asset Management	Ad hoc
Legal Affairs						
			Compliance Monitoring Audit			Ad hoc
Ongoing Internal Audit Activity						
	Remediation of Open Findings	Remediation of Open Findings	Remediation of Open Findings	Remediation of Open Findings	Remediation of Open Findings	Ongoing
	Hotline Monitoring	Hotline Monitoring	Hotline Monitoring	Hotline Monitoring	Hotline Monitoring	Ongoing
	Risk Assessment	Risk Assessment	Risk Assessment	Risk Assessment	Risk Assessment	every 1 year

Prior audits performed

FY 2015

Intellectual Property

SCADA/PCS Review

Procurement Pre-Award Selection Process

Retail Rates Pre-Implementation Monitoring

Engineering - Vendor / Contractor Monitoring & Project Administration - Phase I

Timekeeping

IT Vendor Risk Management / Compliance and Monitoring

Information Security Policy Review

Network Penetration Testing (Corp/SCADA/Wifi)

FY 2016

Blue Horizons - Strategic Monitoring

Contract Monitoring & Compliance Review

Business Development Plan

Customer Billing & Collections

Retail Rates Post-Implementation Monitoring

Training, Certification and Licensing

Engineering - Construction Management Phase 2

Overtime

Annual Budgeting & Planning

Rolling Owner Controlled Insurance Program (ROCIP)

IT Incident Management & Response Review

Enterprise Project Governance Maturity Assessment

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FY 2017

Contract Monitoring & Compliance Review

Entity-Level Assessment

Work Order Management (Maintenance Services)

Materials Management - Operations and Inventory

Purchasing Cards (PCard Program)

Automated Meter Reading (AMR) Implementation

MTU Implementation Review

Fleet - Accident and Incident Reporting

Engineering - Construction Management Phase 3

Intermunicipal Agreement

IT Human Resource/Employee Data Privacy Review

Vulnerability Management Review and Platform Technical Audit (Windows/UNIX)

FY 2018

Recruiting, Selection, and On-Boarding

Automated Meter Replacement (AMR) Implementation Progress Update

Office of Emergency Management Review

DB/OS Privileged User

Network Penetration Testing

Affordability Programs

Contract Monitoring & Compliance Review

Crisis Management/Business Continuity

Integrated Work Order Management (DWS, DSS, DDCS)

CIS Post-Implementation Review

Payroll & Timekeeping

Accounts Payable

FY 2019

Permit Operations - Reimbursable Projects

Mail Room Procedures

Fleet Management

Legal Operations

Occupational Safety and Health

Automated Meter Reading Implementation Progress Update

Cloud Security Rapid Assessment

Active Directory Cloud Migration Security Review

Purchasing Card Internal Audit

Severance Assessment

Wifi Security Testing

CIS Application Security Segregation of Duties (SOD) Review

Contractual Services

Asset Management Assessment

Physical Security and Social Engineering

FY 2020

Work Order Planning Assessment

Phase 2: Physical Security Penetration Testing

Facilities Management Audit

Benefits and Compensation Audit

Engineering Change Order Assessment

Industrial Control System (ICS) Review

Customer Billing and Collections Audit

Oracle Embedded Risk Assurance Phase 1

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Prior audits performed (continued)

FY 2021
Department of Maintenance Services (DMS) Work Order Management
Remote Workforce Assessment
Succession Planning
Procurement PreAward Selection
Contract Compliance
Materials Management
PCS Review

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Internal Audit project survey results

DC Water's Strategy & Performance team now sends out satisfaction surveys following each Internal Audit business process project conducted. Summary results of the surveys to date are below:

- DMS Work Order management
  - 100% response rate (6 out of 6)
  - 5 respondents felt that the audit added value
  - 5 respondents felt the audit provided relevant, constructive, and feasible recommendations to improve operations

- Procurement Pre-award & Selection:
  - 100% response rate (5 out of 5)
  - All respondents felt the audit added value
  - All respondents felt the Internal Audit team exhibited appropriate knowledge of the business

- Succession Planning:
  - 100% response rate (4 out of 4)
  - All respondents felt the recommendations provided from the audit would help develop and improve the succession planning process

- Contract Monitoring & Compliance:
  - 87% response rate (7 out of 8)
  - All respondents felt the audit added value
  - 5 respondents felt the audit provided useful and feasible recommendations regarding process improvements; 2 respondents felt neutral

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QUESTIONS
AND ANSWERS

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DC WATER

Materials Management Internal Audit

October 2021

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EXECUTIVE SUMMARY, BACKGROUND AND APPROACH

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Executive Summary and Objectives

Objective and Scope

The purpose of this review was to evaluate the design and operating effectiveness of the materials management operations and inventory control environment. Our procedures were performed in accordance with the internal audit scope and approach set forth in our audit notification letter, dated June 22, 2021, and were limited to those procedures described therein. The scope was based upon the following objectives:

- Develop an understanding of the materials management operations and inventory processes through review of policies, procedures, SOPs;
- Understand changes that have been implemented as a result of the Oracle implementation;
- Validate remediation of prior audit findings related to materials management and inventory;
- Assess appropriateness of warehouse operations controls to capture all materials management movement at the Authority:
  - Validate that all new items added to the inventory are approved appropriately within Maximo and Oracle;
  - Validate that all materials requests are processed and approved appropriately within Maximo for materials movement;
  - Validate that goods are acquired through the Authority's approved procurement process;
  - Validate that received inventory is accounted for appropriately within Maximo and Oracle;
  - Validate that a cycle count process is performed to verify physical inventory and necessary adjustments are approved appropriately;
- Identified process improvement opportunities and recommend internal control enhancements to improve the overall process.

Fieldwork was performed August 2021 through September 2021.

Overall Summary and Highlights

There is one low risk observation to report. The observation identified during our assessment is outlined on pages **11-12**:

1. Packing Slip Review

This observation is described in the detailed observations section of the report. We assigned relative risk or value factors to the observation. Risk ratings are the evaluation of the projected severity of the concern and the potential impact on the operations of each item. Observations will require management action plans with estimated completion dates that will be included in the routine follow up of internal audit observations.

Summary of Observation Ratings
(See Appendix for risk rating definitions)

Number of Observations by Risk Rating		
High	Moderate	Low
-	-	1

We thank all DC Water team members who assisted us throughout this review.

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Background

Materials Management Overview

The DC Water Materials Management team within the Department of Procurement is responsible for managing warehouse operations and all inventory stored within Authority warehouses. The goal of Materials Management operations is to provide a supply chain of materials to enable DC Water maintenance and service operations to perform scheduled and emergency work orders without delay.

Materials Management utilizes the Maximo work order system for order requests and workflow, as well as the Oracle financial system to track inventory within the warehouses. Materials requests are submitted through Maximo and trigger the materials management workflow. Oracle is updated on a continuous basis as materials are received, picked for requests, or following spot, cycle, and annual counts. The two systems work concurrently, as the status of work order request changes in Maximo are based on items received or removed from inventory. Oracle also maintains all financial data of the inventory and tracks actual costs incurred to budgeted values.

Warehouse operations expands past fulfilling work order requests, as inventory is required to be continuously restocked to meet the needs of the maintenance and service teams. These operations also include the sub-processes of purchasing, receiving, and inventory counts. The expectation is that all warehouse employees are able to adequately perform duties within each sub-process.

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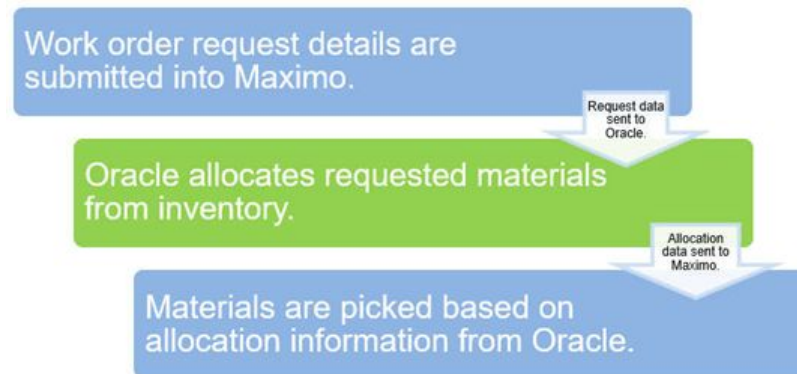
Background – continued

Materials Management Process

Requests:

As requests are submitted, they are entered into the Maximo Materials Management workflow and a requisition is created from the work order information. If there is a sufficient level of inventory on hand, a warehouse demand is automatically initiated. The Materials Manager will receive the pick list, detailing items required for selection from inventory to fulfill the request. The warehouse employee(s) will pick the listed inventory and update the work order status to "materials ready" within Maximo. If there are any concerns regarding the request, the requestor is contacted and the work order will be updated accordingly. Once the request has received the "materials ready" status, an email is sent to the requestor that the materials are ready for pick-up. The requestor will pick-up the materials at the supplying warehouse, and the work order will be released within Maximo.

Purchasing:

If a work order request includes items that do not have the necessary amount on-hand, or if a request causes the on-hand quantity of an item to drop below the designated restock quantity, a purchase demand is automatically generated and flows through the DC Water approved purchasing process. All purchase demands are reviewed by the Materials Manager for reasonableness and adjusted as necessary. Following this review, a purchase order is generated. If the vendor requests any changes, they will contact the initial requestor directly regarding a possible replacement item or adjustment. Each purchase order is required to receive sign-off by both the Materials Manager and the Director of Procurement; if the dollar amount is over $25,000, sign-off by the VP of Procurement is also required. Once approval has been granted, the vendor will fulfill the order and ship the items to the applicable warehouse.

Inventory:

As materials are moving in and out of the warehouses, the Materials Management team must also validate that inventory levels are accurate between quantity on-hand and quantity in the Oracle system. This is done by performing periodic inventory counts. As a baseline, all items must be counted at least once per year. Periodic inventory counts are completed as-needed based on activity or if there are discrepancies between on-hand inventory and the count in Oracle. Cycle inventory counts occur quarterly, semi-annually, and annually. The frequency of the cycle count is dependent on the type of inventory item – high-value items (Class A) are inventoried quarterly, mid-value items (Class B) are inventoried semi-annually, and low-value items (Class C) are inventoried annually. The count will be performed by the warehouse staff and the on-hand count will be recorded on the count sheets. Any variances between the on-hand count and the current count in Oracle will be identified. If a variance exists after the first count, the supervisor will perform the recount. If a variance remains after the recount, the Materials Manager must review the discrepancy and make necessary adjustments. The count in Oracle will be updated to reflect on-hand quantity in the warehouse and the inventory count status is updated to complete. Variances are to be followed up on by the Materials Manager to identify the root cause.

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Approach

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Materials Management

- Conducted walkthroughs, reviewed policies, procedures, SOPs, and any other key process information available to further our understanding of the materials management and inventory processes;

- Gained an understanding of changes that have been implemented as a result of the Oracle implementation;

- Assessed appropriateness of warehouse operations controls to capture all materials management movement at the Authority:

    - Validated that all new items added to the inventory were approved appropriately within Maximo and Oracle;

    - Validated that all materials requests were processed and approved appropriately within Maximo for materials movement;

    - Validated that goods were acquired through the Authority's approved procurement process;

    - Validated that received inventory was accounted for appropriately within Maximo and Oracle;

    - Validated that a cycle count process was performed to verify physical inventory and necessary adjustments are approved appropriately.

</div>

Reporting: At the conclusion of this audit, we summarized our observations and have reviewed the results of our testing with management.

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OBSERVATIONS AND RECOMMENDED ACTION

Observation 1: Packing Slip Review

Risk Rating: Low

Observation:

Materials are received by warehouse workers at one of the two DC Water warehouse locations. Shipments include a detailed packing slip and an itemized list of the shipment's contents. This enables the receiving warehouse worker to review the physical items received against the packing slip and identify any discrepancies or issues prior to further processing. The receiving warehouse worker will also perform a two-way match between the goods received and the approved open purchase order housed in Oracle. The warehouse worker that receives, reviews and matches the packing slip is required to provide a signature and date on the packing slip to evidence the completeness of their review.

During the course of our testing, we selected and reviewed a sample of 25 purchase orders. Of the 25 sampled purchased orders, seven of the corresponding packing slips did not properly document evidence of review via date and sign-off. Of those seven packing slips, three packing slips had evidence of a physical review (tickmarks, handwritten notes, etc.) but there was no date or signature provided. The remaining four packing slips did not have any evidence of a physical review or sign-off by the receiving warehouse worker as required by internal policy.

Root Cause Analysis:

Due to the manual process of reviewing and maintaining paper packing slips, there are multiple opportunities for oversight in relation to providing physical evidence of the reconciliation that occurs upon receipt of a shipment (i.e. sign-off on packing slip, packing slip retention and organization, etc.). Per inquiry with the Materials Manager, the oversights identified during Internal Audit's testing occurred when regular warehouse staff were out quarantining as a result of COVID-19 and the receiving function was backfilled temporarily.

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Observation 1: Packing Slip Review

Impact Analysis:

If received materials are not properly reviewed, the Authority is at risk for acceptance of and payment for incorrect or damaged items, inconsistent inventory levels, reduced efficiency, and employees being unable to complete service requests timely. Inconsistent evidence of review of packing slips also leaves the Authority vulnerable to an array of supplier disputes which could strain vendor relations and introduce an increased possibility of a financial loss for the Authority. Note that per inquiry with the Materials Manager, of the samples Internal Audit tested all were ultimately issued to the appropriate work orders and therefore the appropriate materials were received despite a lack of sign off.

Recommendation:

To reduce the risk of inconsistent or inadequate documentation of the packing slip review process, the requirement to sign and date the packing slip should be re-emphasized to all warehouse workers and employees that are authorized to receive shipments. The manual nature of the review process allows for human error, and the materials management team is currently working to determine whether the two-way match process can be configured into an Oracle workflow. If this configuration is possible, Internal Audit recommends that the receiver reviews the packing slip against the contents being received and then enters the quantity into Maximo without seeing the approved PO quantity (blind match).

Management Action Plan:

Provide refresher training in receiving in both Oracle and RF Smart. As part of that refresher training, emphasize the importance of signing packing slips. The team at Bryant Street will then send all packing slips to the Assistant Warehouse Manager/Materials Manager on a weekly basis for review. The primary buyer for Bryant Street will also review all open orders for Bryant Street weekly (at a minimum) to ensure timely processing of receipt transactions. Materials Manager will review the receiving configuration in both base Oracle and RF Smart to determine/change the systems to not show the outstanding balance of an item on a purchase order.

Responsible Party: Materials Manager

Target Date: October 31, 2021

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Appendix A – Rating Definitions

RSM defined observations based on the following risk rating definitions:

Observation Risk Rating Definitions	
Rating	**Definition**
Low	Observation presents a low risk (i.e., impact on financial statements, internal control environment or business operations) to the organization for the topic reviewed and/or is of low importance to business success/achievement of goals. Action should be taken within **12 months** (if related to external financial reporting, must mitigate financial risk within two months unless otherwise agreed upon).
Moderate	Observation presents a moderate risk (i.e., impact on financial statements, internal control environment or business operations) to the organization for the topic reviewed and/or is of moderate importance to business success/achievement of goals. Action should be taken within **nine months** (if related to external financial reporting, must mitigate financial risk within two months).
High	Observation presents a high risk (i.e., impact on financial statements, internal control environment or business operations) to the organization for the topic reviewed and/or is of high importance to business success/achievement of goals. Action should be taken immediately, but in no case should implementation exceed **six months** (if related to external financial reporting, must mitigate financial risk within two months).

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