### BOARD AGENDA SUMMARY SHEET

<table>
<thead>
<tr>
<th>Committee or Board:</th>
<th>Date:</th>
<th>Board Meeting Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board</td>
<td>September 13, 2019</td>
<td>September 25, 2019</td>
</tr>
</tbody>
</table>

#### For All Board Voting Items:

**Title of Agenda Item:** Approval of the Annual Report and Amendments on the Board’s Policy on Enterprise Risk Management

**Consent Agenda:** ☒ Yes ☐ No  
**Accompanying Presentation:** ☒ Yes ☐ No

**Recommendation from Committee:** ☐ N/A ☒ F&A; ☐ GP&P; ☐ Oversight & REV

**LIPA Presenter:** Corey Horowitz (Presentation at F&A)  
**PSEG Long Island Presenter:** N/A

#### For Policy Reports Only:

**Type of Policy / Report:** ☒ Operating; ☐ Governance; ☐ Compliance; ☐ Mission

**Date of Last Report:** September 27, 2018  
**Compliance Since Last Report:** ☒ Yes ☐ No

**Proposed Changes to Policy:** ☒ Yes ☐ No

<table>
<thead>
<tr>
<th>Requested Action:</th>
<th>Summary: (include proposed amendments to Board Policies, if applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Board of Trustees of the Long Island Power Authority is requested to adopt a resolution: (i) finding that the Long Island Power Authority and its subsidiary Long Island Lighting Company d/b/a LIPA has complied with the Board Policy on Enterprise Risk Management; (ii) approving the annual report for the Policy; and (iii) approving certain amendments to the Policy.</td>
<td>By Resolution No. 1351, dated March 29, 2017, the Board adopted the ERM Policy, focusing on the identification, assessment, management and mitigation of risks. The Policy was last reviewed and amended by the Board by Resolution No. 1428, dated September 27, 2018. The Finance &amp; Audit Committee of the Board, in its Charter, was delegated the responsibility of reviewing the Authority’s practices relating to Enterprise Risk Management. The Authority’s Service Provider, PSEG Long Island, also participates in the implementation of the Authority’s ERM Program. Authority Staff has reviewed the Policy and recommends: (i) renaming the Executive Risk Management Committee as the Enterprise Risk Management Committee and minor modifications to the required composition of the Committee; and (ii) certain other non-material wording changes.</td>
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FOR CONSIDERATION
September 25, 2019

TO: The Board of Trustees

FROM: Thomas Falcone

SUBJECT: Approval of the Annual Report and Amendments on the Board’s Policy on Enterprise Risk Management

Requested Action

The Board of Trustees of the Long Island Power Authority (the “Board”) is requested to adopt a resolution: (i) finding that the Long Island Power Authority and its subsidiary the Long Island Lighting Company d/b/a LIPA (collectively the “Authority” or “LIPA”) has complied with the Board Policy on Enterprise Risk Management (the “ERM Policy” or “Policy”); (ii) approving the annual report for the Policy; and (iii) approving certain amendments to the Policy, as detailed herein, which resolution is attached hereto as Exhibit “A”.

Background - Board Policy on Enterprise Risk Management

By Resolution No. 1351, dated March 29, 2017, the Board adopted the ERM Policy, focusing on the identification, assessment, management and mitigation of risks. The Policy was last reviewed and amended by the Board by Resolution No. 1428, dated September 27, 2018.

The Finance & Audit Committee (“F&A Committee”) of the Board, in its Charter, was delegated the responsibility of reviewing the Authority’s practices relating to Enterprise Risk Management (“ERM”). The Authority’s Service Provider, PSEG Long Island, also participates in the implementation of the Authority’s ERM Program. There are certain ERM Program requirements, which are described below.

Specifically, the Policy provides that “the Chief Executive Officer or his or her designee will report annually to the F&A Committee of the Board on the Policy, including: review of the significant risks to LIPA’s mission; and compliance with the key provisions of the Policy.”

Compliance with the Policy

Staff recommends that, for the reasons set forth below, the Board find that the Authority has complied with the objectives of the Policy for the period since the last annual report.

The Policy provides: “under the direction of the Authority’s Chief Executive Officer, the Authority and its Service Provider shall maintain an Enterprise Risk Management Program with the following key provisions”:

“An Executive Risk Management Committee consisting of the Chief Financial Officer and at least two other Authority staff appointed by the Chief Executive Officer, one of whom must be drawn from LIPA’s senior management, to oversee the processes and procedures of the Program”
The Authority has an active Executive Risk Management Committee (“ERMC”) that reviews the ERM process and controls and oversees the implementation of the ERM Program. Over the last twelve months, the ERMC has met seven times to review the progress of the ERM Program at LIPA and PSEG Long Island. This included review of the assessment and mitigation efforts of all LIPA departments, as well as completed actions relating to the DPS Recommendation.

Currently there are seven members on the Committee including the CEO, Interim CFO, the VP Policy, Strategy & Administration and other Staff at the Director level.

The ERMC maintains an ERM procedures manual that was recently updated by the ERM staff and approved by the ERMC reflecting additional risk assessment factors, prioritization criteria, reporting framework and governance practices.

The ERM Policy also provides that: “An evaluation of the most significant risks facing the Authority and its Service Provider, and corresponding mitigation activities, reported to senior management of the Authority and its Service Provider for review and evaluation on an annual basis, with ongoing monitoring activity between reviews”

In 2018, the Authority and PSEG Long Island revised the ERM Program to follow a bottom-up approach to engage each department or business unit at LIPA and PSEG Long Island. ERM staff from the Authority and PSEG Long Island collectively facilitated working sessions with the appropriate subject matter experts in each department or business unit.

The ERM process includes the identification of risks affecting LIPA’s and PSEG Long Islands’ goals and objectives and utilizes quantitative and qualitative methods to assess the magnitude of the risk exposure. The ERM process includes a review of the mitigation of each risk. Each department or business unit Vice President is required to review and approve the department risks portfolio and mitigation activities as risk-owner.

LIPA and PSEG Long Island have established a reporting structure whereby a formal presentation of the significant high-priority risks and associated mitigation activities of each department is brought before LIPA’s and PSEG Long Island’s senior management at their Management Review Board meetings.

Annually, the F&A Committee receives an ERM Program Update highlighting the significant risks facing LIPA and PSEG Long Island and mitigation strategies concurrent with this annual report.

The ERM Policy recognizes insurance and business continuity planning as strategies to mitigate exposure to certain risks, noting:

“A review of the Authority’s insurance and other forms of coverage against insurable risks, including the availability and economics of such coverage, performed each year.”; and

“Business continuity plans for LIPA and its Service Provider that are reviewed each year.”

Insurance:

- Each year the Authority and its insurance advisor oversee the placement of various policies by PSEG Long Island such as property insurance and general liability insurance and other
required coverages as deemed prudent to protect the interest of the Authority’s bondholders and customer-owners.

- The AR OSA requires the Authority to provide written notification to PSEG Long Island regarding the renewal of required policies, desired changes in coverages, and any requests to investigate other types of coverages. The Authority’s notification is sent each December.

- The Authority maintains several other insurance policies including directors and officers liability, premises general liability and property insurance as well as cyber insurance and employee practices liability insurance.

- The levels of coverage were reviewed during 2019 and prudent and economic levels of coverage are in place for each type of policy, including:
  - D&O Insurance $200M Limit/$1M Retention
  - Excess 3rd Party General Liability $300M Limit/$3M Retention
  - Property Insurance (all risks, excludes wires and poles) $500M/CAT$300M Limit adder/$1.5-$7.5M Retention; includes U.S. Property Terrorism
  - Cyber Insurance:
    - LIPA named insured on PSEG Long Island’s Cyber Insurance $15M Limit/$2.5M Retention
    - LIPA Business Office Cyber Policy $5M Limit/$10K retention
  - Nuclear Electric Replacement (NMP2) $300M Limit/12-week deductible period
  - Employee Practices Liability Insurance $5M Limit + $1M Additional Defense Cost/$15K Retention
  - LIPA premises Liability and Property Insurance $150K-$3M Limit/$0 Retention

**Business Continuity:**

- The Authority maintains departmental and corporate level business continuity plans (“BCPs”). PSEG Long Island also maintains detailed business continuity plans for each operational area within each business unit.

- LIPA and PSEG Long Island’s BCPs are reviewed annually and were reviewed during 2019.

- Alternative operations within the BCPs are tested on a periodic basis to assure the most essential business functions are maintained or returned to service in appropriate time frames. Most tests have been completed, with the remaining tests and exercises to be completed by the end of 2019.

The ERM Policy also requires a maturity assessment of the ERM Program to assure the continued development of an effective ERM process, stating: “An annual review of the maturity of the Program compared to industry best practices, will be provided to senior management and the Authority’s Internal Audit staff.”

- The updated maturity model was provided to senior management and discussed at the ERMC’s September meeting.

- The Authority’s Internal Audit department received a copy of the 2019 ERM maturity
assessment and diagnostic report prepared by a third-party vendor which measures the current maturity of the Authority’s ERM Program and comparison to industry benchmark.

**Annual Review of the Policy**

Authority Staff has reviewed the Policy and recommends: (i) renaming the Executive Risk Management Committee as the Enterprise Risk Management Committee and minor modifications to the required composition of the Committee; and (ii) certain other non-material wording changes. The proposed changes to the Policy are more particularly set forth in **Exhibit “B”**.

**Recommendation**

Based upon the foregoing, I recommend approval of the above requested action by adoption of a resolution in the form attached hereto.

**Attachments**

| Exhibit “A” | Resolution |
| Exhibit “B” | Policy (redline) |
| Exhibit “C” | Policy (clean) |
RESOLUTION APPROVING THE ANNUAL REPORT AND AMENDMENTS ON THE BOARD POLICY ON ENTERPRISE RISK MANAGEMENT

WHEREAS, the Enterprise Risk Management Policy (the “Policy”) was originally approved by the Board of Trustees by Resolution No. 1351, dated March 29, 2017; and

WHEREAS, the Policy was last reviewed and amended by Resolution No. 1428, dated September 27, 2018; and

WHEREAS, the Finance and Audit Committee of the Board of Trustees has conducted an annual review of the Policy and has recommended that the Policy has been complied with and the changes to the Policy recommended herein are due and proper.

NOW, THEREFORE, BE IT RESOLVED, that consistent with the accompanying memorandum, the Board of Trustees hereby finds that the Authority has complied with the Policy for the period since the last annual review and approves the annual report.

BE IT FURTHER RESOLVED, that consistent with the accompanying memorandum, the changes to the Policy that are reflected in Exhibit “B” are hereby approved.

Dated: September 25, 2019
Board Policy on Enterprise Risk Management

It is the policy of the Board of Trustees for the Long Island Power Authority ("LIPA") to maintain an Enterprise Risk Management Program to monitor, identify, assess, mitigate, monitor, and report on LIPA’s most significant risks to achieving its mission and delivering value to its customer-owners.

Under the direction of LIPA’s Chief Executive Officer, the LIPA Authority and its Service Provider shall maintain an Enterprise Risk Management Program with the following key provisions:

- An Enterprise Risk Management Committee consisting of the Chief Financial Officer and at least three LIPA Authority staff appointed by the Chief Executive Officer, two of whom must be drawn from LIPA’s senior management, to oversee the processes and procedures of the Program;
- An evaluation of the most significant risks facing LIPA and its Service Provider, and corresponding mitigation activities, reported to senior management of LIPA and its Service Provider for review and evaluation on an annual basis, with ongoing monitoring activity between reviews;
- A review of LIPA’s insurance and other forms of coverage against insurable risks, including the availability and economics of such coverage, performed each year;
- Business continuity plans for LIPA and its Service Provider that are reviewed each year; and
- An annual review of the maturity of the Program compared to industry best practices, will be provided to senior management and the Authority’s Internal Audit staff.

The Chief Executive Officer or his or her designee will report annually to the F&A Committee of the Board on the Policy, including:

- A review of the significant risks to LIPA’s mission; and
- Compliance with the key provisions of the Policy.
Board Policy on Enterprise Risk Management

It is the policy of the Board of Trustees for the Long Island Power Authority (“LIPA”) to maintain an Enterprise Risk Management Program to monitor, mitigate and report on LIPA’s most significant risks to achieving its mission and delivering value to its customer-owners.

Under the direction of LIPA’s Chief Executive Officer, LIPA and its Service Provider shall maintain an Enterprise Risk Management Program with the following key provisions:

- An Enterprise Risk Management Committee consisting of at least three LIPA staff appointed by the Chief Executive Officer, two of whom must be drawn from LIPA’s senior management, to oversee the processes and procedures of the Program;
- An evaluation of the most significant risks facing LIPA and its Service Provider, and corresponding mitigation activities, reported to senior management of LIPA and its Service Provider for review and evaluation on an annual basis, with ongoing monitoring activity between reviews;
- A review of LIPA’s insurance and other forms of coverage against insurable risks, including the availability and economics of such coverage, performed each year;
- Business continuity plans for LIPA and its Service Provider that are reviewed each year; and
- An annual review of the maturity of the Program compared to industry best practices will be provided to senior management and the Authority’s Internal Audit staff.

The Chief Executive Officer or his or her designee will report annually to the F&A Committee of the Board on the Policy, including:

- A review of the significant risks to LIPA’s mission; and
- Compliance with the key provisions of the Policy.
Enterprise Risk Management and Insurance Update for the Finance & Audit Committee

September 25, 2019
AGENDA

ERM Process and Program Timeline

Enterprise Risk Profile

DPS Audit ERM Recommendation & Maturity Assessment

Next Steps – ERM

Insurance Update
A risk is defined as any issue or event that would prevent the achievement of an objective.

The enterprise risk management process includes actions the organization takes to identify, assess, monitor, respond and mitigate, and report on risks:

**Risk Identification**
Process to identify risks affecting the organization

**Risk Assessment**
Quantitative and qualitative methods utilized to assess the magnitude of risk exposures

**Risk Monitoring**
Process for monitoring changes in the probability and/or impact of a risk

**Risk Reporting**
Communication of risk information that enables management to make risk-informed decisions

**Risk Response & Mitigation**
Process and documentation of identifying and implementing actions to minimize the probability and/or impact of a risk

**ERM Team facilitates the process**

ERM Process

A risk is defined as any issue or event that would prevent the achievement of an objective.

The enterprise risk management process includes actions the organization takes to identify, assess, monitor, respond and mitigate, and report on risks:
LIPA ERM PROGRAM PROGRESS

2017
- Completed LIPA Risk Portfolio
- Initiated PSEG Long Island Risk Assessments

2018
- Completed PSEG Long Island Risk Portfolio
- Updated LIPA Risk Portfolio
- Performed deep dive analysis on high-priority enterprise risks

2019
- Increase risk monitoring and measurement of mitigation effectiveness
- Continue integration of ERM into Strategy

2020
- Initiated LIPA Department Risk Assessments
Combined enterprise risks can significantly impede both LIPA and PSEG Long Island’s ability to achieve their respective goals.

To qualify as a combined enterprise risk, it must be considered high-priority and meet one or more of the following criteria:

- Collaborative effort between LIPA and PSEG Long Island (e.g., regulation)
- Vested interest between LIPA and PSEG Long Island (e.g., cyber)
- Requires a major capital or O&M investment (e.g., reliability)
<table>
<thead>
<tr>
<th>Risk Category</th>
<th>Risk Description</th>
<th>Mitigation Activities</th>
</tr>
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<tbody>
<tr>
<td><strong>Reputation</strong></td>
<td>Reputations is impacted by a customer/stakeholder’s perception of financial and/or operating performance and results in negative media coverage.</td>
<td>• Employ clear and timely communication through all channels with customers, stakeholders and public officials on issues to ensure information is disseminated early and accurately.</td>
</tr>
<tr>
<td>(Board Policy on Customer Service)</td>
<td></td>
<td>• Increase customer awareness, through the facilitation of public presentations, stakeholder meetings, quarterly advisory meetings, board meetings and hearings. Additionally, informational outreach materials are provided.</td>
</tr>
<tr>
<td><strong>Reliability</strong></td>
<td>Catastrophic event (e.g., major storm) and/or operational issues result in long-duration outages, and negative public perception.</td>
<td>• Prioritize capital and O&amp;M expenditures to maintain the T&amp;D system.</td>
</tr>
<tr>
<td>(Board Policy on Reliability)</td>
<td></td>
<td>• Facilitate annual drills, exercises and training, including after action and best practice reviews with annual plan refinement and update.</td>
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<td></td>
<td></td>
<td>• Monitor performance through the use of metrics, which are measured against goals and identify areas for improvement, when necessary.</td>
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<tr>
<td><strong>Cyber &amp; Physical Security</strong></td>
<td>Cyber or physical security breach to a critical operating system results in the inability to operate the system safely and effectively.</td>
<td>• Implement and maintain intrusion detection system and/or data loss protection, utilizing industry best practices.</td>
</tr>
<tr>
<td>(Proposed Board Policy on Cyber and Physical Security)</td>
<td></td>
<td>• Conduct security vulnerability inspections, physical security inspections, and physical penetration tests at critical sites.</td>
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<tr>
<td></td>
<td></td>
<td>• All employees and contractors are trained on the importance of protecting PII and data is only shared on an &quot;as needed&quot; basis; additionally, PSEG Long Island is working with a third party to mask all PII.</td>
</tr>
<tr>
<td><strong>Regulatory Risk</strong></td>
<td>Regulations are modified and result in potential changes to the business model, operational changes, and/or an increased cost of service.</td>
<td>• Translate existing subject matter expertise into synchronized and persuasive policy positions.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Identify opportunities to impact policy that align with customer needs.</td>
</tr>
<tr>
<td><strong>Rates</strong></td>
<td>Insufficient rates/untimely rate relief leads to inadequate system investments which compromises LIPA’s ability to achieve strategic priorities.</td>
<td>• Balance system requirements with financial obligations and customer impacts.</td>
</tr>
<tr>
<td>(Board Policies on Affordability and Debt)</td>
<td></td>
<td>• Analyze costs, and identify ways to offset expenses to minimize rate impacts to our customers.</td>
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<tr>
<td></td>
<td></td>
<td>• Maintain strong relationships with, and actively educate stakeholders.</td>
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</table>
### Risks Align with Other Utilities

**Edison Electric Institute**

<table>
<thead>
<tr>
<th>2019 Rank</th>
<th>2018 Rank</th>
<th>2017 Rank</th>
<th>2016 Rank</th>
<th>2015 Rank</th>
<th>Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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<td>1</td>
<td>1</td>
<td>1</td>
<td>Cybersecurity</td>
</tr>
<tr>
<td>2</td>
<td>3</td>
<td>8</td>
<td>2</td>
<td>6</td>
<td>Safety – Employee and Public</td>
</tr>
<tr>
<td>3</td>
<td>4</td>
<td>3</td>
<td>3</td>
<td>WI</td>
<td>Pressure on Rates and Returns</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
<td>4</td>
<td>4</td>
<td>5</td>
<td>Regulation/Legislation</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>2</td>
<td>5</td>
<td>3</td>
<td>Strategy and Execution (incl. Business Model)</td>
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<tr>
<td>6</td>
<td>10</td>
<td>9</td>
<td>WI</td>
<td>WI</td>
<td>Customer Expectations</td>
</tr>
<tr>
<td>7</td>
<td>6</td>
<td>6</td>
<td>7</td>
<td>2</td>
<td>Operational Performance (reliability)</td>
</tr>
<tr>
<td>8</td>
<td>7</td>
<td>10</td>
<td>6</td>
<td>4</td>
<td>Catastrophic Event Response (including storms)</td>
</tr>
<tr>
<td>9</td>
<td>9</td>
<td>7</td>
<td>8</td>
<td>13</td>
<td>Data Privacy / Sensitive Personal Info Release</td>
</tr>
<tr>
<td>10</td>
<td>12</td>
<td>5</td>
<td>13</td>
<td>12</td>
<td>Aging Infrastructure</td>
</tr>
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WI – included as a write-in risk
**DPS Audit Recommendation** – LIPA and PSEG Long Island should continue to develop an effective and comprehensive ERM process.

<table>
<thead>
<tr>
<th>Goal</th>
<th>Status for Completion</th>
</tr>
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<tbody>
<tr>
<td>Develop risk reporting framework for department, organization, and board reporting cadence and depth</td>
<td>Complete</td>
</tr>
<tr>
<td>Review each departments risk profile and obtain VP consensus</td>
<td>Complete</td>
</tr>
<tr>
<td>Develop prioritized portfolio of enterprise and utility risks</td>
<td>Complete</td>
</tr>
<tr>
<td>Establish a framework for emerging risks</td>
<td>Complete</td>
</tr>
<tr>
<td>Update/review ERM Procedures Manual</td>
<td>Complete</td>
</tr>
<tr>
<td>Perform second annual ERM Maturity Assessment</td>
<td>Complete</td>
</tr>
<tr>
<td>Introduce velocity as an additional component in assessing risk</td>
<td>Complete</td>
</tr>
<tr>
<td>Integrate updated and revised risk data into the business planning cycle to help prioritize O&amp;M, capital and resource allocations</td>
<td>Ongoing</td>
</tr>
</tbody>
</table>
YEAR OVER YEAR ERM PROGRAM MATURITY

- ERM chose the Gartner Maturity Model to measure year over year progress and to benchmark our program against best practices
- Improvements were made to the maturity model in 2019 that increased baseline maturity standards to be more rigorous, making a year over year comparison difficult

2018 ERM Overall Maturity

- Low Maturity: 2
- High Maturity: 5

2019 ERM Overall Maturity

- Low Maturity: 2
- High Maturity: 2+

Year Over Year Improvements:
- Alignment of Risk with Strategy
- Management of the ERM Process
- Enhancement of Risk Culture
- Comprehensive identification and assessment of risks across the Authority

2020 Program Focus Areas:
- Improve risk monitoring
- Enhance risk reporting
- Continue integration of ERM into business processes
- Foster Risk Awareness

*Average for companies surveyed: 3-

*Average not yet available due to changes from 2018 to 2019 maturity model
Next Steps

- Continue integration of ERM into business practices
- Perform deep dive analysis on significant enterprise risks
- Increase risk monitoring and mitigation effectiveness
- Continue industry benchmarking for the ERM Program
Mitigating Financial Risk Exposure

LIPA Insurance Program
Overview of LIPA’s Insurance Program

- Support the overall mission and key objectives of supplying clean, reliable, and affordable energy

- Mitigate a portion of LIPA’s financial risk on behalf of its customer-owners and bondholders

- Comply with LIPA’s Board Policy on Enterprise Risk Management

“Maintain prudent and appropriate levels of insurance or other coverages against insurable risks, if available and reasonably economic.”

- ERM Board Policy
PSEG Corporate insurance department manages the placement of the following policies on behalf of LIPA:

- Excess General Liability
- Property
- U.S. Property Terrorism
- Cyber Insurance
- Railroad Protective
- Nuclear Electric (replacement power)

*LIPA has received FEMA grants for storm restoration in the past*
Insurance procured via LIPA's insurance broker Arthur J. Gallagher (AJG)

- LIPA and USDA Directors & Officers Liability Insurance
- Employment Practices Liability Insurance

Insurance placed through NYS Office of General Services - BRIM

- Office 3rd Party Liability Insurance
- Office Property Liability Insurance

Insurance via APPA endorsed broker Marsh - Wortham

- LIPA Office Cyber Insurance
KEY TAKEAWAYS

01 LIPA & PSEG Long Island ERM program making significant progress year over year

02 Established first enterprise risk portfolio in company history

03 ERM process identified top LIPA and PSEG Long Island risks and appropriate mitigation strategies

04 Continue to mitigate financial risks through the purchase of insurance
Questions?