Massachusetts
Toxics Use Reduction

TURA Administrative Council
November 14, 2025

MassDEP

OTA
OFFICE OF TECHNICAL
ASSISTANCE & TECHNOLOGY

TURI
TOXICS USE REDUCTION INSTITUTE

Format for Questions and Discussion

- Council members may ask questions at any time by raising hand
- Non-Council members will be given an opportunity to participate **after** the Council member discussion at the end of each agenda item; comments limited to 3 minutes
  - If you have previously submitted comments on the proposed regulation, you do not need to reiterate previous comments
- Raise hand function will be used
- If we run out of time for attendee questions, please email questions to the TURA Program Administrative Council Executive Director, Tiffany Skogstrom (tiffany.skogstrom@mass.gov)

How to Ask Questions

Use Zoom function to raise your hand for comments or questions.

To access the "Raise Hand" function, click "Participants" at the bottom of your screen, and then click the "Raise Hand" button that appears under the list of participants. This will notify the host that you have a question or comment.

Agenda

- Welcome and Introductions
- Vote to Approve May 21, 2025 Meeting Minutes
- Presentation of Response to Comments on the Proposed Quaternary Ammonium Compound (QAC) Substance Category of Didecyl Dimethyl Ammonium Chloride (DDAC) and Alkyl Dimethyl Benzyl Ammonium Chloride (ADBAC) Addition to the TURA List
- TURA Program Update
- Adjourn

Note: Public comments/questions will be held until opened for general discussion

Welcome and Introductions

May 21, 2025 Meeting Minutes Vote

Approval of May 21, 2025 meeting minutes

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Presentation of Response to Comments: Proposed QAC Substance Category

Public Comment Overview

- EEA solicited public comments from July 3–September 12, 2025 and held a public hearing on July 25, 2025.
  - A total of 19 public participants attended the public hearing, of whom 5 provided oral testimony.
  - A total of 13 written comments were received, 7 in favor and 6 opposed.

Response to Comments Opposed to the Proposed Amendments: Policy Considerations

Names of Commenters in Opposition

- Lígia Duarte Iler of Household & Commercial Products Association
- Nicholas B. Georges of Ignite, the consortium management program of the Household & Commercial Products Association that administers the ADBAC Issues Steering Committee and DDAC Steering Committee
- Nicholas B. Georges of Ignite, the consortium management program of the Household & Commercial Products Association that administers the Quats Science Group
- Julie Ownbey of Arxada, LLC
- Katherine Robertson of Massachusetts Chemistry and Technology Alliance
- Anastasia Swearingen of the American Chemistry Council Center for Biocide Chemistries

Comments Opposed: Beneficial Uses of QACs

Topics	Response

• QACs have many beneficial, health-protective uses
• Listing them could adversely affect their availability or reduce their use in settings where they are needed, such as in healthcare and food service settings
	• TURA does not ever ban chemicals
	• A TURA listing will not prohibit QAC use in health care/food sectors
	  • Hospitals and food service are not covered by TURA
	  • Sodium hypochlorite is listed under TURA and is still widely used as a disinfectant by both filers and non-filers
	• Listing shines a light on QAC use and encourages toxics use reduction opportunities where feasible
	• Efficacy depends on use as directed; a listing will strengthen TURA's ability to reach and train on safer use

Comments Opposed: Availability of Alternatives

Topics	Response
• Alternatives identified in the policy analysis were less efficacious than QACs, were not suitable for all applications, or have hazards of their own	• TURA listings are based on intrinsic hazard, not hazard relative to alternatives • Alternatives assessment is a service meant to assist with TUR planning obligations • The TURA Program actively assists with identification of suitable, application-specific alternatives where feasible • TURI Cleaning Lab has assisted manufacturers with reducing QAC use • Listing substances under TURA can encourage the development of new, safer alternatives

Comments Opposed: Risk Assessment

Topics	Response
• The policy analysis does not present a risk assessment weighing hazards against the benefits of QAC use • The program has not conducted comparative risk assessments for QACs and their alternatives	• TURA Program does not conduct risk assessments • Listings are based on intrinsic hazard • TURA aims to reduce or eliminate hazards at their source

Comments Opposed: Inappropriate Use

Topics	Response

• Workers are highly familiar with QACs and use them as intended
• QACs are safe and effective when used as directed; dangers result from inappropriate use
• Weigh public health benefits of proper use against theoretical dangers
	• Listing is based on intrinsic hazard to protect workers even in the event of misuse or accidents
	• TURA field experience has shown that products are often not used as directed
	• QACs are the most common antimicrobial active ingredients associated with work-related illness[1]
	  • 2,237 incidents reported to EPA from 2006-2017[2]
	  • MA Occupational Health Surveillance Program has noted 2 severe cases in TURA industry sectors the last 16 years, likely “tip of the iceberg” due to underreporting & difficulty establishing causation
	• Studies reviewed by SAB demonstrate respiratory hazards relevant to occupational safety
	  • Asthma, pulmonary fibrosis, respiratory sensitization/irritation

1. CDC MMWR 2010, PMID: 20467413
2. EPA Office of Pesticide Programs Incident Data System

Comments Opposed: Existing Regulatory Frameworks

Topic	Response

• QACs are already subject to sufficient regulatory oversight via the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA) and Massachusetts Department of Agricultural Resources (MDAR) registration, as well as Food Quality Protection Act (FQPA) requirements	• TURA's requirements are different from those of other regulations
	  • FIFRA/MDAR registration mandates labeling requirements and use restriction
	  • FQPA restricts pesticide residues on foods
	• TURA is the only regulation that requires TUR planning
	• Many disinfectants and pesticides are currently on the TURA list
	• Listing will not prevent MDAR or any entity from using QACs as directed

Comments Opposed: Other Regulatory Actions

Topic	Response
• TURA is the wrong vehicle for regulatory action; worker and consumer safety issues should be addressed by occupational and public health authorities	• TURA listing directly protects workers in TURA-covered sectors, and can encourage reductions among non-filers • Listing will provide data about existing use that can inform and complement other state agencies' actions • Listing does not prevent other state bodies from acting • The TURA Administrative Council consists of each executive agency that has a role to protect public health from toxic chemical exposure • Part of the Administrative Council's role is to "determine how state programs should be coordinated to promote most effectively toxics use reduction in the commonwealth" (MGL c21I § 4)

Comments Opposed: Administrative and Financial Concerns

Topic	Response

• Listing would place financial & administrative burdens on manufacturers, without reducing consumer demand	• Businesses subject to TURA are not required to make any capital investment to comply with the regulation
	• 3–10 Massachusetts facilities may be affected; all believed to be current TURA filers who already employ TUR planners
	  • Filers would be required to report use, conduct TUR planning every other year, and pay a per-chemical fee of $1,100
	• Benefits to filers
	  • Short-term investment in TUR can produce financial benefits for filers
	  • Reporting requirements encourage organized chemical management
	  • Program assistance with TUR and alternatives identification
	• Listing will allow TURA to launch an education campaign on safer use, encouraging wider adoption of safer alternatives

Response to Comments Opposed to the Proposed Amendments: Scientific Considerations

Comments Opposed: Guideline Studies

Topic	Response

• Database of guideline studies that supports ADBAC/DDAC registration substantiates their safety	• The SAB reviewed available high-quality data, including guideline studies, during 16 hours of public meetings
	  • Quality and reliability of the data were considered
	• In September 2020, TURI solicited information on QACs from stakeholders to complement literature review by TURI staff
	• Industry groups presented and commented in SAB meetings through May 2021
	• SAB identified concerns for respiratory system irritation and inflammation including outcomes consistent with occupational asthma and work-exacerbated asthma; corrosive effects; aquatic life hazards; and environmental fate and persistence.
	  • Additional concerns for reproductive effects and neural tube development

Comments Opposed: Respiratory Irritation and Inflammation

Topics	Response
• QACs are irritants but this can be confused for respiratory sensitization • QACs do not conclusively produce new-onset asthma • Existing findings might be the result of exposure to other sources	• SAB reviewed evidence including animal studies, surveillance studies, and case reports that evaluated respiratory toxicity, inflammation, and asthma effects. • Numerous studies on QACs revealed their effects on, or exacerbation of, asthma, pulmonary fibrosis, respiratory sensitization, or irritation.

Comments Opposed: Environmental Fate and Transport

Topics	Response
• QACs are readily biodegradable • QACs adsorb to soil and sediment and are unlikely to accumulate in water	• SAB reviewed peer-reviewed literature and identified evidence of persistence • Numerous studies have established that QACs are persistent in the environment and have been found in surface waters, soil, sediments and wastewater sludge • QACs persist through wastewater treatment and have been found in vegetables following sludge land application

Comments Opposed: Lack of Evidence for Other Health Endpoints

Topics	Response

• No evidence of endocrine, reproductive, or developmental toxicity
• Do not produce hazardous degradation products
• QACs are dermal irritants at high concentrations, but not at typical use concentrations
	• These endpoints were not the basis of the SAB recommendation
	• TURA listings are based on intrinsic hazard
	• Many users who handle and dilute QACs first encounter them in concentrate
	  • There are several documented cases of occupational exposure resulting in skin sensitization
	  • This finding is substantiated by animal studies showing both irritation and sensitization

Comments Opposed: Mechanism of Action

Topics	Response
• QACs are direct irritants at point of contact, but there is no evidence of distant cellular changes • QACs have low potential to cross barriers and limited distribution • While more distant effects have been observed, the mechanism is secondary to the initial irritation	• ADBAC and DDAC are highly irritating • Regardless of absorption, and regardless of which effects were primary and which were secondary, the SAB's recommendation relied on the actual effects observed in vivo (e.g., asthma)

Comments in Favor of the Proposed Amendments

Name of Commenters in Favor

- Arlene Blum, PhD, Rebecca Fuoco, MPH, and Anna Soehl, MS, of the Green Science Policy Institute
- Erica Marie Hartmann, PhD, of Northwestern University
- Elise Pechter MAT, MPH, CIH, retired
- Dianne Plantamura
- Richard Reibstein, JD, of Boston University
- Alexandra Scranton of Women's Voices for the Earth
- Laura Spark of Clean Water Action

Comments in Favor: Policy Considerations

- Toxics use reduction has economic and organizational benefits for companies
- Availability of alternatives:
  - For many uses, safer alternatives are already available
  - For applications without safer alternatives, listing produces incentives to develop and adopt new ones
- Listing creates an opportunity for the program to address occupational and consumer overuse and misuse through worker education
- Listing helps alleviate the ‘hygiene theatre' perception that over-sanitization is always necessary to protect public health

Comments in Favor: Policy Considerations

- Science Advisory Board review was thorough and included ample public participation
- The community has the right to know about chemical use
- QACs present disproportionate harm to vulnerable and susceptible communities (e.g., children; janitorial workers)
- Regulating QACs is consistent with actions of other jurisdictions:
  - Inclusion of QACs in the California Biomonitoring Program
  - EU prohibitions in specific product categories
  - QACs not included on EPA Safer Chemical Ingredients List

Comments in Favor: Occupational Health Endpoints

- Classification of ADBAC and DDAC as respiratory sensitizers and asthmagens by Association of Occupational and Environmental Clinics
- Epidemiological studies, including multistate surveillance data, associate cleaning and disinfecting products with work-related asthma
- Increased risk of COPD in workers exposed to ADBAC and DDAC products
- Reduction in concentration of QACs is insufficient to protect against sensitization effects

Comments in Favor: Non-Occupational Health Endpoints

- Respiratory toxicity
  - Sprayed QACs contribute to reduced lung function
- Reproductive and developmental effects observed in animals, including decreased female and male fertility and neural tube defects
- New research reveals additional hazards:
  - Evidence of neurotoxicity, such as disruptions in oligodendrocyte production
  - Disruption of the gut microbiome
  - Exposure to DDAC accelerates transfer of antimicrobial resistance genes
- QACs are present at detectable levels in blood and breast milk and are ubiquitous in human serum samples

Comments in Favor: Environmental Fate and Transport

- High aquatic toxicity of ADBAC and DDAC
  - Typical environmental concentrations damage fish gills
  - Algae and invertebrates, including indicator species, are harmed by very low concentrations
- Environmental persistence: Cations bind to biomass and sediments
- Adverse effects on wastewater treatment
  - Presence in sediments inhibits microbes needed for nitrogen cycling
  - QACs persist through wastewater treatment and are then released to the environment
- Indoor and outdoor persistence

TURA Program Resources for QACs Users

The following are examples of some of the tools and resources offered by the program that are complementary to a TURA listing

- Webinars:
  - Safer cleaning and disinfecting for schools
  - Selecting Safer Disinfectants
- Educational program: TURI's Safe Cleaning Program for Craft Beverage Operations
- Fact sheets:
  - Safer Cleaning & Disinfecting
  - Information on QACs

Discussion

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TURA Program Update

Public Health Advocate Seat Open

- Recruitment ongoing for one of the Advisory Committee's Public Health Advocacy seats
- Please refer potential candidates to Tiffany Skogstrom
- Seat description

Latest TRI Additions

- Following the May 21, 2025 Admin Council vote, proposed amendment to add the most recent TRI PFAS additions to the TURA list went out for public comment
- Comment period commenced on October 24 and ends today, November 14
- We expect the amendment to be promulgated at the end of the year for Reporting Year 2026, with reports due in 2027

Nine PFAS (100 lb. threshold)

377-73-1	Perfluoro-3-methoxypropanoic acid
3108-42-7	Ammonium perfluorodecanoate (PFDA NH4)
3830-45-3	Sodium perfluorodecanoate (PFDA-Na)
27619-97-2	6:2 Fluorotelomer sulfonate acid
425670-75-3	6:2 Fluorotelomer sulfonate anion
59587-38-1	6:2 Fluorotelomer sulfonate potassium salt
59587-39-2	6:2 Fluorotelomer sulfonate ammonium salt
27619-94-9	6:2 Fluorotelomer sulfonate sodium salt
3030471-22-5	Acetic acid, [(γ-ω-perfluoro-C8-10-alkyl)thio] derivs., Bu esters

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TURI Updates

David Turcotte named as Interim Director of TURI

Research Professor Emeritus in the Department of Economics and the Principal Investigator/Director of The New England Consortium (TNEC).

Doctor of Science degree in Work Environment Policy/Pollution Prevention from the University of Massachusetts Lowell.

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Training Events

- [x] Latest in Safer Product and Process Research webinar (August)
- [x] Determining the Cost of Toxics webinar (September)
- [x] Evaluating Chemicals of Concern webinar (October)
- [ ] Implementing Toxics Use Reduction Case Examples webinar (Nov 19)
- [ ] Using Artificial Intelligence to Support Toxics Use Reduction webinar (Dec 9)

Training Events

TURP Course recently ended

New Method Plating Demonstration Event (Dec 3)

SAB Activities

- The SAB recommended to list a category of aryl phosphate esters to the TURA list in June
- October SAB meeting focused on Ultra-short Chain PFAS and the ToxCast tool
- TURI is developing a policy analysis on the aryl phosphate esters
- TURI is editing the carbon nanotube and fiber policy analysis based on feedback from Committee and Council presentations

TURI Lab

Currently working with 5 companies on TCE replacements

Also working with 2 companies on HFE replacements, 2 companies on MEK replacements and 1 company on DCM replacement

Currently working with 1 Food and Beverage Manufacturer on cleaning and sanitizing

Assisting one filer to assess safer flame retardants

EPA Grant

- The Environmental Protection Agency has awarded a grant to TURI to enhance public health and environmental protection by reducing the use of the toxic solvent trichloroethylene (TCE).
- This grant will establish a Vacuum Degreasing Hub focused on finding safer alternatives to TCE through innovative technology and industry outreach.

Academic and Industry Grants

New Method Plating Vacuum Vapor Degreaser to eliminate TCE

Academic Research Grant for Dept of Plastics Engineering partnering with Haartz on non-halogenated flame retardants for textiles

Academic Research Grant for WPI replacing the toxic solvent N-methyl-2-pyrrolidone (NMP) for battery applications

Continued Community Grants

The Berkshire Regional Planning Commission (BRPC) was awarded a grant to tackle the issue of microplastics in our food and water supply.

The Brazilian Women's Group (BWG) will receive funding to expand their Vida Verde Women's Cooperative which educates Brazilian women working in the cleaning service industry about the dangers posed by certain chemicals.

OTA Updates

OTA Updates

OFFICE OF TECHNICAL ASSISTANCE & TECHNOLOGY

Tabletop Chemical Preparedness Exercises

Website and Mass Clean Auto Repair (MassCAR) updates

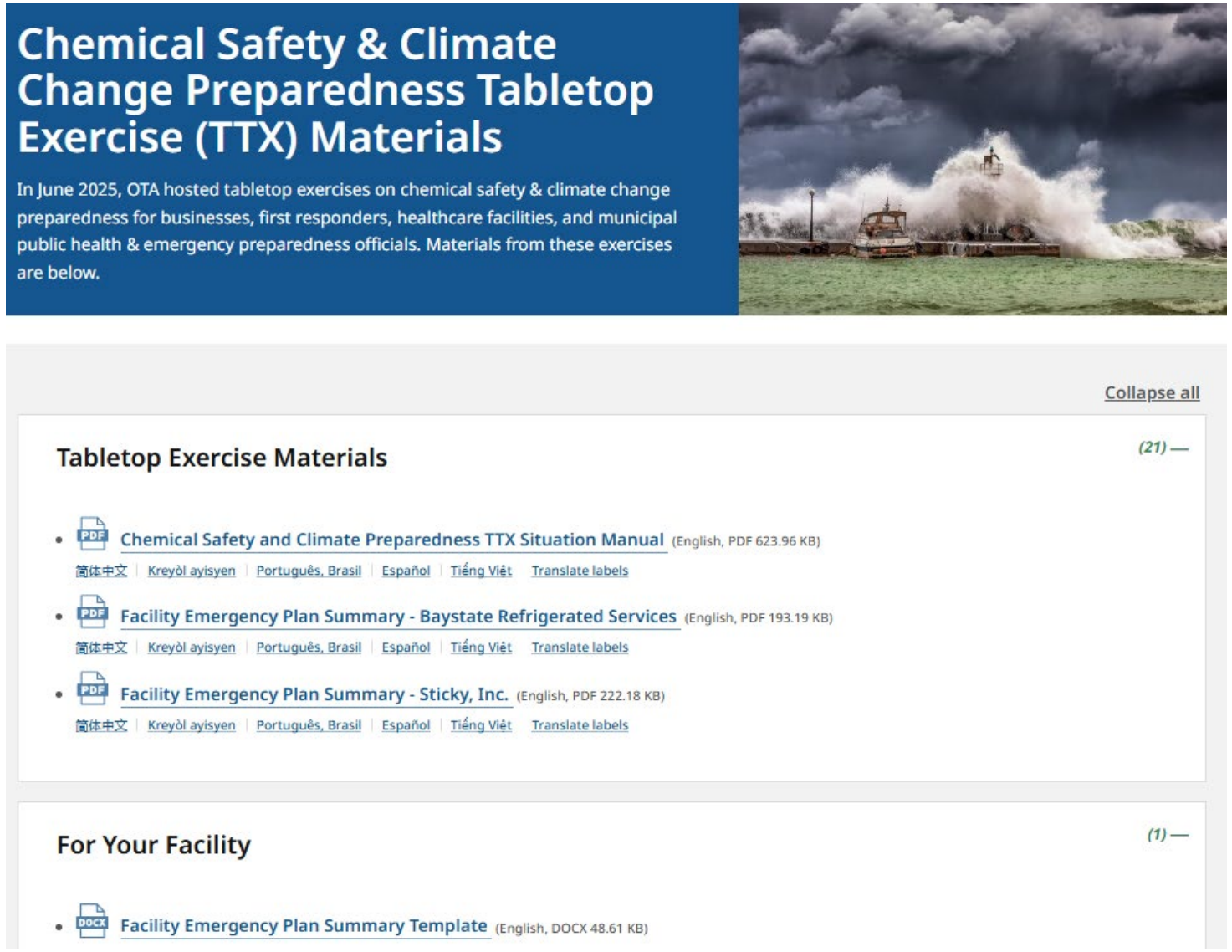
Right from the Start

Staffing updates

OTA Chemical Safety & Climate Change Resilience Tabletop Exercises (Lawrence and Holyoke), June 2025

OTA Website Updates

- Chemical Safety & Climate
- Case Study Library
- MassCAR
- OTA Services



Mass Clean Auto Repair (MassCAR) Guide

- Updated MassCAR curriculum to reflect changes in law and available resources
- Modernized format by moving curriculum online
- Refreshed printable materials

The Massachusetts Clean Auto Repair (MassCAR) Guide

The Massachusetts Office of Technical Assistance and Technology (OTA) created the Massachusetts Clean Auto Repair (MassCAR) program to provide environmental training and resources for auto body and repair shops.

TABLE OF CONTENTS

Right from the Start Revitalization

- Updated materials for OTA's 'Right from the Start' pre-permit assistance program
- Improved cultural relevance of materials to minority-owned businesses and businesses that serve, or are located near, environmental justice populations
- Increasing outreach to above targeted businesses

OTA Staffing Update

OFFICE OF TECHNICAL ASSISTANCE & TECHNOLOGY

Welcoming Keyana White,

Environmental Analyst

DEP Updates

Staffing Update

MassDEP TURA Program has backfilled two staff members

Lillian Zemba

Megan Keene

Reporting Year 2024

- Reporting deadline was July 1st
- TURA bills for filings have been generated and sent
- Program has begun the QA/QC of the reported data
- We are preparing the 2024 TURA Information Release

Enforcement and TURA Program Projects

- RY2024 Pre-enforcement outreach has been sent to facilities
- Staff have begun an outreach project aimed at finding new filers subject to TURA reporting

Reporting Year 2025

Reporting Year (RY) 2025:

- The TURA Program will be sending out reminders to filers and TUR Planners shortly for RY2025
- CY2026 is a Planning Year

Toxics Release Inventory (TRI) Program Updates

- TRI announced they were in the final stages of a re-organization. Effective October 19th the TRI Program and Office of Pollution Prevention and Toxics (OPPT) were re-unified under a single branch to be know as the Chemical Information, Prioritization, and TRI Division (CIPTD)
- The RY2023 TRI National Analysis was published as of September 30th
- The RY2024 TRI Preliminary data was published and refreshed through September 17th

Contact us any time!

Heather Tenney heather@turi.org
General inquiry: info@turi.org
TURI Team contact information

Tiffany Skogstrom tiffany.skogstrom@mass.gov
Also contact Tiffany for Administrative Council and Advisory Committee questions
OTA Staff: https://www.mass.gov/service-details/otas-team

Lynn Cain lynn.cain@mass.gov
C&E: Rebecca Dolan rebecca.g.dolan@mass.gov
TURP Certifications: Leoni Desai leoni.desai@mass.gov

Adjourn

Next meeting TBD

Direct all questions to
TURA Administrative Council Executive Director
Tiffany Skogstrom:
tiffany.skogstrom@mass.gov