

## EXAMPLE TUNE UP WORKBOOK

City of Philadelphia's Building Energy Performance Program



THE CITY OF PHILADELPHIA  
OFFICE OF  
SUSTAINABILITY

### Tune-Up Report Version 2.0 Building Energy Performance Program

- 1) All buildings conducting a tune-up to comply with the City of Philadelphia's Building Energy Performance Policy must submit documentation to the Office of Sustainability (OOS). This Tune-up Report template can be completed and submitted to meet this requirement.
- 2) Please read directions carefully and complete all the fields on all the tabs, accordingly. There are fields marked as "Optional" that are not required to be fully compliant. If a field is not applicable to a building, please use "N/A" or do not choose from a dropdown menu.
- 3) Instructions for the tune-up are located on the "Tune-up Instructions" tab.
- 4) The "Sign-off" tab must be completed and the Tune-up Specialist must be approved by OOS before this form is submitted to [TuneUps@phila.gov](mailto:TuneUps@phila.gov).
- 5) Once completed, please send this report to "[TuneUps@phila.gov](mailto:TuneUps@phila.gov)" with the OPA # in the subject line.

#### Resources

- 1) [Program Webpage](#)
- 2) [BEPP Regulations](#)
- 3) [BEPP Legislation](#)
- 4) [Tune-up Specialist Application](#)

Please contact [TuneUps@phila.gov](mailto:TuneUps@phila.gov) with any question.

**EXAMPLE TUNE UP WORKBOOK**

City of Philadelphia's Building Energy Performance Program

**Contact Information**

Building Owner		
First Name	Last Name	
<input type="text"/>	<input type="text"/>	
Company/Organization/LLC	Title	
<input type="text"/>	<input type="text"/>	
Mailing Address		
<input type="text"/>		
City	State	Zip
<input type="text"/>	<input type="text"/>	<input type="text"/>
Email Address	Phone Number	
<input type="text"/>	<input type="text"/>	

Primary Building Contact (can be "Same as Above")		
Same contact as above? <input type="checkbox"/>		
First Name	Last Name	
<input type="text"/>	<input type="text"/>	
Company	Title	
<input type="text"/>	<input type="text"/>	
Mailing Address		
<input type="text"/>		
City	State	Zip
<input type="text"/>	<input type="text"/>	<input type="text"/>
Email Address	Phone Number	
<input type="text"/>	<input type="text"/>	

Additional Contact Information Notes (Optional)



## EXAMPLE TUNE UP WORKBOOK

City of Philadelphia's Building Energy Performance Program

### Building Overview

Building Information	
Name <input type="text"/>	
Address <input type="text"/>	
OPA # (To search: <a href="http://www.atlas.phila.gov">www.atlas.phila.gov</a> ) <input type="text"/>	Portfolio Manager ID # <input type="text"/>
Primary Property Type <input type="text"/>	Define, if "Other" <input type="text"/>
Shared Energy Meter (Building Name(s)) <input type="text"/>	Shared Energy Meter (Portfolio Manager ID(s)) <input type="text"/>

Building Characteristics	
<b>General Information</b>	
Year Built <input type="text"/>	Indoor Floor Space (Sq. Ft.), excluding residential & parking <input type="text"/>
Indoor Floor Space (Gross Sq. Ft.), including residential <input type="text"/>	Parking Area (Sq. Ft.) <input type="text"/>
# of Floors <input type="text"/>	# of Basements/Sub-basements <input type="text"/>
Occupancy (% of total) <input type="text"/>	# of EV Charging Outlets <input type="text"/>

Fuel Sources Used	
Electric	<input type="text"/>
Gas	<input type="text"/>

Steam		<i>Total kW installed:</i> <input type="text"/>
Fuel Oil		
On-site solar PV		
Other (please define):		

**Space Use (Up to five largest energy users)**

<i>Space Use</i>	<i>Floor Area (Sq. Ft.)</i>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

**Occupancy Use**

<i>Heating Setpoint</i>	<input type="text"/>	<i>General Schedule</i>
<i>Heating Setback</i>	<input type="text"/>	
<i>Cooling Setpoint</i>	<input type="text"/>	
<i>Cooling Setback</i>	<input type="text"/>	
<i>Notes</i>		<i>Use (hours/week)</i> <input type="text"/>
<input type="text"/>		<i>Use (weeks/year)</i> <input type="text"/>

**Building Automation System (BAS)**

<i>Is there a BAS?</i>	<input type="text"/>	<i>Type</i>	<input type="text"/>
<i>Brand/Manufacturer</i>	<input type="text"/>	<i>Version</i>	<input type="text"/>

*Comments about BAS (e.g. original building all pneumatic, X% converted to DDC)*

**Tenant Information**

Do tenants pay for their own energy use?

How is water metered in the building?

Does building management engage with tenants on energy efficiency opportunities?

If yes, provide a brief description of this program

**Additional Building Notes (Optional)**

**Major Systems**

Please include information for your Major Systems used throughout the building.

	Major Systems		Major Systems		Major Systems		Major Systems	
Space Use Served								
Occupancy Schedule								
Primary Heating System	Type	Type	Type	Type	Type	Type	Type	Type
	Size	Size	Size	Size	Size	Size	Size	Size
	Size (Unit of Measurement)	Size (Unit)	Size (Unit)	Size (Unit)	Size (Unit)	Size (Unit)	Size (Unit)	Size (Unit)
	# of Pieces of Equipment	# of Pieces of Equipment	# of Pieces of Equipment	# of Pieces of Equipment	# of Pieces of Equipment	# of Pieces of Equipment	# of Pieces of Equipment	# of Pieces of Equipment
	Age	Age	Age	Age	Age	Age	Age	Age
	Efficiency Rating	Efficiency Rating	Efficiency Rating	Efficiency Rating	Efficiency Rating	Efficiency Rating	Efficiency Rating	Efficiency Rating
	Efficiency Rating (Units)	Efficiency Rating (Units)	Efficiency Rating (Units)	Efficiency Rating (Units)	Efficiency Rating (Units)	Efficiency Rating (Units)	Efficiency Rating (Units)	Efficiency Rating (Units)
	Condition	Condition	Condition	Condition	Condition	Condition	Condition	Condition
Notes	Notes	Notes	Notes	Notes	Notes	Notes	Notes	
Primary Cooling System	Type	Type	Type	Type	Type	Type	Type	Type
	Size	Size	Size	Size	Size	Size	Size	Size
	Size (Unit of Measurement)	Size (Unit)	Size (Unit)	Size (Unit)	Size (Unit)	Size (Unit)	Size (Unit)	Size (Unit)
	# of Pieces of Equipment	# of Pieces of Equipment	# of Pieces of Equipment	# of Pieces of Equipment	# of Pieces of Equipment	# of Pieces of Equipment	# of Pieces of Equipment	# of Pieces of Equipment
	Age	Age	Age	Age	Age	Age	Age	Age
	Refrigerant Type	Refrigerant Type	Refrigerant Type	Refrigerant Type	Refrigerant Type	Refrigerant Type	Refrigerant Type	Refrigerant Type
	Efficiency Rating	Efficiency Rating	Efficiency Rating	Efficiency Rating	Efficiency Rating	Efficiency Rating	Efficiency Rating	Efficiency Rating
	Efficiency Rating (Units)	Efficiency Rating (Units)	Efficiency Rating (Units)	Efficiency Rating (Units)	Efficiency Rating (Units)	Efficiency Rating (Units)	Efficiency Rating (Units)	Efficiency Rating (Units)
Condition	Condition	Condition	Condition	Condition	Condition	Condition	Condition	
Notes	Notes	Notes	Notes	Notes	Notes	Notes	Notes	
Primary Ventilation System	Type	Type	Type	Type	Type	Type	Type	Type
	Size	Size	Size	Size	Size	Size	Size	Size
	Size (Unit of Measurement)	Size (Unit)	Size (Unit)	Size (Unit)	Size (Unit)	Size (Unit)	Size (Unit)	Size (Unit)
	# of Pieces of Equipment	# of Pieces of Equipment	# of Pieces of Equipment	# of Pieces of Equipment	# of Pieces of Equipment	# of Pieces of Equipment	# of Pieces of Equipment	# of Pieces of Equipment
	Age	Age	Age	Age	Age	Age	Age	Age
	Condition	Condition	Condition	Condition	Condition	Condition	Condition	Condition
Notes	Notes	Notes	Notes	Notes	Notes	Notes	Notes	
Primary Distribution System	Type	Type	Type	Type	Type	Type	Type	Type
	Size	Size	Size	Size	Size	Size	Size	Size
	Size (Unit of Measurement)	Size (Unit)	Size (Unit)	Size (Unit)	Size (Unit)	Size (Unit)	Size (Unit)	Size (Unit)
	# of Pieces of Equipment	# of Pieces of Equipment	# of Pieces of Equipment	# of Pieces of Equipment	# of Pieces of Equipment	# of Pieces of Equipment	# of Pieces of Equipment	# of Pieces of Equipment
	Age	Age	Age	Age	Age	Age	Age	Age
	Condition	Condition	Condition	Condition	Condition	Condition	Condition	Condition
Notes	Notes	Notes	Notes	Notes	Notes	Notes	Notes	
Primary Domestic Hot Water System	Type	Type	Type	Type	Type	Type	Type	Type
	Size	Size	Size	Size	Size	Size	Size	Size
	Size (Unit of Measurement)	Size (Unit)	Size (Unit)	Size (Unit)	Size (Unit)	Size (Unit)	Size (Unit)	Size (Unit)
	# of Pieces of Equipment	# of Pieces of Equipment	# of Pieces of Equipment	# of Pieces of Equipment	# of Pieces of Equipment	# of Pieces of Equipment	# of Pieces of Equipment	# of Pieces of Equipment
	Age	Age	Age	Age	Age	Age	Age	Age
	Condition	Condition	Condition	Condition	Condition	Condition	Condition	Condition
Notes	Notes	Notes	Notes	Notes	Notes	Notes	Notes	
Primary Lighting Technology								
Other Pumping and/or Electrical Systems								

Notes					
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Other Major Equipment or Systems (Not referenced above)				
Systems/Equipment	Age	System Size Threshold	Size (unit)	Brief Description/Comment

Additional Major Systems Notes (Optional)



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### Data Reviews

#### Building Benchmarking

Review the property's most recent benchmarking submission in Portfolio Manager. Are the energy sources, square footage, property use details, and energy meter details listed correct?

If "Yes", please verify in Portfolio Manager by following the instructions at: <https://energystar-mesa.force.com/PortfolioManager/s/article/How-do-I-save-my-Verification-information>

If "No", please detail the errors below, make the necessary corrections, and verify on Portfolio Manager

#### Energy Bill Review

Review energy bills (monthly for past year, at least) for any abnormalities that could indicate poor or inappropriate functioning of systems and/or equipment. If found, include a summary of potential issues and further elaborate if specific tune-up items may be required to fix these issues.

Start Date (of bills)

End Date (of bills)

Key Findings

**Water Bill Review**

Review water bills (monthly for past year, at least) for any abnormalities that could indicate poor or inappropriate functioning of systems and/or equipment. If found, include a summary of potential issues and further elaborate if specific tune-up items may be required to fix these issues.

Start Date (of bills)

End Date (of bills)

Key Findings

**Maintenance Review (Optional)**

Review recent (e.g. last quarter) of tenant complaints regarding building systems and maintenance records. If complaints point to poor or inappropriate functioning of systems and/or equipment, include a summary of potential issues and further elaborate if specific tune-up items may be required to fix these issues.

Start Date (of records)

End Date (of record)

Key Findings

**Greenhouse (GHG) Gas Emissions (Optional)**

If known by the building, or if the owner requests the calculation as part of the tune-up,  
provide the carbon emissions of the building

Scope 1 Emissions (MTCO<sub>2</sub>e)

Scope 2 Emissions (MTCO<sub>2</sub>e)

Notes about GHG emissions

**Tune-up Instructions**

Tune-up Sections
<b>Section 1)</b> Building System Maintenance & Repairs
<b>Section 2)</b> HVAC Operations and Controls
<b>Section 3)</b> Lighting System Assessment
<b>Section 4)</b> Domestic Hot Water and Water Usage
<b>Section 5)</b> Building Envelope

Overarching Guidelines
<ul style="list-style-type: none"> <li>For assessment elements related to Maintenance &amp; Repairs, building owners and Tune-Up Specialists should proceed according to ANSI/ASHRAE/ACCA Standard 180-2012 (or current edition). To learn more about how to become a Tune-Up Specialist, please review the application: <a href="https://form.jotform.com/philagov/BEPPTuneupSpecialistApp">https://form.jotform.com/philagov/BEPPTuneupSpecialistApp</a></li> <li>If a building does not contain a certain element or system associated with an Assessment Element, the Tune-Up Specialist should note this in the "Inspection Finding" and "Description of Extenuating Circumstances" columns, and also choose "N/A" in the "Deficiency?" column. No corrective action is required.</li> <li>For any elements where a building owner can clearly demonstrate a reasoning for specific operations (e.g., meeting a specific use case, addressing a health issue, etc.), the owner may be exempt from completing the corrective action. The Tune-Up Specialist must still conduct an assessment and provide recommendations for the most efficient operation of that element, but the Specialist can approve the waiver of the corrective action by noting the reasoning in the "Description of Extenuating Circumstances" column. The Specialist should also choose "N/A" in the "Deficiency?" column.</li> <li>Sampling may be applied to assessing multiple pieces of repetitive, identical, minor equipment (e.g. fan coils, plumbing fixtures, lighting sensors, or air handling units on the same schedules). Where a sampling is permitted, the Tune-Up Specialist can conduct a randomized inspection of at least 15% of that element, or a representative sample of each zone throughout the entire building, unless otherwise noted in the "Inspection Overview". Sampling should NOT be applied for major systems (e.g. chillers, boilers, etc.). Within the "Sampling Approach" column, the Tune-Up Specialist must note the number of elements included in the random inspection, the total number of elements in the building (can be estimated), and the number of floors (as a % of total) on which an element was inspected.</li> <li>If over 50% of sampled elements demonstrate need for corrective actions, the Tune-Up Specialist should provide a recommendation to the building owner in the "Corrective Action Description" column about if (and how) to review and/or correct potential issues among the broader set of the elements throughout the building. Corrective action on elements outside the sampling range is voluntary. The building owners should provide to the Tune-Up Specialist a description of further steps beyond fixing the sampled elements, if any, the building will take. The Tune-Up Specialist should note this within the "End Condition/Current Condition" column and describe what, if anything, was completed during the final review.</li> <li>After corrective actions are completed, Tune-Up Specialists must reassess all elements that are both marked "Yes" in the "Deficiency?" cell and require a corrective action. Tune-Up Specialists only have to reassess elements with voluntary corrective actions if the building takes action.</li> </ul>

**Tune-up Section Guidance**

Action #	Assessment Element	Inspection Overview	Inspection Finding	Deficiency?	Sampling Approach (If Applicable)	Corrective Action	Corrective Action Description (If Applicable)	Verify Action Taken	End Condition/Current Condition	Description of Extenuating Circumstances (If Applicable)
	Descriptions of the elements to be assessed. All elements require an initial assessment regardless of whether or not corrective actions are required.	An overview of what the Tune-Up Specialist should consider during the assessment.	The Tune-Up Specialist should provide a brief overview of what the assessment found and how the element is functioning in relation to the "Inspection Overview" prompt.	The Tune-Up Specialist should: <ul style="list-style-type: none"> <li>Choose the appropriate "Yes" options to signal that a deficiency was found.</li> <li>Choose "No" if the element is functioning optimally</li> <li>Choose "N/A" if the element is not in the building or if there are extenuating circumstances.</li> </ul>	The Tune-Up Specialist should briefly describe the sampling approach taken, if applicable, to an element. This should include at least the number of elements included in the random sample, the total number of elements in the building (can be estimated), and the number of floors (as a % of total) on which an element was inspected.	Green cells: The corrective action is <b>required</b> to be completed if a deficiency is found.  Yellow cells: The corrective action is <b>voluntary</b> if a deficiency is found.	The Tune-Up Specialist should briefly describe the action(s) recommended to remedy the deficiency. It should provide additional detail and specificity to the language in the "Corrective Action" cell.	The Tune-Up Specialist should choose "Yes" or "No" depending on their findings in the reassessment.	The Tune-Up Specialist should briefly describe the end condition of an element following the corrective action phase of the tune-up. If nothing was altered, please write "current condition". Also, if applicable, please note if the building failed to take corrective action when required.	The Tune-Up Specialist should provide an explanation in this box if: <ul style="list-style-type: none"> <li>An element does not exist within the building and therefore cannot be assessed or corrected.</li> <li>"N/A" was chosen for the "Deficiency?" column because the building provides a sufficient reason for the Tune-Up Specialist to waive a corrective action.</li> </ul>

Please contact [TuneUps@phila.gov](mailto:TuneUps@phila.gov) with any questions about the tune-up.

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**Maintenance & Repairs: Tune-up Actions**

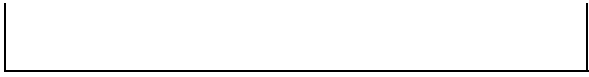
Action #	Assessment Element	Inspection Overview	Inspection Finding	Deficiency?	Sampling Approach (If Applicable)	Corrective Action	Corrective Action Description (If Applicable)	Verify Action Taken	End Condition/Current Condition	Description of Extenuating Circumstances (If Applicable)
1.1	Grilles and Coils	Inspect a sampling of grilles and coils.				Clean and maintain where impacting system performance.				
1.2	Filters	Inspect a sampling of filters to determine if clean and regularly maintained.				Clean and maintain where impacting system performance.				
1.3	Strainers	Inspect sampling of strainers to determine if clean and regularly maintained.				Clean and maintain where impacting system performance.				
1.4	Motors and Belts	Inspect sampling of motors and belts.				Clean and maintain where impacting system performance.				
1.5	Filters, Strainers, Motors, Belts	If scope of work to rectify deficiencies found in 1.2, 1.3, and 1.4 is more than standard or regular maintenance, recommend repairs.			N/A	Implement repairs.				
1.6	Dampers and valves	Inspect sampling of dampers and valves for proper functionality, including opening and closing fully.				Repair as needed where impacting system performance.				
1.7	Variable frequency drive (VFD)	Review the modes for any VFDs.			N/A	Place VFDs in "Auto" mode. Adjust BAS or controls as appropriate for system performance.				
1.8	Service Life of Major Equipment	Identify equipment approaching the end of its service life, per ASHRAE Service Life Database. Recommend replacement plan and schedule.			N/A	Implement replacement plan and schedule				
1.9	Visible Ducts and pipes	Inspect ducts and pipes that are visible and make recommendations for where new insulation or repair to existing insulation would enhance system performance. This should include steam pipes. Provide indicative pricing for insulation and/or repairs in these locations.			N/A	Implement recommendations for insulating or repairing pipes and/or ducts.				
1.10	Steam Traps	Inspect the main steam traps to determine if they have failed.				Replace failed steam traps, if any.				

Tune-up Specialist Notes (Optional)

**HVAC: Tune-up Actions**

Action #	Assessment Element	Inspection Overview	Inspection Finding	Deficiency?	Sampling Approach (If Applicable)	Corrective Action	Corrective Action Description (If Applicable)	Verify Action Taken	End Condition/Current Condition	Description of Extenuating Circumstances (If Applicable)
2.1	Occupancy Scheduling, Temperature Setbacks and Supply Fan Cycling	Review HVAC equipment schedules (including daily, weekly, seasonal, day/night, occupied/unoccupied hours). Review HVAC set points (including space temperatures, supply air temperatures, CO2, economizer changeover temperatures, supply fan cycling and static pressure). Compare actual readings of relevant data points from a representative sample of elements to ensure the set points are being met.				Set schedules and setpoints as appropriate to support building use, occupancy patterns, and occupant needs.				
2.2	Temperature and Static Pressure Resets: Hot Water, Chilled Water, Distribution Air Temperature	Review reset schedules (including supply air temperature, supply air pressure, boiler and chiller water temperature, lockouts with outside air temperature, loop differential pressure).				Establish or adjust schedules as appropriate to support efficient operations.				
2.3	Economizer Mode, Demand Controlled Ventilation, and/or Minimum Outside Air Controls	Review minimum outside air controls, including demand controlled ventilation and OA controls for economizer mode, to verify ventilation rates do not vary significantly from rates specified in ASHRAE 62.1 Standards for current facility type.				Correct and repair equipment in areas where ventilation rates vary significantly from ASHRAE 62.1 Standards and are inappropriate for current facility requirements (e.g. no outside air supply or 100% outside air supply, etc.).				
2.4	Optimal Start/Stop	Review optimal start/stop capabilities				Establish or confirm optimal start/stop capabilities as appropriate to support the building use and occupant needs.				
2.5	Simultaneous Heating and Cooling	Review HVAC controls for unintended or inappropriate instances of simultaneous heating and cooling.				Adjust HVAC controls to reduce or eliminate any unintended or inappropriate simultaneous heating and cooling.				
2.6	Major Equipment Sensors	Verify that HVAC sensors are functioning, calibrated, and in appropriate locations. Sensors may include, but are not limited to, zone temperature; outside air/return-air temperature; mixed air/discharge air temperature; pressure; occupancy; humidity. The assessment can include a sampling of sensors and must group like sensors (e.g. discharge, space, etc.) to meet the 15% sampling floor.				Repair, adjust, move in close proximity or recalibrate as appropriate.				
2.7	HVAC Controls	Verify HVAC controls are functioning as intended for building operation.				Adjust control sequences as appropriate for current facility requirements.				
2.8	Exhaust fans	Inspect exhaust fans to determine if they are functioning and if controls (e.g. schedule or sensor) are properly calibrated.				If deficiency found, adjust schedule, fix sensor, and/or repair fan.				
2.9	Central Plant Operations	If a Central Heating and/or Cooling Plant exists, review the operations. Review HVAC set points (boiler supply and return temperatures, chilled water supply and return temperatures, condenser water supply and return temperatures, water or steam system pressures, and equipment sequencing).			N/A	Set schedules (including seasonal shutdowns) and setpoints as appropriate to support building use, occupancy patterns and occupant needs.				
2.10	Air Balancing Issues	Note any indications of significant air-balancing issues (e.g. wind-tunnel effect).				Recommend rebalancing of HVAC air and water systems where significant efficiency or comfort improvements can be achieved.				
2.11	Dominant Zones	Identify zones that are dominating multi-zone system operations, and that cause inefficiencies and/or comfort issues. Recommend solutions to isolate these zones.				Implement recommendations.				
2.12	Cooling Tower Fan Operation	If cooling tower is two cell or greater, review fan operation. Determine whether fans are running in parallel or in sequence, and recommend running in parallel unless cooling tower configuration requires sequence operation.			N/A	Implement recommendations.				
2.13	Variable frequency drive (VFD) applications	Identify areas that could benefit from variable frequency drives; identify pump and fan motors that are prime candidates for VFD upgrades.			N/A	Implement recommendations.				

**Tune-up Specialist Notes (Optional)**



**Lighting: Tune-up Actions**

Action #	Assessment Element	Inspection Overview	Inspection Finding	Deficiency?	Sampling Approach (If Applicable)	Corrective Action	Corrective Action Description (If Applicable)	Verify Action Taken	End Condition/Current Condition (If deficiency observed, state end condition after implementation of corrective action. Otherwise, state current condition.)	Description of Extenuating Circumstances (If Applicable)
3.1	Lighting Control Schedules and Sequences	Review lighting controls, schedules and sequences (including daily, weekly, seasonal, day/night, occupied/unoccupied hours).				Set schedules and controls so they appropriately match building use, occupancy patterns and occupant needs, and limit wasted energy to the extent possible.				
3.2	Light Levels	Identify areas where lighting levels are significantly higher than appropriate for the space use and occupancy needs. Recommend dimming, delamping or other options to improve lighting to support building use and occupant needs.				Implement options recommended to adjust for appropriate lighting levels.				
3.3	Inefficient Lighting and Sensors	Identify low-cost lighting energy conservation measures that would enhance system performance (specifically inefficient incandescent, fluorescent, or metal halide lighting; and opportunities for lighting controls). Provide indicative pricing for the proposed solutions.			N/A	Implement low-cost light energy conservation measures.				
3.4	Functional Lighting Sensors	Where installed, verify lighting sensors are working as designed.				Repair any malfunctioning lighting sensors.				

**Tune-up Specialist Notes (Optional)**



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**Domestic Hot Water & Water Usage: Tune-up Actions**

Action #	Assessment Element	Inspection Overview	Inspection Finding	Deficiency?	Sampling Approach (If Applicable)	Corrective Action	Corrective Action Description (If Applicable)	Verify Action Taken	End Condition/Current Condition	Description of Extenuating Circumstances (If Applicable)
4.1	Domestic Hot Water	Review domestic hot water setpoints to determine if the current setpoints are appropriate for the buildings use cases.				Lower setpoints to the minimum temperature possible that will not adversely affect operations.				
4.2	Circulation pumps	Review circulation pumps to ensure they function and set according to ANSI/ASHRAE/ACCA Standard 180-2012 (or current edition).				If not functioning, fix the circulation pumps. If not set to meet to ANSI/ASHRAE/ACCA Standard 180-2012 (or current edition), adjust as appropriate.				
4.3	Plumbing Fixtures	Either: 1) Inspect 10% of plumbing fixtures for leaks or other maintenance needs. Expand inspection to 20% if deficiencies found in 50% or more of a specific type of fixture. OR 2) Review a comprehensive maintenance report of fixtures kept by on-site staff to determine any potential maintenance needs (must show at least quarterly inspection).				Conduct standard or regular maintenance actions on fixtures requiring repair.				
4.3.1	Plumbing Fixtures	If scope of work to rectify deficiencies found in 4.3 is more than standard maintenance (e.g. replacement of entire fixtures) recommend repairs.				Implement recommended repairs.				
4.4	Cooling Tower	Evaluate cooling towers for water leaks and excess water consumption. Also verify that cooling tower conductivity meter used to control blow down is calibrated and functioning properly.			N/A	Repair any leaks and address excess water consumption. Calibrate meter appropriately.				
4.4.1	Cooling Tower	If evaluation returns any deficiencies that fall beyond normal maintenance, recommend repairs			N/A	Implement repairs				
4.5	Water Usage setpoints and controls	Review makeup water controls for temperature control (including cooling tower makeup water) and irrigation systems.				Adjust setpoints and controls as necessary to improve efficiency.				
4.6	Water Features	Review water feature schedules to ensure they shut-down during night-time or unoccupied periods, where appropriate				Implement scheduling changes				
4.7	Water flow fixtures	Check for use of low flow fixtures and aerators. Assessment may be based on a random sampling of at least 5% of each type of fixture.				Install low flow fixtures and/or aerators, as appropriate.				

**Tune-up Specialist Notes (Optional)**

**Building Envelope: Tune-up Actions**

Action #	Assessment Element	Inspection Overview	Inspection Finding	Deficiency?	Sampling Approach (If Applicable)	Corrective Action	Corrective Action Description (If Applicable)	Verify Action Taken	End Condition/Current Condition	Description of Extenuating Circumstances (If Applicable)
5.1	Roof condition	Check for roof penetrations, gaps, and/or damage that could allow for the entry of air or water (such as at dampers or top of elevator shaft).			N/A	Repair issues, as appropriate.				
5.2	Roof and Wall Insulation	Identify and recommend insulation in areas impacting system performance that are outside of a standard or regular maintenance action. Recommend Cool Roof coating where appropriate.			N/A	Implement recommendations.				
5.3	Windows and doors	Inspect age and condition of windows. Inspect both windows and doors for seals, weatherstripping, etc. Identify and recommend repairs impacting system performance that are outside of a standard or regular maintenance action. Inspection only required for a representative sample of doors and windows.				Implement recommendations.				

**Tune-up Specialist Notes (Optional)**

## EXAMPLE TUNE UP WORKBOOK

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### Tune-up Summary

#### Tune-up Dates

Start Date  
(Assessment)

End Date  
(Assessment)

Date(s) of Reassessment

#### Greatest Impact - Required Actions

Please select at least five (5) of the required actions that you consider to be most impactful for the building owner to implement. Please describe these actions below and their associated impact.

Action #	Action	Description

#### Greatest Impact - Recommended Actions

Please select at least five (5) of the voluntary actions that you consider to be most impactful for the building owner to implement. Please describe these actions below and their associated impact.

Action #	Action	Description
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## EXAMPLE TUNE UP WORKBOOK

City of Philadelphia's Building Energy Performance Program

### Tune-Up Sign Off & Certification

#### Tune-up Specialist Information

First Name

Last Name

Company/Affiliation

Title

PE and/or CEM #

Mailing Address

City

State

Zip

Email Address

Phone Number

#### Certifications

- |   | Initials             |
|---|----------------------|
| 1) I certify that I supervised a tune-up assessment at building   | <input type="text"/> |
| 2) I certify that I reviewed and confirmed the corrective actions at building   | <input type="text"/> |
| 3) I certify that the requirements of the Policy have been met by building  | <input type="text"/> |
| 4) I certify that I have shared this report with the building owner(s)  | <input type="text"/> |
| 5) I certify that I followed the requirements of the Policy to the best of my ability and that I have not knowingly misled or misrepresented anything within this report. |                      |

Signature

Date