



conEdison

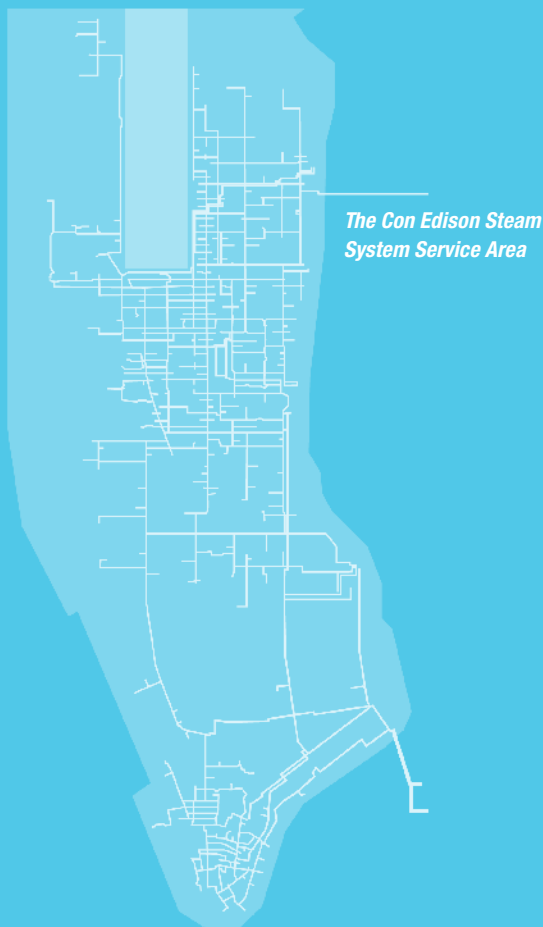
www.conEd.com

STEAM SAFETY



WHAT YOU NEED TO KNOW

Con Edison provides this information to help keep your steam system operating safely and efficiently.



Our Commitment to Safety

The Con Edison steam system is a critical component of New York City's energy infrastructure. This system supplies heating, hot water, and air-conditioning to many of Manhattan's largest and most prestigious buildings. Steam is one of the cleanest and "greenest" forms of energy available today and, when used properly, one of the safest.

Con Edison continuously monitors and inspects its steam system to ensure public safety. We encourage you to take an active role in helping us keep our system safe. Please be alert to questionable activities happening near our facilities and equipment. If you see something suspicious, call the police.

If you see steam on Manhattan streets, call us right away at 1-800-75 CONED (752-6633). Steam is caused by water falling on a steam pipe or manhole cover, or a steam leak. We need to check it out. To avoid potential injury, do not walk through the steam or on the manhole cover.

To ensure the highest levels of safety, service reliability, and security, Con Edison:

- Works with emergency responders and state and local agencies to prepare for and prevent emergencies. This is done through intensive training and periodic drills.
- Works closely with the community
- Uses the latest security and safety technologies and methods
- Meets or exceeds all state safety regulations for distributing steam

Customer Equipment

Maintenance Responsibility

Con Edison is responsible for supplying and maintaining the steam traps and trap strainers installed upstream of the meters. This responsibility does not include any of the trap piping, only the traps and trap strainers themselves.

Con Edison is also responsible for supplying and maintaining the meters, meter regulating valves, meter orifice plates, and their associated gaskets. In addition, Con Edison supplies and maintains the meter strainers and the separators upstream of the meters. The customer is responsible for supplying and maintaining the gaskets associated with the meter strainer and separator, as well as the valves, flanges, gaskets, piping, and all other steam equipment.

How to Avoid Condensate Build-up

To ensure safe and reliable steam system operation, condensate-removal equipment, such as steam traps and drain valves, must be installed at appropriate points in your steam system. A qualified operator, heating contractor, or consulting engineer can determine whether your steam traps, drain valves, and drip legs are properly installed.

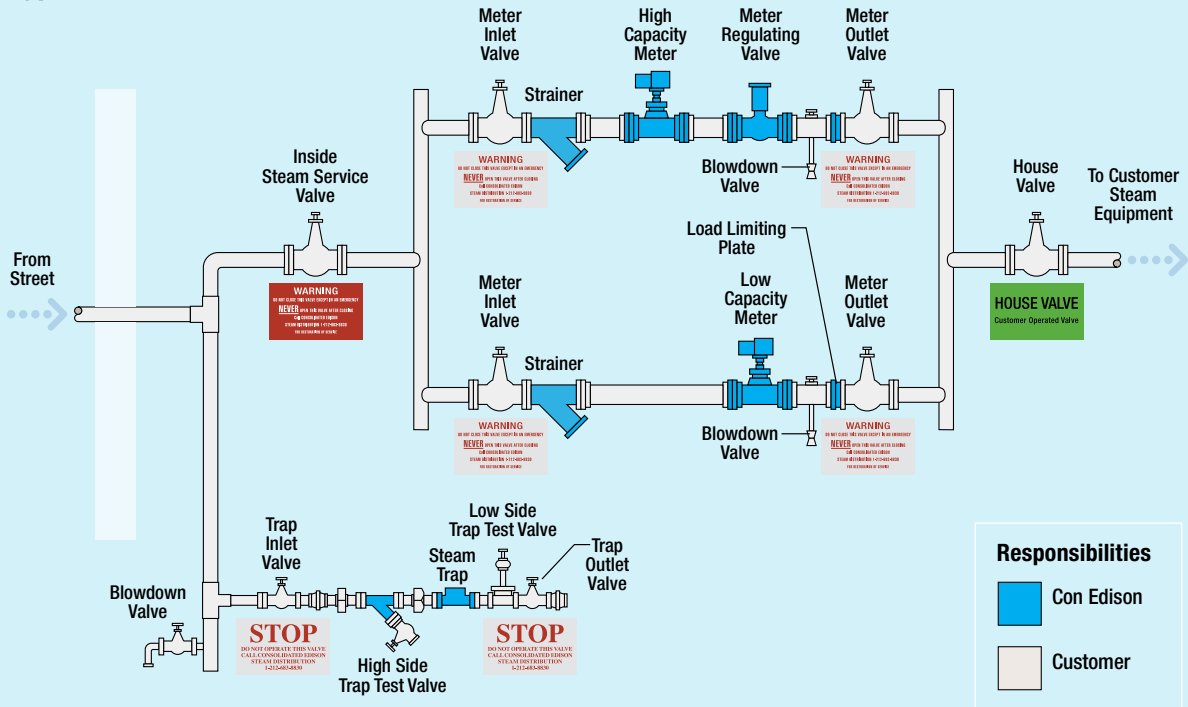
Steam traps automatically remove condensate from the pipe system. To ensure safety and reliability, check all steam traps regularly to make sure they are working properly.

Drain valves are used to remove condensate from lines before turning on the steam after there has been an extended outage.



Sarco steam trap

Typical Customer Meter Station



Periodic Testing of Steam Traps and Strainer Maintenance

During routine maintenance, we recommend that you inspect your traps, strainers, and drip legs for the presence of corrosion products. This will give you an indication as to whether the accumulation of corrosion products is a problem in your system. While it is not unusual to find small amounts of corrosion products inside steam equipment, a significant accumulation of corrosion products can interfere with the proper operation of steam traps. Steam traps perform the critical function of removing condensate from steam pipes. If corrosion

products interfere with the proper operation of steam traps, condensate can accumulate in the steam pipes and a condition known as water hammer can occur.

A common type of water hammer occurs when slugs of condensate impact the steam pipes causing loud banging noises. Severe water hammer can cause steam pipes or fittings to fail.

Water hammer can cause serious property damage and personal injury. On the other hand, a trap that fails in the open position not only wastes energy and is costly to you, it can cause high ambient temperatures.

New strainer



Used strainer with clogged mesh, needs to be replaced.



Trap Inlet and Trap Outlet Valves

The trap inlet and trap outlet valves on steam traps, which are upstream of the Con Edison meters, are never to be closed by anyone other than Con Edison personnel. To prevent unauthorized use, Con Edison has tagged each valve and wire-sealed the trap inlet valves.

STOP

DO NOT OPERATE THIS VALVE
CALL CONSOLIDATED EDISON
STEAM DISTRIBUTION
1-212-683-8830

*Metal tag identifying
valves to be opened
or closed only by
Con Edison steam
employees*

These valves must remain open to avoid the accumulation of condensate, which can lead to a water hammer condition.

Steam Pipe Maintenance

Regular inspections by a qualified operator or heating contractor will help keep your steam-pipe system operating safely and efficiently.

Here are some things you, your operators, and your contractor should be aware of:

- Make sure that pipes are properly insulated. Insufficient pipe insulation causes excessive heat loss.
- If you are a seasonal customer, please make sure that your steam equipment is thoroughly inspected before having it turned on. All inspections, adjustments, and repairs to your steam-piping system must be performed by a qualified operator or heating contractor.
- Vent lines from condensate-collection vessels, such as a dilution and/or flash tanks, must be kept clear and unrestricted to prevent pressure from building up.

Pardon the Interruption

Occasionally, we may have to interrupt your service to make repairs to the steam distribution system. If this happens, Con Edison will notify you in advance of the outage.

How to Avoid Delay in Service Turn-on After Repair

Following these guidelines will help you get the work you need done in a safe, efficient, and timely manner.

■ If you plan to change or modify your steam pipes; replace pressure-reducing valve(s) or your meter station; change pipe flange(s); perform any repair requiring welding; make changes in dilution or flash tanks, pipe anchorage, pipe guides, expansion devices, or trap locations, **you must** notify Con Edison Steam Distribution Engineering about the scope of your plans — before any work begins. At your request, we will arrange to shut off your steam service. We will also advise you where to get information about New York City Building Code requirements for high-pressure steam piping work including any radiographic examination (X-ray) requirements for welding or weld repairs.

The NYC Buildings Department rules on High-Pressure Steam Piping Systems in the NYC Building Code, Appendix A, Chapter 20, Section 20-02 apply to the steam systems in most of our customers' buildings. A copy of the rules will be provided upon request.

■ Asbestos abatement must be performed in compliance with the federal, state, and city environmental rules and regulations. We require an air clearance report(s) issued by a third-party New York State-certified Environmental Laboratory Approval

Program laboratory (ELAP). You must provide a copy of the air clearance report before steam service can be restored. The report is required for all abatement work, regardless of project size, conducted inside steam rooms or areas that Con Edison Steam Distribution personnel will enter to restore service.

The Inside Steam Service Valve

The inside steam service valve is the first valve in the building. It is to be closed *only* in an emergency. If you must close this valve, call Con Edison immediately. To prevent use by unauthorized persons, Con Edison has wire-sealed the valve and attached a red metal warning tag that lists all emergency restrictions. Once closed, it is possible that condensate may build up behind the inside service valve. For this reason, it is imperative that customers **NEVER OPEN** the inside service valve. Customers must call Con Edison to open the inside service valve.



Metal tags identify valves to be closed only in an emergency and opened only by Con Edison steam employees





Unattended Open Drain Valves

Never leave opened drain valves unattended during a scheduled or unscheduled steam outage. This is critical because steam service will be restored as soon as the street work is completed and an open drain valve may allow excessive steam flow and unsafe conditions during the start-up process.

Interruption of Electric Service

Customers who require electric service to operate their steam system safely should isolate their steam service in the event of an electric outage. Service should be isolated by closing the first isolation valve after the steam meter station. This valve(s) is called the “House Valve.” Con Edison has installed a green tag on House Valves. In an emergency, the inside steam service valve can be used for isolation, but Con Edison **must be** called to reopen the valve. During an interruption of electric service, customers who have electric condensate-removal pumps might consider isolating their steam service to prevent condensate receivers or sumps from overflowing and flooding mechanical equipment rooms.

Customer Seminars

Con Edison offers free half-day seminars to our steam customers. Topics include a steam system overview, metering equipment, and safety issues. Seminars are open to building managers, engineers, and maintenance staff. To register, please call Con Edison at 1-212-460-1216.

How to Reach Us

We want to provide our customers with the best possible service. If you need us, please use one of the numbers below.

In case of an emergency or to schedule a turn-off or turn-on of service (24 hours a day):

Phone: 1-212-683-8830, 1-800-914-9112, or 1-800-75-ConEd (1-800-752-6633)

Steam Distribution Engineering department:

For piping changes or modifications,

Phone: 1-212-460-4410 or
1-212-460-6288

Fax: 1-917-534-4070

Steam Environment, Health and Safety representative:

For questions about asbestos abatement and monitoring results,

Phone: 1-212-894-9520

Fax: 1-917-534-4491

Our Web Site:

www.conEd.com/Steam



The National Call Before You Dig Organization

Call 811 Before You Dig

Seven days a week, 24 hours a day

This toll-free call will help protect you, your family, and your neighbors.

www.call811.com

Tampering with Con Edison equipment is illegal

It also creates hazards that could hurt you.

If you think someone has tampered with our equipment, call **1-212-460-3704**. You do not have to give us your name.

Want to know more?

If you would like additional safety information, visit

www.conEd.com/customercentral/safetytip.asp

Steam Safety

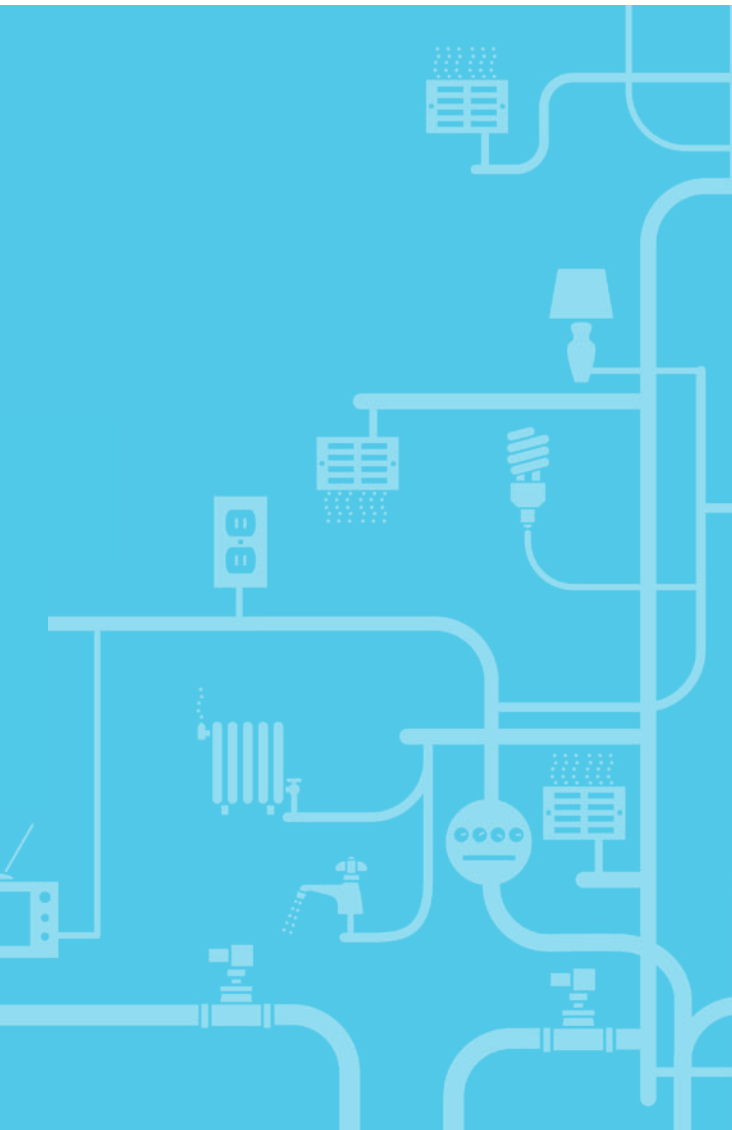
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30% post-consumer waste

April 2009