

# Yearly MAINTENANCE

**S**o by now most of you have finished the hockey season and have taken

out your ice. Do you get the summer off? Hardly. During the winter season there are lots of maintenance tasks that are deferred till the off-season. Probably more than you think. As a facility ages, there are more and more things you need to keep an eye on, and the frequency of some Preventive Maintenance (PM) tasks will increase. For the sake of finding a systematic approach to this summer maintenance program, let's begin with a very general overview of a facility and its elements. All facilities have the following general categories, which every element can be classified under:

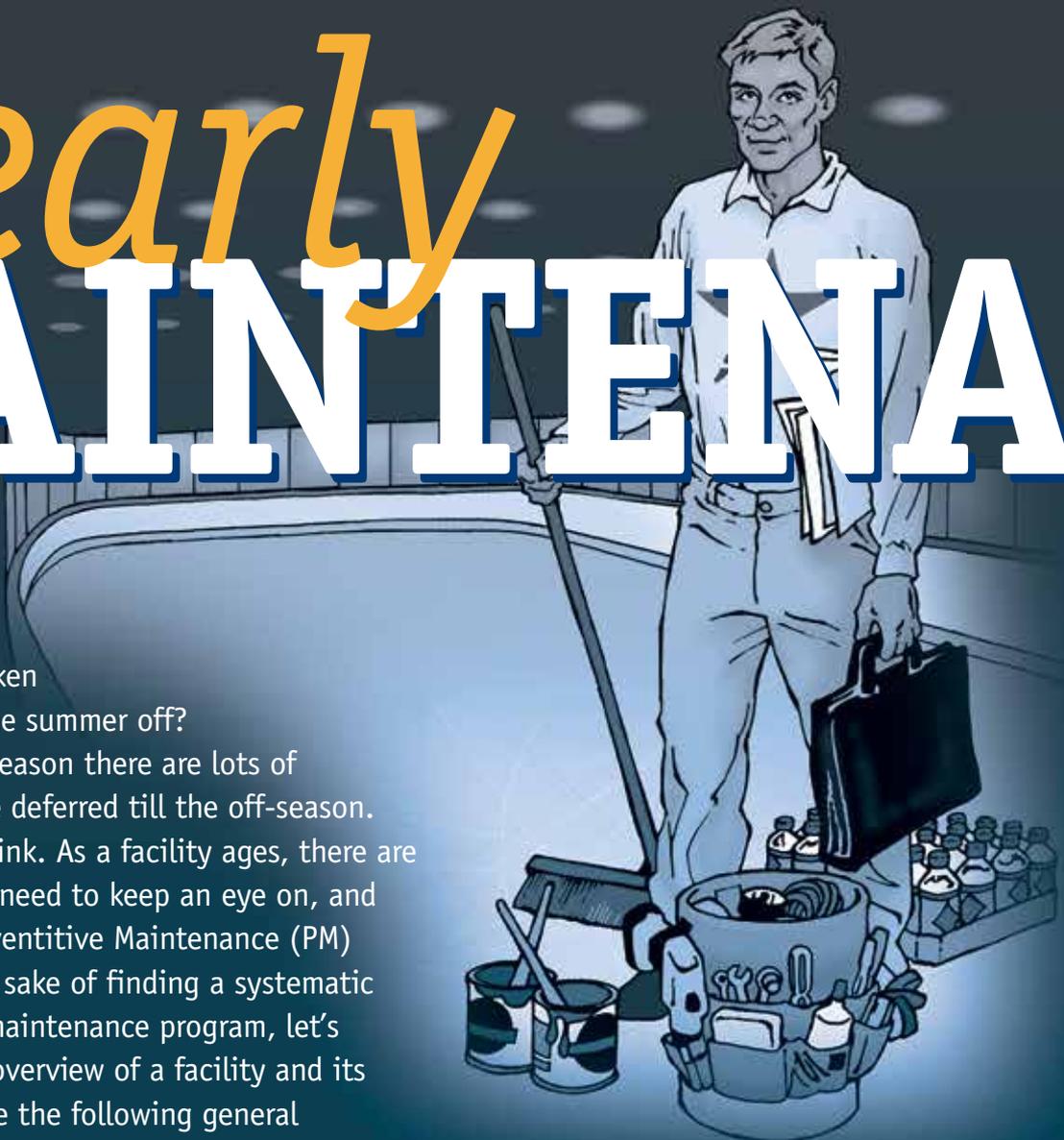


ILLUSTRATION BY MIKE GURTTI

**1. SUBSTRUCTURE** – anything that is below grade, including foundations and basements.

**2. ENVELOPE** – this includes the roof, supporting structures, exterior walls, windows, doors, and roof coverings.

**3. INTERIORS** – interior partition wall construction; fittings (lockers, whiteboards, trophy cases); ceiling, wall and floor finishes fall into this category.

**4. SERVICES** – things like plumbing, HVAC, fire protection, electrical as well as elevators and lifts.

**5. EQUIPMENT AND FURNISHINGS** – desks, ice-resurfacers, tables and chairs....

**6. SITE** – sidewalks, parking lots, landscaping, playground equipment and civil utilities are covered in this category.

For a yearly summer maintenance program the following are recommended items:

## **1. SUBSTRUCTURE**

Mostly here you just want to conduct an inspection of any foundations or basement walls/floors that are visible. Look for cracks, which indicate movement. Most cracks occur due to settling and are

acceptable. The first step is to fill the crack with caulking and monitor for further movement. If you find the crack is continuing to open, then a call to a structural engineer will be necessary.

## **2. ENVELOPE**

With the exterior component of a facility you want to inspect the following items:

### **1. All exterior windows, doors and skylights.**

**A.** Look for progressive deterioration of all surfaces, e.g., paint flaking, discoloration, warping, jamming.

**B.** Check all hardware for proper functionality and inspect all fastenings.

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by CHRIS GUERTIN

# NCE

by JAMES McFADDEN



For doors, check the condition of the weather stripping.

**C.** For windows with double glazed inserts, also check that the seal is okay (when condensation or fogging is visible between the two layers of glass the seal is failed and the insert should be replaced).

**D.** Around each door and window frame there will be caulking. Over time this will dry out and crack. If it is hard and starting to shrink, remove the old caulking, clean out the gap and apply a new appropriate exterior flexible caulking to ensure the seal around the frame is maintained.

**2. Exterior walls**, the following inspection is recommended.

**A.** Check cladding materials (metal, stucco, brick or block) for moisture retention.

**B.** Look for discoloration, stretching, splitting or other signs of material fatigue.

WHILE MANY RINKS would like to replace their current dashboards, most budgets will not allow for it without some serious (and sometimes time-consuming) planning. But if you are looking for a way to fix up your dashboards this summer, you don't have to start with a \$100,000 budget. In fact there are a few smaller budget processes you and your staff can do which will still give your rink a new look without breaking the bank.

Start by physically leaving your building and re-entering. However, when you re-enter, look at the rink through the eye of your customer. How many rink managers enter their rink with your head down thinking of the dozens of tasks to be accomplished today? Or enter through a side or back door? What do you notice upon immediately entering your building?

• When entering your ice rink, where do your eyes gravitate? Is it to the back of the dashers? Or the 4"-5" channel along the back base of the dashboards where trash seems to accumulate? One quick fix that Jim Becker of Becker Arena Products ([beckerarenaproducts.com](http://beckerarenaproducts.com)) points out is backer panel. "Backer panel is aesthetically pleasing since it can cover up ugly rink frames, nuts, bolts, etc which is sometimes the first view a customer sees when entering your rink. In addition, if you sell dasherboard space, you can also sell dasher ads on this backer panel." Backer panel tends to be a little thinner than typical facing on a dasherboard and to save money, it can be installed only in select areas. Make sure to use quick release hardware if you need to gain access to the anchors on a consistent basis, as is common for venues with many changeovers. **COST:** \$15,000-\$18,000 for an entire rink; less for partial areas.

• On the inside of the rink, most players' eyes gravitate to two areas — the goals! With a can of touch-up paint and a new set of nets, customers will think the entire goal frames were replaced. 44" deep (measure from the deepest part of the goal to your goal line) nets are the most common, but beware that even an expert needs 2-6 hours to properly re-string a goal frame. Resin coated nets (like used in the NHL) tend to last a little longer and give your goals more of a professional look. Another great option are professional netting/padding packages. **COST:** \$300 (nets only) or \$600 (full netting package).

• One great idea to help give that great first impression is from Fred Frankland at Tuflex ([tuflex.com](http://tuflex.com)) is a new, custom color logo. "With new technology, we can die-cut a logo into our rubber flooring which turns out to be an exact replica of the logo provided to us. We can do any color, any size. Plus, these logos are sealed so they are just as durable as the rubber flooring we are putting in locker rooms." **COST:** \$1,000-\$2,000.00 plus the cost of installation.

Looking at your facility from someone else's perspective is a great way to make sure you are meeting your customer's expectations.

As the off-season quickly approaches, the attention to evaluating staffing levels and preparing for the season ahead is only heightened. This is the perfect time to assess your arena's hiring successes and failures to determine your staff's score. ★

# Yearly MAINTENANCE

**C.** Inspect all horizontal surfaces for signs of failure, e.g., cracks, flaking, loose panels, discoloration, or rotting.

**D.** Again, minor cracking that is due to settling is normal; simply clean it, caulk it and monitor. Inspect for damage caused by moisture.

**E.** Check all construction/expansion joints. Ensure they are sealed properly (if the caulking in an expansion joint is dried up and shrinking, follow the same procedure as with door/window frames).

**F.** Inspect for snow melt indicating heat loss, e.g., wall discoloration, wetness in the spring or growth on interior walls. This will indicate a failure in the insulation/vapor barrier of the wall.



### 3. The next area is the roofing.

The most money in this main category is spent on roofing repairs. A bad roof can ruin your business and facility. Many facilities will hire a specialized roof inspector every few years just to ensure they are on top of any deficiencies in this area. The following is an annual checklist for your roof:

**A.** Check roof gutters and drains, remove any blockages. Ensure positive drainage and that overflow devices are present on roofs which could accumulate water if drains plug.

**B.** Check for deteriorated lead flashings around roof drains and plumbing vents.

**C.** Check the rainwater leader piping if a leak occurs around or under a roof drain.

**D.** Check pitch pans. Ensure that pans are topped up with modified plastic cement sloped to pitch water away from vents, pipes, conduits, etc.

**E.** Inspect flashing. Check for loose screws or other fasteners. Ensure flashing is securely fastened.

**F.** Check for growths on roofing material. Don't pull out. Treat chemically.

**G.** Inspect gravity vents.

**H.** Check membrane condition; log results.

**I.** Check BUR roofs for condition of blisters, ridges, buckles and surface scouring. Avoid stepping on blisters, ridges or buckles.

**J.** Spray-paint major defects with enamel paint, repair as required.

**K.** Check torch-on applications for flaws in laps.

**L.** Check metal roofs for loose screws, paint flaking, warping and seams pulling apart.

**M.** Check caulking, ensure unbroken seam, re-caulk as necessary.

**N.** Check inverted roofs for displaced ballast, condition of scuppers, and condition of filter fabric.

**O.** Check concrete tile applications for ice damming; inspect for loose tiles.

## 3. INTERIORS

The process here is simply inspecting ceiling, wall and floor finishes.

**1. Most facilities have a yearly painting regimen for the interior walls.** Typically on an annual basis a facility will touch-up heavy traffic areas like the dressing room doors and hallways.

**2. Every 7-10 years consider a facility-wide painting project and also changing color schemes.**

**3. Ceilings:** Replace stained acoustic tiles (most likely from roof or water pipe leaks).

**4. Floors:** Inspect the condition of the sport floor in high traffic areas like the players' benches and entrance gates. Some will pull up the matting in the players' benches and clean underneath.

**5. Floors with a waxed finish** can be stripped and refinished. The rest of the year they can simply be cleaned and buffed to maintain the finish. Again, any interior doors should be treated like the exterior doors.

## 4. SERVICES

Let's start off with the big ticket items. Elements like HVAC air handling units, dehumidifiers, boilers (for heating systems, not hot water tanks), furnaces and refrigeration systems should be annually serviced by a certified technician. Arrangements for this should be made early in the spring to ensure your schedule is met. Prior to this service, conduct a thorough cleaning of the equipment and mechanical room. This is a great way to establish a positive relationship with the service provider. Some things you could do are:



### 1. HVAC units

**A.** Check fan and motor bearings; clean and lubricate, replace belts.

**B.** Check all vibration pads, spring isolators, mounting brackets.

**C.** Inspect all damper sections for cleanliness, worn or damaged parts and proper operation.

**D.** Inspect all heating/cooling coils for cleanliness, leaks, flattened fin or other damage.

# Yearly **MAINTENANCE**

## 2. Circulating pumps

**A.** Remove strainers; clean and blow out any accumulated material.

**B.** Flush the circulating pump's bearing reservoir and refill.

**C.** Check all pins, bushings and set screws.

**D.** Check packings for leakage.

## 3. Unit and cabinet heaters

**A.** Check fan alignment and blades.

**B.** Operate room thermostat to ensure proper functioning.

**C.** Check unit heater cabinets and fins for damage. Clean if necessary.

**4. Radiant panels** – Vacuum panel surface, and clean with damp cloth and mild detergent as required. Remove cover and vacuum out the fins.

**5. Contact certified service firm to test and service back flow preventors.** File the service report.



**6. Hot water heaters**, both gas-fired and electric.

**A.** Flush water tank until sediment is gone.

**B.** Check safety relief valve. Ensure it opens and reseals by pulling up on the lever.

**C.** Inspect burner and clean (gas-fired only).

**D.** Inspect draft hood, check for corrosion (gas-fired only).

## 7. Ice melt sump pit and pump

**A.** Check operation of control float switches.

**B.** Check operation of high liquid level alarm.

**C.** Clean sump pit and intakes.

## 8. Ammonia, CO, or freon detector

– Arrange for an annual calibration and testing of system. Report any unusual readings, and file a service report.

**9. Sprinkler system, fire alarm system, fire extinguishers, emergency lighting and exit signs** – Arrange for a certified technician to inspect/test all these elements and complete a service report for you to keep on file. (This also would be an excellent time to practice emergency procedures, ice plant refrigerant leak detection and shutdown procedures, building evacuation, fire extinguisher use.)

**10. Elevators, escalators, and lifts** – Arrange for a certified technician to perform annual maintenance procedures, test and inspect. Ensure you receive a service report for your files.

**11. Every few years arrange for a thermographic inspection of your electrical systems.** These guys can save you a lot of grief down the road and point out some upcoming issues with contractors, etc., that are not visible with the naked eye.

## 5. EQUIPMENT

**1. Ice-resurfacers** – Arrange for an annual servicing with an authorized dealer. Ensure that you receive a service report and an emissions test report for your files. Be sure to review your owners manual for additional maintenance items.

## 2. Ice edger, snow blower, other small engine equipment,

**A.** Change the oil and oil filter, if equipped.

- B.** Servicing/changing the air filter as required.
- C.** Tighten bolts and nuts found to be loose.
- D.** Wash and clean the machine.
- E.** Inspect, adjust, and lubricate moving parts such as throttle or choke cables, belts.
- F.** Replace the spark plug.
- G.** Flush the fuel tank and add fresh gasoline.
- H.** Replace the fuel filter, if equipped.
- I.** Adjust carburetor , if adjustable.
- J.** Make adjustments to engine rpm/governor controls as required.

## 6. SITE/GROUNDS

### 1. Annual hard surface areas

**inspection** – parking lots and sidewalks.

- A.** Grade all gravel surfaces to ensure positive drainage as required.
- B.** Ensure surface is free of large cracks, potholes or large depressions. Patch as required. Minimize any tripping hazards.

**2. Irrigation system** – If so equipped, fire up system. Verify all heads are operating and adjust as necessary.

**3. Site drainage** – Check that all splash pans and landscaping ensure that water from downspouts is being led away from the building.

**4. Inspect all site furnishings like bicycle racks, benches and flagpoles for, eroded finishes, loose connectors or worn parts.**

Now with all that said, do you think you will really have the summer off?

After completing this annual report and analysis there will be plenty of important data to assist with some daily, weekly and monthly trends. These small studies should not replace your master planning schedule, however — they should assist with your master plan! ★

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