



Transitioning to Planned Maintenance

By Matt Adams, P.E.

The problem with planned and organized maintenance is that it's not as thrilling as reactive maintenance. The day goes by much faster if you spend all of your time "putting out fires." It's exciting and unpredictable. Unfortunately, it's not in the best interest of your institution. Despite the often used complaint of insufficient resources, senior administrators want some demonstrable improvement in

trade staff productivity. To do this we must give up the reactive thrill for the more predictable tasks of maintenance planning and work loading.

There is always the complaint that resources are too short to begin a planned maintenance effort. This sense of collective inability is easy to understand. If there is chaos everyday and the phone at the service desks rings constantly, it can be hard to imagine that there is any room for planned work. In other words, if your collective days are full of reactive

- **Type B.** Facilities that are of previous code design and the systems are near or at the end of their life cycle (candidates for renovations).
- **Type C.** Those unique facilities that require hard decisions and must be razed or renovated for political reasons.

It is important to rationalize our portfolio and the attendant systems in this way. Given the fact that we are short on resources, we cannot possibly change overnight from a reactive approach to a planned program. We must institute a carefully phased approach that allows trades staff to make progress with limited resources and demonstrate a new operating mode to the senior administration. From the total portfolio of facilities—by categorizing them into either A, B, or C—we have completed the first rationalization of facilities to find those buildings that offer the possibility of transition to planned maintenance.

Now that we have our "A" buildings, we have a group of buildings that will actually respond in a positive way to planned maintenance. Theoretically, these buildings and their systems have life remaining. Preventive maintenance and planned renewal will result in various forms of return on investment to the institutions and our department. This is key to the transition. The planned maintenance must deliver increased system reliability (less unplanned reactive work) and extend the life of the systems, even reduce energy usage. These simple metrics are easily base lined and measured over an annual reporting cycle. After as little as two years, some real return on investment should be demonstrable to prove the merits of the new transition initiative to the administration.


Now many will say that even the "A" portfolio is too big to handle for a transition. Given this likelihood, the "A" list must be further rationalized.

customer work and unplanned corrective work, where is the extra capacity for delivering preventive maintenance? It seems impossible or at least improbable. However, this is where many of us are, and we have to find a way to change.

The fundamental principle of a transition from reactive to planned maintenance is one of prioritization or weighting. Regardless of the size of the institutional facility portfolio, there are at least three types of facilities included:

- **Type A.** Facilities that are relatively new and the systems still have considerable life cycle remaining.

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Remember, we are not trying to change the whole campus overnight. We are trying to demonstrate that the transition from a reactive to a planned approach is possible, at least for a subset of our portfolio. From the "A" list it is ideal to isolate a subset of facilities that meet the logistical and usage/occupant criteria to form a best practice "zone."

If your institution is small, this might be only one or two facilities. Otherwise, a zone is typically considered to be from 500,000 GSF to 1,000,000 GSF. The size is important for this initiative only in that we don't want to bite off more than we can chew. The new zone of "A" buildings is the target group of facilities that offer the best opportunity to transition from reactive to planned maintenance.

So far, this transition is primarily about slicing and dicing the facility list and not much about actual trades staff. Assuming we are limited in staff and feeling overstretched already, executing a new work plan for the zone requires guts.

If the zone is large enough to allow for dedicated staff, then the staff must be dedicated. In the absence of a more scientific approach, one of each trade including HVAC, electrical, plumbing, and general tech or helper would form a zone team. This team must gradually move into the zone, exclusively, over a three-to-six-month time period. Despite the fact that many will think this is impossible because of the workload on campus, it is possible. In fact, given an active effort to dedicate this team to work within the zone only, the remainder of the department will either make due without this team's capacity, or service to the reactive pool of work on campus will slow, or both. This is part of the price of transition. The goal in the proof of concept phase is to demonstrate benefits to reduce the strain experienced by the plant trades staff.

Finally, the details of work loading for the zone are vital. An equipment inventory for the zone's maintainable equipment is required to establish the

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base workload. From the inventory, planned maintenance tasks are linked to equipment inventory and loaded or planned over at least a month. As the zone team becomes dedicated to work in the new "A" zone, their priority must be to execute all planned maintenance from the work loading assembled in advance. This is critical to the proof of concept. The cycle times for the planned maintenance should be gradually compressed to recommended standards

as the program begins to show benefits.

The fact that the work in the zones begins with the completion of the planned maintenance program as the first priority in and of itself, is a tangible transition from reactive to planned maintenance. There should be more ability to plan work based on the nature of the buildings in this zone. They were selected to enable this transition. Once the first zone is up and running and fine-tuned, the benefits become obvious in terms of metrics and also customer satisfaction. The accountability demonstrated by this process should be more than enough justification to the senior administration for a proposal to expand the transition initiative to the other facilities on campus. ☛

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