

FTG's DPO Corner, Issue 2, Vol. 1

Using your CMMS to Manage an Effective BMP

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Executive Summary

While the BMP (Building Maintenance Program), as outlined by Joint Commission's Statement of Conditions, is not required, the benefits of having a BMP in place are significant. Not only will the process help with the Continuous Compliance model demanded of today's accredited facilities, but it supports sound risk control strategies that can further protect the building's occupants in case of fire. The latter of these two is the real reason to have a BMP; do everything possible to maintain a safe environment for your patients, visitors and staff.

What the BMP Is Not

Although the name "Building Maintenance Program" sounds like a program for keeping your facility in top shape, the name itself is a bit confusing. As called for in JCAHO's SOC, the program is not a general facility maintenance program. It does not include such things as changing filters and greasing bearings, although the name might imply that.

Why then, did Joint Commission choose to call it the Building Maintenance Program? Try thinking of it this way: the name "Structural and Other Elements that Contribute to the Support of Life Safety (Fire Safety) That Are Not Otherwise Specified by Life Safety Code" is a bit long. Building Maintenance Program is a lot shorter, even if it is not quite clear in its title. So what is it really?

What the BMP Is

To be clear, the program is a performance based process specifically directed at Life Safety issues for which specific maintenance frequencies are not stated in code. The Joint Commission has done an admirable job of identifying these for us in the Statement of Conditions, Part III, Section 6J. There are ten components.

The BMP can include:

- Rated doors (doors in rated structures)
- Linen and Trash Chutes
- Doors in non-rated partitions (doors in non-rated smoke barriers)
- Corridor doors
- Smoke barrier walls (free of penetrations)
- Corridor wall penetrations (if not fully sprinkled)
- Egress Illumination

- Exit lights
- Means of egress free of ice and snow
- Grease producing devices

What to Include in Your BMP

Not all of these have to be included in your BMP in order for it to be considered valuable and effective. However, there are some rules that should be applied to considering what to include.

- General rule of thumb, if less than half of the elements listed above are included in your BMP, then it will not likely be considered to be an effective BMP.
- Items that are not applicable to your facility (corridor walls if your facility is fully sprinkled) do not need to be on your BMP and do not count against your “half”.
- Items that are on the PFI (SOC Part IV) should not be on the BMP.

This last item bears clarification. For example, if, in a facility that is not fully sprinkled, some of the corridor walls do not extend to deck, then the Plan for Improvement (PFI) must include reference to this deficiency. A BMP inclusion for these walls would be to maintain them to be free of penetrations, which you cannot do as the walls are not built to deck. Therefore, those walls will not be included in the BMP. However, other similar walls that are built to deck could still be maintained through the BMP.

Include everything from the list that is in a condition to be maintained.

Step 1 – Inventory and Data Gathering

When using a CMMS to manage your BMP, you will be able to provide a high level of accountability for the timely completion of these services (inspections, repairs and improvements). In light of this, you will want to be realistic in your approach to the size and scope of the work that you assign individual technicians. If you have a large facility, you will want to break it up into manageable sized segments so that work orders for inspection can be accomplished on time. In a smaller hospital, this may not be necessary.

This determination is made at the onset of the data gathering process so that you can determine the number of items being inspected in each inspection unit. For the sake of this article, we'll assume that we will first break the campus up by building and then floors to define our inspection units. These divisions will likely be applied to all but the Linen and Trash Chutes and Grease Producing Devices as there will not be a large number of them and they can be grouped together.

A data gathering tool such as the one shown below should be used to gather the BMP information.

FTG Life Safety and BMP Data Collection Tool
BMP Components

Description	Area	Bldg.	Count	Frequency	Date Next Due
Fire Doors (rated)					
Smoke Doors (non-rated)					
Corridor Doors					
Corridor Walls					
Fire Walls (rated)					
Smoke Walls					
Egress Lighting					
Exit Lights					
Means of Egress					
Linen and Trash Chutes					
Grease Producing Devices					

One of these will be completed for each defined inspection area.

The next step is to determine the maintenance frequency to start the program. Note that maintenance frequencies may be adjusted later, based on performance, but that they must be estimated in order to get started.

A completed inventory sample is shown below including maintenance frequencies and the next date due. This will be the start date for a new BMP.

FTG Life Safety and BMP Data Collection Tool
BMP Components

Description	Bldg.	Area	Count	Frequency	Date Next Due
Fire Doors (rated)	Main	4th Floor	0	Quarterly	8/28/2006
Smoke Doors (non-rated)	Main	4th Floor	8	Quarterly	8/28/2006
Corridor Doors	Main	4th Floor	65	Quarterly	8/28/2006
Corridor Walls	Main	4th Floor	40	Semi-Annually	10/28/2006
Fire Walls (rated)	Main	4th Floor	0	Semi-Annually	10/28/2006
Smoke Walls	Main	4th Floor	16	Semi-Annually	10/28/2006
Egress Lighting	Main	4th Floor	12	Monthly	8/28/2006
Exit Lights	Main	4th Floor	12	Monthly	8/28/2006
Means of Egress	Main	4th Floor	4	Monthly	8/28/2006
Linen and Trash Chutes	Main	All Floors	8	Quarterly	8/28/2006
Grease Producing Devices	Main	Kitchen	2	Weekly	8/4/2006
Fire Doors (rated)	Main	3rd Floor	0	Quarterly	9/28/2006
Smoke Doors (non-rated)	Main	3rd Floor	8	Quarterly	9/28/2006
Corridor Doors	Main	3rd Floor	65	Quarterly	9/28/2006
Corridor Walls	Main	3rd Floor	40	Semi-Annually	11/28/2006
Fire Walls (rated)	Main	3rd Floor	0	Semi-Annually	11/28/2006
Smoke Walls	Main	3rd Floor	16	Semi-Annually	11/28/2006
Egress Lighting	Main	3rd Floor	12	Monthly	8/28/2006
Exit Lights	Main	3rd Floor	12	Monthly	8/28/2006
Means of Egress	Main	3rd Floor	4	Monthly	8/28/2006

Step 2 – Set up the CMMS to Receive the Data

Your CMMS may include provisions for a BMP if it was written specifically for healthcare occupancies. Programs such as FTG's SiteFM™ Work Order are designed to support the BMP with specific Categories and Sub categories for BMP and other Life Safety items. If your CMMS does not include these, you should be able to add your own categories and sub-categories. As there is a wide-variety of CMMS programs on the market today, this article cannot advise on how to add these to your program. Unfortunately, you will need to refer to your program's manual for this.

If you are fortunate to be a SiteFM™ Work Order user, the Categories and Sub-categories are already there and this step will not be required.

Next, the Tasks for supporting these activities must be created. Follow your program's procedures for adding new Tasks (Maintenance Procedures, Steps or other nomenclature for the instructions to the technician). Spell out the step by step tasks for conducting each of these inspections. Again, SiteFM™ Users have this done for them as all Tasks supporting the BMP are included in the program.

Step 3 – Enter your Data

Using the procedure to add a New Asset to your system, enter each of the items on the data gathering tool as an Asset or Equipment item in your program. Indicate how many items are being inspected as a part of the description of the item. For example, you would add the Exit lights on the fourth floor as one asset, and note that there are 12 of them in the description field. This tells your technician to inspect 12 exit lights when the work order is created.

Once an item is added, create a PM schedule for the item consistent with that called for on your inventory. Next, assign the appropriate task for the inspection in question.

SiteFM™ users will have the ability to declare, during the addition of the task, the number of items being inspected. This is taken directly from the inventory tool. The program will later use that value to help determine the level of compliance. This ability is not likely available in most other programs.

Continue to enter the data for all components of the BMP for the Building and/or Campus. SiteFM™ users will be able to leverage the "Create Duplicate Asset with PMs" feature to quickly copy the assets, along with the associated PM schedule and then can just edit the few things that are unique to that asset.

Step 4 – Create the Work Orders

Once all of the Assets and PMs are created in the system, Work Orders will generate during the normal monthly or weekly PM Work Order creation process. Follow your program's procedures for generating PM work orders.

In SiteFM™ the PM is can be assigned to a technician then the associated work orders will automatically be assigned to that tech. If this choice was not made during PM creation, then a coordinator or supervisor will need to assign the newly generated work orders to technicians for response.

Step 5 – Complete the Inspections

Technicians performing these inspections should be at least minimally knowledgeable of the requirements for “passing” an inspection. While this is straightforward when inspecting exit lights, checking items such as fire and smoke doors have specific requirements that must be checked. These requirements are spelled out in the Tasks in SiteFM™. If you are building your own BMP in another program, be sure that you spelled out the tasks in sufficient detail during Step 2 so that technicians are inspecting and documenting the appropriate inclusions in each inspection.

Technicians should note the number of deficiencies found during their inspection and take immediate corrective actions if possible, also documenting that corrective action. Deficiencies should be counted even if corrected on the spot as this is representative of the conditions found on the inspection. It is assumed that conditions will be 100% after the inspection. However, not all corrective actions can be completed immediately.

When a deficiency cannot be immediately corrected, a separate work order should be created for that corrective action. The comments should relate that work order to the inspection that identified the deficiency so that the follow up connection can be made.

In SiteFM™, the number of deficiencies found can be recorded in the work order during the completion process. A special field for this is provided and can be named by the user during the Task creation process. For the BMP and many other aspects of managing the Environment of Care®, this is already in place in SiteFM™. This number provides the second of the two numbers required by the program to provide the calculated compliance level.

Step 6 – Doing the Math

Without SiteFM™, you will need to transfer the information gained from the work orders to a spreadsheet. The calculations for determining the compliance level takes the number of deficiencies found, subtracted from the number of items being inspected, and then divides the remainder by the number of items being inspected.

As an example, if you inspect 50 exit lights and find 2 of them not working, you would subtract the 2 from the 50 and the remainder would be 48. You then divide the 48 by 50 (number of compliant items by total number inspected) and derive a result of 96% compliant for that inspection.

Joint Commission allows for the an accumulation of inspections over time, typically a year. Therefore you should include a column for each month, and then a column for the

Year to Date calculation. It is this final, Year to Date number that you will use to determine your compliance level. The goal is to find 95% compliance for each category for the year.

SiteFM™ has been designed to do all of this for you, and the results can be displayed and printed for your use in providing information to your Safety Committee, Joint Commission or other interested parties in the report shown below.

SiteFM Demo Site (ftg-dev) - Generating Report. - Microsoft Internet Explorer

SiteFM Demo (New at FTG-DEV)
Compliance Percentages
Type: Life Safety

1/27/2006

Task Name	Total Find Count	Deficient Count												PTD
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1 Hour Rated Fire Barrier														
130017 - 1 Hour Fire Rated Barrier Maint.	10					0								100.00%
1300120 - Fire Wall Inspection - Q	10							0						100.00%
130014 - Fire wall inspection and repair	10				2									80.00%
1300045 - Inspection - Q	1				0			0						100.00%
Totals:	44				2	0		0						2
Percent Compliant:					97.02%	100.00%		100.00%						98.45%
2 Hour Rated Fire Barrier														
130022 - Fire Wall Inspect/Repair	10								0					100.00%
130023 - Fire Wall Inspect/Repair	30			2										93.33%
1300111 - Fire Wall Inspect/Repair	20		0											100.00%
Totals:	60		0	2					0					2
Percent Compliant:		100.00%	93.33%						100.00%					98.33%
Egress Lighting														
1300014 - Egress Lighting Inspection	40	0	1	0	0	1	0	2						98.00%
1300070 - Egress Lighting Inspection	20					0	0	0						100.00%
Totals:	170	0	1	0	0	1	0	2						4
Percent Compliant:		100.00%	97.06%	100.00%	100.00%	96.67%	100.00%	97.06%						98.82%
Exit Lighting														
1300025 - Exit Light Inspection - 2nd Floor	30			2										93.33%
1300007 - Exit Light Inspection - 3rd Floor	35						2							94.29%
1300047 - Exit Light Inspection - 4th Floor	30			2	0	1		0						97.00%
1300006 - Exit Light Inspection - 5th Floor	14				0	1								96.43%
1300125 - Exit Light Inspection - POBQR	50							1						98.00%
1300000 - Exit Light Inspection 1st Floor	200			2			3							98.75%
1300001 - Exit Light Inspection 4th Floor	10				1	2								88.00%

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Step 7 – Reporting

SiteFM™ provides several compliance oriented reports that provide an overview of the performance of the BMP. With other CMMS programs, or even with a manual system, these will have to be built in spreadsheet. Use a combination of the Data Gathering tool format wherein the number of items inspected is identified, and then factor in the number of deficiencies noted during the inspections and trend these across the calendar year. Summarize these for the Year to Date and note the trends as the year progresses.

The report created should then go to Safety Committee under Life Safety reporting. This same report can double as documentation to show JCAHO or other inspecting authorities that your program is managing Life Safety in a proactive manner. Another example of a report from SiteFM™ is shown below;

SiteFM Demo Site (ftg-dev) - Generating Report. - Microsoft Internet Explorer

Compliance Report - Scheduled PMs
Type: Life Safety

Category	PM Description	Asset Number	Asset Name	Asset Description	Asset Type	Last Date Completed	Open Until Due Date	Next Due Date	Frequency
Building Maint. Program 1 Hour Rated Fire Barrier									
1 Hour Fire Barrier Maint.		100028	1HRFB-2-01	1 Hour Rated Fire Barrier, second floor, east wing	Life Safety	3/17/2008		9/1/2008	Semi-Annually
Rated fire barrier maint - major		100029	1HRFB-2-01	1 Hour Rated Fire Barrier, second floor, east wing	Life Safety	4/21/2008		3/1/2007	Annual
Fire Wall Inspection - A		100027	1HRFB-2-02	1 Hour rated fire barrier, second floor, south wing	Life Safety	3/17/2008		9/1/2008	Annual
Fire Wall Annual		100027	1HRFB-2-02	1 Hour rated fire barrier, second floor, south wing	Life Safety	3/17/2008		3/1/2007	Annual
1 Hour Fire Rated Barrier Maint.		100028	1HRFB-2-03	1-hour rated fire barrier, second floor, west wing	Life Safety	5/1/2008		11/1/2008	Semi-Annually
Rated fire barrier maint - major		100028	1HRFB-2-03	1-hour rated fire barrier, second floor, west wing	Life Safety	2/1/2008		10/2/2007	Annual
Fire wall inspection and repair		100023	1HRFB-3-01	Rated corridor wall, third floor, east wing	Life Safety	5/17/2008		12/1/2008	Semi-Annually
Annual inspection/repair		100023	1HRFB-3-01	Rated corridor wall, third floor, east wing	Life Safety	2/15/2008		2/1/2007	Annual
Inspection - Q		100023	1HRFB-3-01	Rated corridor wall, third floor, east wing	Life Safety	1/28/2008		10/28/2008	Quarterly
Fire Wall Inspection - Q		100023	1HRFB-3-01	Rated corridor wall, third floor, east wing	Life Safety	7/27/2008		10/28/2008	Quarterly
1 Hour Rated Fire Barrier Maint.		100025	1HRFB-3-02	1-hour rated fire barrier, second floor, west wing	Life Safety	3/17/2008		12/1/2008	Semi-Annually
Smoke Partition Inspect/Repair - Major		100025	1HRFB-3-02	1-hour rated fire barrier, second floor, west wing	Life Safety	4/28/2008		3/1/2007	Annual
Smoke Partition Inspect/Repair - Minor		100024	1HRFB-3-02	One-hour rated fire barrier - third floor, south wing	Life Safety	2/22/2008		9/1/2008	Semi-Annually
Smoke Partition Inspect/Repair - Major		100024	1HRFB-3-02	One-hour rated fire barrier - third floor, south wing	Life Safety	5/24/2008		3/1/2007	Annual
Building Maint. Program 2 Hour Rated Fire Barrier									
Fire Wall Inspect/Repair		100014	2HRFB-01-01	2 Hour Fire Wall at West Elevators	Life Safety	2/12/2008	8/28/2008	2/28/2007	Semi-Annually
Fire Wall Inspect/Repair		100015	2HRFB-02-01	2 Hour Fire Wall at West Elevator - 2nd floor	Life Safety	2/28/2008		9/1/2008	Semi-Annually
Fire Wall Inspect/Repair		100014	2HRFB-02-02	2 Hour Fire Wall at Center Elevators, 2nd floor	Life Safety	5/28/2008		12/1/2008	Semi-Annually

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Step 8 – Flexing the Program

When the results of the compiled inspection results do not hover around the 95% mark, the frequency of inspections will need to change. This is the very premise of the BMP as a performance based program. If your results total less than 95% compliant over time, then more frequent inspection is called for. If your results total 99% to 100%

consistently, then precious human resources are being wasted conducting unnecessary inspections. Edit the PM frequencies so that over time, your program results in findings of 95% to 98%.

Summary

The BMP is a proactive process intended to promote continuous compliance with Life Safety Code and achieve a level of Life Safety that building occupants have a right to expect. No one enters a building thinking that is it not safe from fire. It is the responsibility of the Hospital Safety Officer to assure this expected level of safety, and the BMP is another arrow in the quiver of a well-armed Safety Professional.

The same process that is used for the BMP can be applied to any performance based program. SiteFM™ provides similar guidance for each of the seven disciplines of the Environment of Care, with an included OSHA perspective as well. To see what we have done with SiteFM™ lately, log on to www.factech.com.