Attachment 10.5.a

Describe the Proposed Change

10.5.a Describe the proposed change.

Background

Baystate Medical Center, Inc. ("Holder" or "Hospital") received approval from the Department of Public Health on November 14, 2007 for new construction of a seven (7)-story addition for the replacement of medical/surgical beds, the addition of eighteen (18) medical/surgical beds and thirty (30) critical care beds, and other ancillary and support service replacements, improvements, and additions. In addition, the original DoN approval authorized the construction of a new building known as the "Hospital of the Future" ("HOF"). As part of a long-term strategic plan, the HOF was designed to include shell space that could be built out as required to meet the Hospital's service needs.

The inclusion of shell space was intended to provide design flexibility that met identified future service and patient needs. The availability of shell space assures the continued modernization of the physical plant and compliance with current construction standards while meeting the Hospital's changing needs. At the time the original DoN was filed, it was contemplated that all shell space would be built out over a 15- to 20-year period as service needs are identified.

Consistent with the original strategic plan for the HOF, the original DoN has been amended six (6) times to date as shell space is built out. Each amendment has allowed the Hospital to meet a distinct, identified service need. These separate build-outs achieve the goals of the flexible design for the shell space and allow the Hospital to continue to provide high quality health care. The chart below details each amendment to the Project in addition to the associated changes in the approved gross square feet ("GSF").

Filing Type	Approval Date	Approved Gross Square Footage ("GSF")				
		Total GSF	New Const GSF (without shell)	Renovation GSF	Shell Space GSF	New Const GSF (with shell)
DoN #1-3B36	11/27/2007	641,250	303,300	42,150	295,800	599,100
Amendment	08/11/2009	630,504	303,300	44,900	282,304	585,604
Amendment	11/18/2009	686,086	303,300	44,900	337,886	641,186
Amendment	02/28/2011	692,276	381,857	48,974	261,445	643,302
Amendment	09/19/2012	692,276	461,973	48,974	181,329	643,302
Amendment	08/14/2014	692,276	475,616	48,974	167,686	643,302
Amendment	01/26/2017	698,634	486,749	55,332	156,553	643,302

With each amendment to the original DoN approval, the total maximum capital expenditure ("MCE") for the Project changes. These changes were contemplated at the time of the original DoN as it was determined that the Hospital would pursue amendments to build out the approved shell space as separate, identifiable projects as the need arose. The chart below sets forth the changes in the approved MCE associated with each amendment to the Project.

Filing Type	Approval Date	Approved MCE	Approved Year $
DoN #1-3B36	11/27/2007	$239,318,527	March 2007
Amendment	08/11/2009	$239,318,527	March 2007
Amendment	11/18/2009	$239,318,527	March 2007
Amendment	02/28/2011	$314,083,474	November 2010
Amendment	09/19/2012	$359,423,474	June 2012

Filing Type	Approval Date	Approved MCE	Approved Year $
Amendment	08/14/2014	$366,266,390	April 2014
Amendment	01/26/2017	$373,520,390	October 2016

Please note that the amendments that do not have a corresponding change in the MCE were technical filings to reconcile the DoN with final architectural plans.

The related DoN approvals for all the filings listed above are attached as Exhibit A. Consistent with the intent of the original DoN approval, the Holder is now seeking another significant amendment to build out additional space in its HOF building.

Proposed Project

At this time the Holder proposes building out 22,640 additional GSF in the HOF building to replace its existing 3,484 GSF electrophysiology lab on Daly 5, the 7,871 GSF cardiac catheterization procedure rooms located on Daly 3, and one 316 GSF operating room currently located on the Daly 1st floor. This amendment will result in a one-for-one replacement of these functional areas without any increase in the number of procedure or operating rooms; however, as such spaces will be consistent with current hospital construction standards, the replacement areas will involve more GSF than currently dedicated to these services. In addition to procedure or operating rooms, shell space will be built out to accommodate necessary and related support functions, including pre- and post-op care bays, staff support space, waiting room, and elevator and switchgear installation. Collectively, these activities are the "Project."

This amendment will increase the total Project GSF to 703,560 GSF. This is the result from the build-out of an additional 22,630 GSF of shell space and an additional 4,926 GSF of renovation. The total incremental MCE is projected as $37,605,439 (July 2018 dollars). This brings the total MCE for the DoN to $411,125,829.

The proposed build-out of space to accommodate the electrophysiology and cardiac catheterization procedure rooms, along with the relocation of one operating room into one general area where the heart and vascular operating rooms and related critical care beds are located, has been a key component of the Hospital's long-term Heart and Vascular Services Master Plan. By locating all of these related functions in the same area, an interdisciplinary approach to care is facilitated and certain service efficiencies can be obtained. Approval of this significant amendment to the Project will allow the Hospital to continue to achieve high quality of care in the delivery of its heart and vascular services in clinically integrated and state-of-the-art facilities.

Attachment 10.5.b

Describe the associated cost implications to the Holder

10.5.b Describe the associated cost implications to the Holder.

Due to the changes in the scope of the Project, the Holder is seeking approval for an increase to the currently approved MCE. The previous amendment approval authorized an additional $7,254,000 (October 2016 Dollars) to be spent on the Project, which resulted in the current approved MCE of $373,520,390 (October 2016 dollars). The Holder now requests approval for an additional $37,605,439 (July 2018 dollars) to be added in order to implement the Project described in this Amendment.

The total requested MCE is composed of $30,829,439 for build out of shell space and $6,776,000 for the related renovation. The cost of construction on a per-GSF basis is $1,365, which is higher than the typical cost per GSF for general hospital construction due to the fact that all of the construction is related to complex infrastructure or procedure rooms. All of these areas are highly technical in nature and have additional costs associated with such things as electrical, plumbing and HVAC that increase the cost per GSF for construction as compared to patient rooms or other areas that are not as complex.

The requested $37,605,439 addition to the DoN's approved MCE is relatively modest when the scope and nature of the entire Project is considered. It is well within the Holder's financial capability. Moreover, it is consistent with the underlying premise of this DoN approval, which provided for shell space for future expansion and replacement of current hospital facilities when demand is sufficient and as the Holder can reasonably accommodate the capital expenditure. The chart below details the requested additional capital expenditures compared to the last approved amendment by DoN capital cost categories.

Category of Expenditure	Requested New Const (7/18 $)	Requested Renovation (7/18 $)	Total Additional MCE
Land Costs			
Land Acquisition	0	0	0
Non-Dep. Land Dev.	0	0	0
Site Survey and Soil	0	0	0
Total Land Costs	**0**	**0**	**0**
Construction Costs			
Deprec. Land Development Costs	0	0	0
Construction Contract	23,119,589	5,100,000	28,219,589
Fixed Equip Not in Contract	0	0	0
Architectural & Engineer Costs	1,884,000	400,000	2,284,000
Pre-filing Plan & Development	37,000	8,000	45,000
Post-filing Plan & Development	37,000	8,000	45,000
Other: Information Services	5,270,000	1,155,000	6,425,000
Other: Furniture and Fit-out481	481,850	105,000	586,850
Net Interest Expense During Cons	0	0	0
Major Movable Equip	-	-	-
Total Construction Costs	**$30,829,439**	**$6,776,000**	**$37,605,439**
Financing Costs			
Costs of Securing Fin	0	0	0
Total Financing Costs	**0**	**0**	**0**
Total	**$30,829,439**	**$6,776,000**	**$37,605,439**

As the above chart illustrates, the majority of capital costs are associated with the construction costs for the build-out of shell space and the acquisition of equipment. Based on the Project description, this is appropriate as the construction work required is related to procedure rooms and related support space, all of which have extensive electrical, plumbing, life/safety, and HVAC costs. These costs are reasonable and more cost effective than if the Holder renovated the current outdated space and associated facilities, which are undersized and inadequate under current standards. Additionally, the movable equipment costs reflect the fact the Holder is replacing complex radiology and other specialized equipment necessary for the cardiac catheterization and electrophysiology services that is currently outdated and at the end of its reasonable and useful life span.

The operational cost impact on the Holder will be minor when compared to such costs hospital-wide. It is not expected that staffing will increase for several years as this Project amendment is essentially a one-for-one replacement of existing procedure/operating rooms and is being designed to promote more efficient staffing. Supply cost will incrementally increase as a result of increases in the number of procedures performed, just as it would if the project were not implemented. The following chart illustrates the Holder's estimated supply cost impact for its projected increase in combined electrophysiology lab, cardiac catheterizations, and related surgical procedures over the next four (4) years.

Fiscal Year	Additional Procedures	Incremental Supply Costs
FY 2020	47	$542,000
FY 2021	95	$1,085,000
FY 2022	145	$1,672,000
FY 2023	195	$2,260,000

The incremental impact of the additional depreciation expense arising from this project is currently estimated as $4,950,963 annually. This amount also is a minor increase in light of the total depreciation and interest expenses for the Holder.

The requested $37,605,439 addition to the DoN's approved MCE is relatively modest when the scope and nature of the entire Project is considered. It is well within the Holder's financial capability. Moreover, it is consistent with the underlying premise of the DoN, which provided for shell space for future expansion and replacement of current hospital facilities when demand is sufficient and as the Holder can reasonably accommodate the capital expenditure.

Attachment 10.5.d

Provide a detailed narrative, comparing the approved project to the proposed Significant Change, and the rationale for such change

10.5.d Provide a detailed narrative, comparing the approved project to the proposed Significant Change, and the rationale for such change.

The proposed Significant Change involves the build-out of previously approved shell space in the Hospital's HOF. The build-out will accommodate a one-for-one replacement of the Hospital's existing electrophysiology and cardiac catheterization procedure rooms and one operating room, along with the necessary support spaces, including 15 treatment bays, staff areas, and electrical and elevator equipment. The consolidation of these services critical to the Hospital's heart and vascular services will allow the Hospital to achieve care efficiencies and better integration among the various components of this critical service. The following is a detailed review of the proposed areas of change in the approved DoN Project proposed by this amendment and the rationale for each.

A. Requested Changes to Approved GSF

The Holder requests authorization from the Department to change the approved GSF for the Project. The Holder will build out approved shell space in the HOF Building to accommodate the co-located replacement electrophysiology and cardiac catheterization procedure rooms, along with necessary support space, a relocated operating room, new waiting room, an additional elevator and switchgear. The following is a brief review of each of these Project components.

1. Replacement of cardiac catheterization procedure rooms. The Holder will build out 4,547 GSF of shell space and renovate 1,294 GSF of space on the second floor of the HOF to accommodate four (4) cardiac catheterization replacement rooms.

2. Replacement of electrophysiology procedure rooms. In addition, it will build out 710 GSF of shell space and renovate 2,042 GSF of existing space on the 2nd floor of the HOF to accommodate the two (2) replacement electrophysiology labs and necessary related space.

3. Relocation of One (1) Operating Room. This replacement operating room will be co-located with the other heart and vascular operating rooms and the relocated cardiac catheterization and electrophysiology service on the 2nd floor of the HOF and will involve the build-out of 672 GSF of shell space.

4. Pre- and Post-Procedure Patient Area. Also on the second floor of the HOF, 5,489 GSF of shell space will be built out and another 1,447 GSF of space renovated for the pre-and post-op care unit, which will accommodate up to 15 patients, supporting both the cardiac catheterization and electrophysiology services. It is being added to provide greater flexibility for those cases that may require emergency surgical intervention.

5. Support Areas. In addition, the Holder proposes to build out 4,411 GSF of shell space and renovate 143 GSF of space on the second floor of the HOF for the relocation and addition of storage and support spaces for its heart and vascular services on the 2nd floor of the HOF. In addition, a new waiting room and two (2) restrooms will build out 1,542 GSF of shell space on the second floor of the HOF to accommodate the additional procedures that will be performed on this floor.

6. Electrical, Elevator, and Related Mechanical Work. The build-out of the electrophysiology and cardiac catheterization procedure rooms on the HOF second floor will require the Holder to install appropriate mechanical equipment to support this space. The Holder proposes to build out 2,271 GSF of shell space in the HOF basement for an electrical substation with switchgear. Additional shell space on each floor of the HOF will be built out to accommodate the additional elevator and related mechanical and vertical circulation spaces.

The Plan Review Form 4a chart illustrating and identifying all affect spaces is attached as Exhibit B. Also attached as Exhibit C is a schematic drawing showing all floors of the HoF affected by this amendment. These schematic drawings indicated the areas affected by the Project, remaining shell space, and those areas currently fully built out and in use. Lastly, the following chart summarizes the GSF impact of all amendments, including the proposed GSF impact of this proposed Project.

Filing Type	Approval Date	Approved Gross Square Footage ("GSF")				
		Total GSF	New Const GSF (without shell)	Renovation GSF	Shell Space GSF	New Const GSF (with shell)
DoN #1-3B36	11/27/2007	641,250	303,300	42,150	295,800	599,100
Amendment	08/11/2009	630,504	303,300	44,900	282,304	585,604
Amendment	11/18/2009	686,086	303,300	44,900	337,886	641,186
Amendment	02/28/2011	692,276	381,857	48,974	261,445	643,302
Amendment	09/19/2012	692,276	461,973	48,974	181,329	643,302
Amendment	08/14/2014	692,276	475,616	48,974	167,686	643,302
Amendment	01/26/2017	698,634	486,749	55,332	156,553	643,302
Proposed	-	703,560	509,389	60,258	133,913	643,302

In summary, the Applicant is requesting approval to build out 22,640 GSF of shell space, along with an additional 4,926 GSF of renovation. The proposed changes, along with the cumulative changes to the approved DoN, are consistent with the objectives approved in the Holder's original DoN and continue to further the programmatic goals set forth in that DoN.

B. Changes to Approved MCE

The Holder seeks the Department's approval for an increase to the currently approved maximum capital expenditure ("MCE") for the Project. The currently approved MCE is $373,520,390 (October 2016 dollars). In order to accommodate the requested changes to the scope of the Project, the Holder requests approval for a new MCE of $411,125,829 (July 2018 dollars). This reflects the requested MCE for the Project of $30,829,439. This cost solely relates to the build-out of shell space in the HOF and certain related renovations. As discussed in 10.5.b., the cost of construction on a per-GSF basis is $1,365, which is higher than the typical cost per GSF for general hospital construction due to the fact that all of the construction is related to complex infrastructure or procedure rooms; however, this cost is more than reasonable for the build-out of shell space for this highly technical purpose.

The additional costs are necessary for the Holder to complete the changes to the scope of the Project described in this significant amendment request. The chart set forth in 10.5.b. details the currently requested costs for the Project by DoN capital cost category. All of these costs are

incremental costs to the currently approved DoN MCE and are necessary for the implementation of the Project described in this amendment.

C. Rationale for Change

The Holder designed the HOF to have the flexibility necessary to meet the Hospital's evolving service and patient needs. This included shell space, which the Hospital could subsequently build out as future needs were identified. The proposed Significant Chane is the most recent in a series of ongoing amendments to the original Project intended to accommodate the growing need for the Hospital's services and improvements to its aging physical plant.

The over-riding objective for this Project is to better integrate the Hospital's heart and vascular services by collocating them. In addition, a primary driving force is the need to update and modernize those services so that they are consistent with current special and related requirements for such services as the current facilities have not been renovated in many years and most of its equipment is nearing or at the end of its projected useful lifespan. Lastly, the Hospital is experiencing a continued steady demand for its heart and vascular services.

1. Need for Improved Facilities for Cardiac Cath and Electrophysiology Services.

The Holder identified the need to relocate its electrophysiology and cardiac catheterization procedure rooms to the HOF within areas of that building already dedicated to its heart and vascular services. This was a part of the long-term plan for its heart and vascular program. The co-location of these services to the area where the operating rooms designated for the heart and vascular service and the related inpatient beds are located will result in more efficient use of personnel in the heart and vascular service, in addition to being more convenient for patients and families.

The Hospital's two (2) existing electrophysiology procedure rooms are located on the 5th floor of the Hospital's Daly Building. These rooms are scheduled for replacement in approximately two (2) years. The electrophysiology equipment is now nearing the end of its useful life and will require replacement. In addition, the Holder identified that the existing suite where the electrophysiology rooms are located contain only two (2) prep/recovery bays, with limited support and storage spaces. This is no longer adequate for this service.

The Hospital's existing four (4) cardiac catheterization rooms also need replacement and modernization. These rooms are currently located on the 3rd floor of the Daly Building. The current co-location of these rooms with the neurology and interventional radiology service limits the options for this space to accommodate changes to address increased needs for cardiac catheterization services and improvements required to such services. By moving the cardiac catheterization service and co-locating it with other heart and vascular services, the service will have the ability to establish state-of-the-art procedure rooms and work more closely with the heart and vascular surgical service and electrophysiology lab.

The other key programmatic component of this Project is the relocation of one operating room from the current surgical service department on Daly 1st floor. Operating room #10 is only 316 GSF, and due to its size, it is not optimally utilized. It will be beneficial to have an additional

operating room located on the HOF's 2nd floor as it will provide the heart and vascular services with more immediate access to such specialized facilities. The current space occupied by Operating Room #10 will be converted to much needed storage for the existing surgical department.

2. Need to Meet Future Demand for Services. The heart and vascular service is a critical service of the Hospital based on its broad referral base and role as a tertiary hospital in Western Massachusetts. The electrophysiology and cardiac catheterization services are critical elements of the overall heart and vascular service. Most importantly, the Hospital continues to experience a continued and steady demand for such services.

The following chart illustrates the historical demand applicable to the key service components of this Project by reviewing the total number of procedures for the affected services.

		FY 2015	FY2016	FY2017	FY 2018*
Inpatient	H&V OR	2,146	2,121	2,255	1,856
	Cath Lab	2,129	2,171	2,218	2,184
	EP Lab	500	521	448	434
Outpatient	H&V OR	824	853	736	690
	Cath Lab	1,496	1,598	1,657	1,868
	EP Lab	775	849	745	768
Combined Inpatient & Outpatient	H&V OR	2,970	2,974	2,991	2,546
	Cath Lab	3,625	3,769	3,875	4,052
	EP Lab	1,275	1,370	1,233	1,202

- 6 months Annualized

As the data shows, demand for these services is relatively stable with certain areas of increasing demand. The cardiac catheterization lab has shown the strongest area of growth with a four-year growth that exceeds 10%. More detailed charts showing the historical volume and future year predictions for such volume are attached as Exhibit D; however, the Holder's overall four-year projected volume increase is set forth in 10.5.b. These estimates are relatively conservative when all factors are considered.

This continued strong demand is based on several facts in addition to its historic trends. Most material is that the Holder is the only tertiary service provider in Western Massachusetts. It also has a strong network of local affiliated hospitals and providers who refer to it for tertiary services such as those offered by its heart and vascular service. It is also located in Springfield, which is the largest city in Western Massachusetts situated at the nexus of two interstate highways, substantially increasing access to the Hospital's services from all parts of Western Massachusetts and some parts of Connecticut.

Cardiac and related vascular conditions are of significant concern in both the Holder's service area, as well as in the overall state and nationwide. As noted in the Massachusetts State Health Assessment, which was quoting facts from the Centers for Disease Control in 2017, nationally,

cardiovascular disease is the leading cause of death for both men and women, representing 600,000 deaths annually. This assessment further stated that "[i]n Massachusetts, cardiovascular disease is the second leading cause of death after cancer." Page 250 found at: https://www.mass.gov/files/documents/2017/10/04/MDPH%202017%20SHA%20Chapter%208.pdf.

The significant incidence of cardiac-related disease conditions only increases as the age of the population increases. The UMass Donahue Institute Population Projections for 2015 found that the population aged 65 and over in the state increased from about 14% to almost 16% in the first five-year period, and then increases even more in the second. It then projected that by 2035, the 65-and-over population will represent 23% of the state's population. UMass Donahue Institute Population Projections 2015, p. 4.

These trends also support the continued need for the cardiac services that are the subject of this application to be replaced with state-of-the-art facilities and equipment. In evaluating possible options for replacement of the electrophysiology and cardiac catheterization rooms, the Holder determined the best alternative was to build out shell space on the HOF 2nd floor and relocate these rooms. By co-locating these rooms in one location with other heart and vascular services, the Holder will achieve service efficiencies in the delivery of care. In addition, it will be able to develop state-of-the-art facilities that will meet its needs for many years to come consistent with its long-term strategic plan.