

AGREEMENT
for
FACILITY COMMISSIONING SERVICES
on
PROJECTS OF LIMITED SCOPE

MD Anderson Agreement No. _____

This Agreement is made as of _____, 2016 (the “Effective Date”), by and between:

The Owner: The University of Texas M D Anderson Cancer Center
 c/o Sourcing and Contract Management
 7007 Bertner Avenue, Suite 11.2339
 Houston, TX 77030

and

The Services Provider: _____

This Agreement is for the provision of facility commissioning services (“Commissioning Services”) for facility commissioning projects (“Commissioning Projects”) of limited scope, to be performed on a non-exclusive, indefinite quantity basis, as requested by the Owner in accordance with the terms of this Agreement. Services Provider represents that Services Provider has the knowledge, ability, skills and resources to provide such services in accordance with the terms and requirements of this Agreement.

The Owner and the Services Provider agree as follows:

ARTICLE 1
TERM OF AGREEMENT

1.01 Initial Term: This initial term of this Agreement shall begin on the Effective Date and shall expire twenty-four (24) months after that date unless renewed or terminated in accordance with the terms of the Agreement.

1.02 Renewal Option: The Owner has the option to renew the term of this Agreement for one (1) successive twenty-four (24) month period upon written notice to the Services Provider at least sixty (60) days prior to the expiration of the initial or any subsequent term.

1.03 **Completion of Work in Progress:** The Owner has the option to extend the term of this Agreement, or any renewal period, as necessary for Services Provider to complete work on any project approved by the Owner prior to the expiration of the Agreement.

ARTICLE 2 MAXIMUM AUTHORIZED CONTRACT SUM

2.01 **Maximum Contract Sum:** The overall maximum value of this contract is indefinite, subject to the contractual authority delegated by The University of Texas System Board of Regents to the Owner. Allowable fees for each specifically authorized Commissioning Project will be set forth in an “Authorization to Commence Work” and confirmed in a Purchase Order issued by Owner to Services Provider. Invoices for authorized work performed by the Services Provider shall not exceed the fees established for any portion of authorized work. Established fee amounts shall not be increased except by written amendment to a previously issued authorization executed by the Owner and the Services Provider and confirmed by a Change Order issued by Owner to Services Provider.

2.02 **No Minimum Amount of Work:** Owner makes no representations regarding the amount or type of services, if any, that Services Provider will be asked to provide to Owner during the term(s) of this Agreement. It is expressly understood that the Owner is under no obligation to request any services from Services Provider and no minimum amount of work is required or contemplated under this Agreement. All service requests will be made by the Owner on an as-needed basis, subject to future agreement on the scope of the work and the fee.

ARTICLE 3 SCOPE OF SERVICES

3.01 **In General:** The Services Provider agrees to provide Commissioning Services on a per-project basis as requested by the Owner in accordance with the terms of this Agreement. These services are generally described as, but are not limited to, the services described in Exhibit A – Scope of Services.

3.02 **Project Scope:** The specific scope of work for each Commissioning Project shall be determined in advance and in writing between the Owner and the Services Provider.

3.03 **Project RFP:** The Owner will prepare a Project Request for Proposal (“Project RFP”) identifying the Commissioning Project and describing, in general, the intended scope and character of the project, the schedule for the project, and the basic services to be provided by the Services Provider for the project.

3.04 **Project Proposal:** In response to a Project RFP, the Services Provider shall provide Owner with a written Project Proposal. The Project Proposal shall include the following:

- a. A narrative description of Services Provider's understanding of the Commissioning Project scope of work;
- b. A detailed statement of the Basic and Additional services anticipated for the project, including a list of deliverables;
- c. A description of particular phases of the scope of the work, if applicable;
- d. A Fee Proposal detailing:
 1. the total fee for providing the Basic Services expressed as a "Not to Exceed" amount;
 2. the total fee for providing Additional Services expressed as a "Not to Exceed" amount; and
 3. the total anticipated "Not to Exceed" amount for Reimbursable Expenses;
- e. A proposed date to commence the work;
- f. A list of all consultants, persons and firms that Services Provider proposes to use in the performance of Services Provider's scope of work;
- g. A schedule of hourly billing rates for any consultants that Services Provider proposes to use in the performance of Services Provider's scope of work;
- h. A HUB Subcontracting plan, if required;
- i. Any qualifications or conditions applicable to the Project Proposal; and
- j. A summary statement of the amount of all previous proposals entered into under this Agreement to date.

3.05 Project Proposal Review: The Owner and the Services Provider shall review Services Provider's Project Proposal and negotiate any changes, clarifications or modifications thereto. The Services Provider shall submit a revised Project Proposal incorporating any changes, clarifications or modifications made in the review process. The Owner may accept, reject or seek modification of any Project Proposal.

3.06 Authorization to Commence Work: Upon approval of a Project Proposal by the Owner, the Owner shall issue a written Authorization to Commence Work. The Authorization to Commence Work authorizes the Services Provider to begin the work identified in the Project Proposal on the date specified in the authorization. The Authorization to Commence Work shall include a Purchase Order number specific to the Commissioning Project.

ARTICLE 4

SERVICES PROVIDER'S GENERAL SERVICES AND RESPONSIBILITIES

4.01 Project Manager: The Services Provider shall manage the Services Provider's services and administer any Commissioning Project authorized pursuant to this Agreement. The Services Provider shall provide and/or coordinate the Basic Services necessary and reasonably inferable for the complete performance of any Commissioning Project authorized pursuant to this Agreement.

4.02 Standard of Care: Services Provider agrees to use its best professional efforts, skill, judgment, and abilities to perform Services Provider's services in an expeditious and timely manner as is consistent with professional standards of care and the orderly progress of any

Commissioning Project authorized pursuant to this Agreement. Services Provider shall at all times provide a sufficient number of qualified personnel to accomplish Services Provider's services within the time limits set forth in the Commissioning Project schedule.

4.03 **Compliance with Laws:** Services Provider shall endeavor to perform Services Provider's Services in compliance with all applicable national, federal, State of Texas, and municipal laws, regulations, codes, ordinances, and orders and with those of any other body having jurisdiction over the Commissioning Project.

4.04 **Existing Conditions:** Services Provider shall use reasonable efforts to verify the accuracy and suitability of any drawings, plans, sketches, instructions, information, requirements, procedures, requests for action, and other data supplied to Services Provider by Owner, or any other party, that Services Provider uses for the Commissioning Project.

4.05 **Correction of Work:** Services Provider's services shall be reasonably accurate and free from material errors or omissions. Upon notice, Services Provider shall promptly correct any known or discovered error, omission, or other defect without any additional cost or expense to Owner.

4.06 **Phasing:** The Services Provider shall not proceed beyond any previously authorized phase of the work for a Commissioning Project unless authorized by the Owner in writing, except at the Services Provider's own financial risk. Applicable phases of the scope of work shall be identified in the Project Proposal.

4.07 **Representative:** Services Provider shall designate a representative primarily responsible for Services Provider's services under this Agreement. The designated representative shall act on behalf of Services Provider with respect to all phases of Services Provider's services and shall be available as required for the benefit of any Commissioning Project and the Owner. The designated representative shall not be changed without prior approval of the Owner, which approval shall not be unreasonably withheld.

4.08 **Documentation:** The Services Provider shall fully document its Commissioning Project activities, in drawings, reports or other methods as appropriate to the scope of work and as identified in the Project Proposal. The Services Provider shall bear the cost of providing all plans, specifications and other documents used by the Services Provider and its consultants.

ARTICLE 5 THE OWNER'S RESPONSIBILITIES

5.01 **Project Program:** The Owner shall provide a Project RFP setting forth the Owner's description of the Commissioning Project scope; preliminary project budget; schedule; objectives, characteristics and constraints; and a description of the Basic Services to be provided by the Services Provider for the Commissioning Project.

5.02 **Representative:** The Owner designates its Executive Director, Facilities Planning, Design and Construction, or her or his designee, as its representative authorized to act in the Owner's behalf with respect to a given Commissioning Project. The Owner designates its Executive Director, Facilities Planning, Design and Construction, as its representative for the purpose of administering this Agreement.

5.03 **Special Information:** The Owner shall furnish available property, boundary, easement, right-of-way, topographic and utility surveys; plans and specifications; and special data and conditions relevant to a given Commissioning Project. Owner shall furnish other special investigations of the Commissioning Project site as requested by the Services Provider and as reasonably necessary for the implementation of the Commissioning Project. Services Provider shall exercise reasonable care in relying upon this information in the performance of its services under this Agreement. Owner makes no warranties or representations as to the accuracy or suitability of information provided to the Services Provider by the Owner or by others.

5.04 **Entry on Land:** The Owner shall assist Services Provider in gaining entry to state owned or controlled property as necessary for Services Provider to perform its services under this Agreement.

5.05 **Administrative Services:** The Owner shall furnish all legal, accounting, auditing and insurance counseling services that it requires for any Commissioning Project or the administration of this Agreement.

5.06 **Review of Work:** The Owner will review the Services Provider's documents at the completion of each stage of development as described in the Project Proposal. Owner's review comments or decisions regarding the documents will be furnished to the Services Provider in a reasonably prompt manner. The Owner will notify the Services Provider in writing of any material error or omission or other defect in the services provided or any conflict in the Commissioning Project documents that the Owner becomes aware of, but Owner shall have no obligation or duty to investigate whether such faults, defects, or conflicts exist.

5.07 **Time for Response:** The Owner shall furnish required information and services and shall render approvals and decisions as expeditiously as necessary for the orderly progress of the Services Provider's services and of the work associated with a given Commissioning Project.

ARTICLE 6 ACCEPTANCE OF WORK

6.01 **Owner's Satisfaction:** All work performed under this Agreement shall be completed to the satisfaction of the Owner's representative assigned to the Commissioning Project. The Owner's representative shall decide all questions regarding Services Provider's performance under the Agreement and such decisions shall be final and conclusive.

6.02 **Correction of Work:** Should Services Provider's services not conform to the requirements of this Agreement and the Project Proposal as determined by the Owner's

representative, Owner may order the Services Provider to re-perform such services at no additional expense to the Owner or deduct the fees for such services from any other fees payable to the Services Provider.

6.03 **Liability:** Owner's approval or acceptance of Services Provider's services will not release Services Provider from any liability for such services because Owner is, at all times, relying upon Services Provider's skill and knowledge in performing Services Provider's services.

ARTICLE 7 COMPENSATION FOR SERVICES RENDERED

7.01 **Owner's Approval Required:** Owner agrees to pay Services Provider for those services rendered at Owner's specific request, in advance and in writing.

7.02 **Scheduled Billing Rates:** Attached as **Exhibit B**, and incorporated herein, is Services Provider's Schedule of Billing Rates, including hourly billing rates and/or per service billing rates as applicable. The Billing Rates include all costs for any identified services and the Services Provider shall not be entitled to any additional compensation for providing those services. The Schedule of Billing rates shall remain in full force and effect for the term of this Agreement, including all renewal periods.

7.03 **Basic Service:** For Basic Services rendered in connection with any project authorized pursuant to this Agreement, Services Provider shall be compensated on an hourly rate basis or on a per-service fee basis in accordance with Services Provider's Project Proposal, up to the maximum "Not to Exceed" amount approved in Services Provider's Project Proposal.

7.04 **Additional Services:** Additional Services are services not identified or reasonably inferable as Basic Services included in a Project Proposal. Additional Services shall be provided only if authorized or confirmed in writing by the Owner. For approved Additional Services provided in connection with any Commissioning Project authorized by this Agreement, Services Provider shall be compensated on an hourly rate basis or on a per-service fee basis in accordance with Services Provider's Additional Services Proposal, up to the maximum "Not to Exceed" amount approved in Services Provider's Additional Services Proposal.

7.05 **Consultant Costs:** Unless approved in advance by the Owner, Services Provider shall pay for all consultant services and costs associated with Services Provider's services under this Agreement, whether Basic Services or Additional Services, out of Services Provider's fees. Owner is not responsible for any such consultant fees or costs unless otherwise agreed to in writing.

ARTICLE 8 REIMBURSABLE EXPENSES

8.01 **Reimbursable Expenses:** Reimbursable Expenses are in addition to compensation for Basic Services and Additional Services. These include actual out-of-pocket

reasonable expenditures made by the Services Provider and the Services Provider's employees and consultants incurred solely and directly in connection with Services Provider's performance of its services hereunder for the following expenses. Reimbursable Expenses recoverable by the Services Provider under this Agreement are limited to the following:

- a. Expenses in connection with out-of-state travel, including coach class air fare and reasonable living expenses, as directed and approved in advance and in writing by the Owner. Said expenses to be reimbursed per Owner's Rider 107, Travel Policy, a copy of which is attached as an Exhibit hereto;
- b. Expenses in connection with in-state travel, including reasonable travel and living expenses, for Services Provider's employees and consultants when a Commissioning Project is located more than 50 miles from the place where they are usually and customarily assigned, but only as directed and approved in advance and in writing by Owner. Said expenses to be reimbursed per Owner's Rider 107, Travel Policy, a copy of which is attached as an Exhibit hereto;
- c. Fees paid for securing approval of authorities having jurisdiction over any particular Commissioning Project.
- d. Expenses of reproductions, printing, collating, postage and handling of drawings, specifications, reports and other documents or other project related work product, but excluding plotting costs of drawings, reproductions for the use of Service Provider and Services Provider's consultants as well as up to three (3) review sets as necessary for progressive reviews by Owner in accordance with the Project Proposal;
- e. Communication expenses such as long distance telephone, facsimile transmissions, express charges and postage that are directly attributable to the specific Commissioning Project;
- f. Disbursements made by the Services Provider under approved subcontracts;
- g. Reasonable costs for rental or use of special equipment, tools, and electronic data processing equipment required in connection with the specific Commissioning Project if approved in advance and in writing by Owner;
- h. Expense of any additional insurance coverage or limits, requested by the Owner excluding professional liability and errors and omissions insurance required under Basic Services of this Agreement that exceed those normally carried by the Services Provider and the Services Provider's consultants.
- i. Expenses not allowed for reimbursement include alcoholic beverages, laundry, valet service, entertainment and any expenses not directly related to the implementation of a specific Commissioning Project. All tips must be included within the per diem allowances.

8.02 Compensation for Reimbursable Expenses: The Services Provider and its employees and consultants, shall be compensated for the actual, out-of-pocket, reasonable costs for all approved Reimbursable Expenses that are incurred solely and directly in connection with the performance of the Services Provider's services and duties under this Agreement or in the interest of any particular Commissioning Project. Service Provider shall submit receipts for all reimbursable expenses along with any reimbursement request. Owner shall not pay a mark-up on Reimbursable Expenses. Unless expressly directed and approved in advance in writing by

Owner, Services Provider shall not invoice Owner for any Reimbursable Expense which is not expressly listed in this Article.

8.03 Proposal Costs Not Recoverable: Services Provider is solely responsible for any expenses or costs, including expenditures of time, incurred by the Services Provider and its employees and consultants in the development of Project Proposals or Additional Services Proposals. Such expenses or costs are not Reimbursable Expenses.

ARTICLE 9 INVOICING

9.01 Monthly Invoices: Unless Owner and Services provider expressly agree otherwise, for each Commissioning Project implemented under this Agreement, Services Provider shall submit a monthly record or invoice of services performed under this Agreement identifying all fees earned and reimbursable expenses incurred for the Commissioning Project. Invoices shall be submitted in a format approved by the Owner and must contain at least the following information:

- a. Commissioning Project Name and Project Number;
- b. Owner Agreement Number;
- c. Owner's Purchase Order Number
- d. Services Provider's Tax Identification Number;
- e. Name of Project Manager;
- f. Identification of billing period, by calendar month, to which the invoice applies;
- g. Itemized description of services provided including the names, billing rates and amount of time per task expended by all persons who performed services on the Commissioning Project during the billing period;
- h. Completion status of Commissioning Project by percentage;
- i. Total amount of invoice;
- j. Total amount of prior invoices and Purchase Order Amount;
- k. Copy of all receipts in support of any Reimbursable Expenses invoiced.

9.02 Limited to Owner's Purchase Order Amount: For each specific Commissioning Project, it is the responsibility of Services Provider not to provide services or submit invoices that exceed the Owner's Purchase Order Amount. Services provided, and/or expenses incurred that exceed the Owner's Purchase Order Amount without Owner's written consent will be at Services Provider's financial risk and Owner shall not be obligated to pay for any such services or expenses.

9.03 Prompt Payment: For purposes of Texas Government Code § 2251.021(a)(2), the date the performance of service is completed is the date when the Owner's representative approves the invoice. Payment of invoices shall be made within 30 days of Owner's approval.

9.04 Invoice Submittal: Invoices shall be submitted to:

M. D. Anderson Cancer Center
Accounts Payable – Box 199
P. O. Box 301401
Houston, TX 77230-1401
The email address is: mdaccap@mdanderson.org

9.05 Exceptions to Payment: Regardless of any other provision of this Agreement, Owner shall not be obligated to make any payment requested by Services Provider under this Agreement if any of the following conditions precedent exist:

- a. Services Provider is in breach or default under this Agreement;
- b. The requested payment includes services not performed in accordance with this Agreement; provided, however, payment shall be made for the balance of the services that are performed in accordance with this Agreement;
- c. The total of Services Provider's invoices exceeds the Owner's Purchase Order Amount;
- d. Services Provider has failed to make payments promptly to consultants or other third parties used in connection with the services for which Owner has made payment to Services Provider;
- e. Services Provider becomes insolvent, makes a general assignment of its rights or obligations for the benefit of its creditors, or voluntarily or involuntarily files for protection under the bankruptcy laws; or
- f. If Owner, in its good faith judgment, determines that the balance of unpaid compensation is insufficient to complete the services required under this Agreement.

9.06 Partial Payment: No partial payment by Owner shall constitute or be construed as final acceptance or approval of any services or as a release of any of Services Provider's obligations or liabilities with respect to such services.

9.07 Subcontractor (Consultant) Payment: Services Provider shall promptly pay all bills for labor and material performed and furnished by others in connection with the performance of the services.

9.08 Final Payment and Release: The acceptance by Services Provider or Services Provider's successors of final payment under this Agreement, shall constitute a full and complete release of Owner from any and all claims, demands, and causes of action whatsoever that Services Provider or Services Provider's successors have or may have against Owner pursuant to this Agreement except those claims specifically identified in writing by Services Provider as unsettled at the time of the final request for payment.

ARTICLE 10 SERVICES PROVIDER'S ACCOUNTING RECORDS

10.01 Services Provider shall maintain records of costs, expenses and billings pertaining to services performed under this Agreement in accordance with generally accepted accounting principles. Such records shall be available to the Owner or the Owner's authorized representative at mutually convenient times for a period of at least three (3) years after expiration or termination of this Agreement. Owner shall have the right to audit and to verify the details set forth in Services Provider's billings, certificates, and statements, either before or after payment. The terms of this paragraph shall survive any termination of the Agreement.

ARTICLE 11 OWNERSHIP AND USE OF DOCUMENTS

11.01 All documents prepared by the Services Provider are instruments of service and shall remain the property of the Services Provider. The Owner shall be permitted to retain copies, including reproducible copies, of all documents prepared by the Services Provider for information and reference in connection with the Owner's use following completion of the Commissioning Project. Owner shall have an irrevocable, fully paid-up perpetual license and right, which shall survive the termination of this Agreement, to use the documents, including the originals thereof, and the ideas and designs contained therein, for the completion of, and in connection with, the Commissioning Project, regardless of the Services Provider involvement. The documents shall not be used by the Owner or the Services Provider on other projects, except by agreement in writing.

11.02 Submission or distribution to meet official regulatory requirements or for other purposes in connection with a particular Commissioning Project is not to be construed as publication in derogation of the Services Provider's rights.

ARTICLE 12 TERMINATION OF AGREEMENT

12.01 **Termination for Cause:** This Agreement, any Commissioning Project implemented pursuant to the terms of this Agreement, or both may be terminated by either party upon ten (10) days' written notice should the other party fail substantially to perform in accordance with its terms through no fault of the terminating party and such failure is not fully cured prior to the expiration of the notice period. If a termination for cause under this section is later determined to be improper, the termination shall automatically convert to a termination for convenience under section 12.02 and Services Provider's recovery for termination shall be strictly limited to the compensation allowable under section 12.02.

12.02 **Termination for Convenience:** This Agreement, any Commissioning Project being implemented pursuant to the terms of this Agreement, or both, may be terminated for convenience by the Owner in whole or in part, upon at least ten (10) days' written notice to the Services Provider.

12.03 **Compensation:** In the event of termination not the fault of the Services Provider, the Services Provider shall be entitled to compensation for all services satisfactorily performed to the termination date, together with approved Reimbursable Expenses then due, provided Services Provider delivers to Owner statements, accounts, reports and other materials as required for payment along with all reports, documents and other materials prepared by Services Provider prior to termination.

ARTICLE 13 DISPUTE RESOLUTION

13.01 To the extent that it is applicable, the dispute resolution process provided for in Chapter 2260 of the Texas Government Code shall be used by the Services Provider to resolve any claim for breach of contract made by Services Provider that is not resolved in the ordinary course of business between Services Provider and Owner.

13.02 Alternative Dispute Resolution Process. Owner may establish a dispute resolution process to be utilized in advance of that outlined in Tex. Gov't Code, Chapter 2260.

13.03 Nothing herein shall hinder, prevent, or be construed as a waiver of Owner's right to seek redress on any disputed matter in a court of competent jurisdiction.

13.04 In any litigation between the Owner and the Services Provider arising from this Agreement or any Commissioning Project implemented pursuant to this Agreement, neither party will be entitled to an award of legal fees or costs in any judgment regardless which one is deemed the prevailing party.

13.05 Nothing herein shall waive or be construed as a waiver of the State's sovereign immunity.

13.06 Neither the occurrence of an event giving rise to a breach of contract claim nor the pendency of a claim constitute grounds for the suspension of performance by Services Provider, in whole or in part. Owner and Services Provider agree that any periods set forth in this Agreement for notice and cure of defaults are not waived, delayed, or suspended by Chapter 2260 or this section.

13.07 In accordance with Chapter 2260, the Owner designates its Chief Financial Officer as its representative for the purpose of reviewing Services Provider's claim(s) and negotiating with Services Provider in an effort to resolve such claim(s).

ARTICLE 14 INSURANCE

14.01 **Insurance:** For services performed on Owner's premises, the Services Provider shall furnish to Owner Certificates of Insurance as set forth below prior to the commencement of any work hereunder and shall maintain such coverage during the full term of the Agreement.

Worker's Compensation	Statutory Limits
Employer's Liability	\$100,000 each occurrence
	\$300,000 aggregate
Comprehensive General Liability	
-Bodily Injury	\$300,000 each person
	\$500,000 each occurrence
-Property Damage	\$300,000 each occurrence
Comprehensive Auto Liability	
-Bodily Injury	\$300,000 each person
	\$500,000 each occurrence
-Property Damage	\$300,000 each occurrence

14.02 **Professional Liability Insurance:** The Services Provider shall carry such professional liability and errors and omissions insurance covering the services provided by the Services Provider and any and all consultants, as acceptable to and approved by the Owner. The fees for such insurance shall be at the expense of the Services Provider.

14.03 **Notice of Cancellation:** Required insurance shall not be cancelable without thirty (30) days' prior written notice to Owner.

14.04 **Policy Review:** Upon request the Services Provider shall furnish complete sets of its insurance policies to Owner for review.

ARTICLE 15 INDEMNITY

15.01 The Services Provider shall hold Owner, The University of Texas System, and the Regents, officers, agents and employees of both institutions harmless and free from any loss, damage or expense arising out of any occurrence relating to this Agreement or its performance and shall indemnify Owner and The University of Texas System, their Regents, officers, employees, customers, agents, successors and assigns against any damage or claim of any type arising from the negligent or intentional acts or omission of the Services Provider, its employees, agents and/or assigns.

ARTICLE 16 HISTORICALLY UNDERUTILIZED BUSINESSES

16.01 The Owner has adopted **Rider 104-A**, Policy on Utilization of Historically Underutilized Business ("Policy"), which is attached as an Exhibit hereto and incorporated herein. Services Provider, as a material provision of this Agreement, must comply with the requirements of the Policy and adhere to any HUB Subcontracting Plan submitted with Services Provider's Proposal for any particular Commissioning Project. No changes to any HUB Subcontracting Plan

can be made by the Services Provider without the prior written approval of the Owner in accordance with the Policy.

ARTICLE 17 MISCELLANEOUS PROVISIONS

17.01 Appointment of Representative: Owner may designate a representative to act partially or wholly for Owner in connection with this Agreement. Services Provider shall coordinate its services solely through the designated representative.

17.02 Independent Contractor: Services Provider acknowledges that it is engaged as an independent contractor and that Owner shall have no responsibility to provide Services Provider or its employees with transportation, insurance or other fringe benefits normally associated with employee status. Services Provider is responsible for all income taxes required by applicable law.

17.03 Confidentiality: The Services Provider shall treat any Owner supplied information or information pertaining to Owner's business as confidential and shall not disclose any such information to others except as necessary for the performance of this Agreement or as authorized by the Owner in writing.

17.04 Successors and Assigns. The Owner and the Services Provider, respectively, bind themselves, their partners, successors, assigns and legal representatives to the other party to the terms and conditions of this Agreement. This Agreement is a personal service contract for the services of Services Provider, and Services Provider's interest in this Agreement, duties hereunder and/or fees due hereunder may not be assigned or delegated to a third party without written consent of Owner. The benefits and burdens of this Agreement are, however, assignable by Owner.

17.05 Subcontracting: The Services Provider agrees not to subcontract any part of the work without the prior written consent of Owner. If subcontracting is permitted, the Services Provider must identify the subcontractor(s) to Owner prior to any subcontractor beginning work. Submission and approval of a Historically Underutilized Businesses (HUB) Subcontracting Plan is considered consent under this Article.

17.06 Loss of Funding: Performance by Owner under this Agreement may be dependent upon the appropriation and allotment of funds by the Texas State Legislature (the "Legislature") and/or allocation of funds by the Board of Regents of The University of Texas System (the "Board"). If the Legislature fails to appropriate or allot the necessary funds, or the Board fails to allocate the necessary funds, then Owner shall issue written notice to Services Provider and Owner may terminate this Agreement or any Commissioning Project being implemented under this Agreement without further duty or obligation hereunder. Services Provider acknowledges that appropriation, allotment, and allocation of funds are beyond the control of Owner.

17.07 Open Records: All information, documentation and other material submitted by the Services Provider may be subject to public disclosure under the Public Information Act, Texas Government Code Chapter 552.

17.08 Family Code Child Support Certification: Pursuant to Section 231.006, *Texas Family Code*, the Services Provider certifies that it is not ineligible to receive the award of or payments under this Agreement and acknowledges that this Agreement may be terminated and payment may be withheld if this certification is inaccurate.

17.09 Tax Certification. If Services Provider is a taxable entity as defined by Chapter 171, Texas Tax Code (“Chapter 171”), then Services Provider certifies that it is not currently delinquent in the payment of any taxes due under Chapter 171, or that Services Provider is exempt from the payment of such taxes, or that Services Provider is an out-of-state taxable entity that is not subject to those taxes, whichever is applicable.

17.10 Payment of Debt or Delinquency to the State: Pursuant to Sections 2107.008 and 2252.093, *Texas Government Code*, Services Provider agrees that any payments owing to Services Provider under this Agreement may be applied directly toward any debt or delinquency that Contractor owes the State of Texas or any agency of the State of Texas regardless of when it arises, until such debt or delinquency is paid in full.

17.11 Taxes: The University of Texas System is a tax exempt State of Texas Agency under Chapter 151, Texas Tax Code and an institution of higher education. Services Provider shall avail itself of all tax exemptions applicable to Services Provider’s work or expenses.

17.12 Eligibility Certification. Pursuant to Section 2155.004, *Texas Government Code*, Contractor certifies that the individual or business entity named in this Agreement is not ineligible to receive the award of or payments under this Agreement and acknowledges that this Agreement may be terminated and payment withheld if this certification is inaccurate.

17.13 Captions: The captions of paragraphs in this Agreement are for convenience only and shall not be considered or referred to in resolving questions of interpretation or construction.

17.14 Severability: Should any provisions(s) of this Agreement be held invalid or unenforceable in any respect, that provision shall not affect any other provisions and this Agreement shall be construed as if the invalid or unenforceable provision(s) had not been included.

17.15 Waivers: No delay or omission by either party in exercising any right or power provided under the provisions of this Agreement shall impair any such right or power or be construed to be a waiver of the right or power. A written waiver granted by either of the parties of any provision of this Agreement shall not be construed as a future waiver of that provision or a waiver of any other provision of the Agreement.

17.16 Force Majeure: No party shall be liable or responsible to the other for any loss or damage or for any delays or failure to perform under this Agreement due to causes beyond its

reasonable control, including, but not limited to, acts of God, employee strikes, epidemics, war, riots, flood, fire, sabotage, terrorist acts or any other circumstances of like character.

17.17 Governing Law: This Agreement shall be construed, interpreted and applied in accordance with the laws of the State of Texas without regard for choice of law principles. All obligations of the parties created hereunder are enforceable in Harris County, Texas.

17.18 Entire Agreement. This Agreement constitutes the sole and only agreement between the parties with respect to the services contracted for and supersedes any prior understandings, written or oral. No modification, alteration or waiver of this Agreement or any of its provisions shall be effective unless in writing and signed by both parties. No course of prior dealings, no usage of trade, and no course of performance shall be used to modify, supplement or explain any terms used in this Agreement.

17.19 Financial Interest. By signature hereon, Service Provider certifies that no member of the Board of Regents of The University of Texas System, or Executive Officers, including component institutions, has a financial interest, directly or indirectly, in the transaction that is the subject of this contract.

17.20 Ethics Matters/No Financial Interest. Services Provider and its employees, agents, representatives, subcontractors and consultants have read and understand Owner's Conflicts of Interest Policy available at <http://www.mdanderson.org/about-us/compliance-program/conflict-of-interest-policy-no.-adm0255.pdf>, Owner's Standards of Conduct Guide available at <http://www.mdanderson.org/about-us/compliance-program/do-the-right-thing.pdf>, and applicable state ethics laws and rules available at www.utsystem.edu/ogc/ethics. Neither Services Provider nor its employees, agents, representatives subcontractors, or consultants will assist or cause Owner's employees to violate Owner's Conflicts of Interest Policy, provisions described by Owner's Standards of Conduct Guide, or applicable state ethics laws or rules. Services Provider represents and warrants that no member of the Board has a direct or indirect financial interest in the transaction that is the subject of this Agreement.

17.21 179 D Benefit Allocation. Owner may decide to seek the allocation of certain tax benefits pursuant to Section 179D of the Internal Revenue Code of 1986, as amended, (the "Code") through this Agreement with Project Architect.

17.21.1 If the Owner and the Internal Revenue Service (IRS) determine that the Services Provider is eligible to receive the 179D deduction allocation as a "Designer" for the purposes of Section 179D of the Code or that Services Provider could otherwise profit financially from the monetization of the benefit (separately and collectively, the "Rebate"), Services Provider hereby agrees to allocate to the Owner a portion of the Rebate in an amount to be determined and contracted for on mutually agreeable terms when the value of the Rebate becomes ascertainable, net of associated costs realized by the Owner and Services Provider. At its sole discretion, the Owner shall determine whether to receive its portion of the Rebate in cash, discounted Commissioning Project fees or both.

17.21.2 Owner reserves the right to retain a third party consultant (the “179D Consultant”) to manage and administer the process of obtaining and monetizing the Rebate derived from the Commissioning Project(s).

17.21.3 Services Provider agrees to cooperate in all reasonable respects with the 179D Consultant’s efforts to obtain and monetize any such Rebates derived from the Commissioning Project(s) on behalf of Owner. Certification of eligibility and negotiation of the Rebate(s) shall be facilitated by the 179D Consultant.

ARTICLE 18 NOTICES

18.1 All notices, consents, approvals, demands, requests or other binding communications under this Agreement shall be in writing. Written notice may delivered in person to the designated representative of the Services Provider or Owner; mailed by U. S. mail to the last known business address of the designated representative; or transmitted by fax machine to the last known business fax number of the designated representative. Mail notices are deemed effective three business days after the date of mailing. Fax notices are deemed effective the next business day after faxing.

18.2 The initially designated representatives of the parties for receipt of notices are as follows. Either party may change their designated representative for receipt of notices by written notice.

If to Owner:

Weldon Gage
Senior Vice President and Chief Financial Officer
Finance, Office of the CFO
1515 Holcombe Blvd., Unit 0050
Houston, TX 77030

With Copies to:

William E. Bailey, J.D., C.P.A.
Executive Director, Facilities Finance
6900 Fannin, Suite FHB11.1022
Houston, Texas 77030

If to Services Provider:

IN WITNESS WHEREOF, Owner and Services Provider have executed and delivered this Agreement effective as of the date identified above.

SEAL:

SERVICES PROVIDER:

(Name of Service Provider)

WITNESS:

By: _____

By: _____

Name: _____

Name: _____

Title: _____

Title: _____

Date: _____

CONTENT APPROVED:

OWNER:

THE UNIVERSITY OF TEXAS
M. D. ANDERSON CANCER CENTER

Office of the Vice President
Operations & Facilities Management

Office of the CFO
Finance

By: _____

Name: Spencer Moore

Title: Vice President
Operations & Facilities Management

By: _____

Name: Weldon Gage

Title: Senior Vice President and
Chief Financial Officer

Date: _____

Date: _____

EXHIBITS

- Exhibit A – Scope of Services
- Exhibit B – Services Provider's Schedule of Billing Rates
- Exhibit C – Request for Proposal Form
- Exhibit D – Initial Project Proposal Form
- Exhibit E – Additional Services Proposal Form
- Exhibit F – Authorization to Commence Work
- Exhibit G – Form of Invoice
- Exhibit H – Rider 104-A, Policy on Utilization of Historically Underutilized Business
- Exhibit I – Services Provider's Letter of HUB Commitment
- Exhibit J – Rider 105, Contractor's Affirmations and Warranties
- Exhibit K – Rider 106, Premise Rules
- Exhibit L – Rider 107, Travel Policy
- Exhibit M – Rider 117, Compliance with Institutional Policies
- Exhibit N – Sales Tax Exemption Form
- Exhibit O – Execution of Offer

EXHIBIT A
SCOPE OF SERVICES

EXHIBIT A

SCOPE OF SERVICES

FACILITY COMMISSIONING

OVERVIEW

Objective

The University of Texas MD Anderson Cancer Center (referred to as “Owner”) requires facility commissioning services related to new construction, facility renovations, re-commissioning of existing systems, or facility system assessments. The types of facilities to be commissioned may include office/administration, healthcare, research laboratories, or combinations thereof. Commissioning refers to a systematic process confirming that building components and systems have been installed, properly started, and consistently operated according to criteria set forth in the contract documents, that all systems are complete and functioning in accordance with the project Design Intent Document at the onset of Substantial Completion, and that the construction contractor has provided Owner’s facility staff with adequate system documentation and training prior to Owner’s acceptance.

Owner will contract directly with a Commissioning Services Provider (also referred to as Commissioning Authority) as an extension of Owner’s designated staff, to perform technical reviews of project design documents, observe completion of construction, verify equipment and system start-up by the Owner’s construction contractor (Contractor), observe prefunctional tests and functional performance tests of systems and integrated systems against requirements of the project contract documents, track deficiencies, and recommend solutions. The Services Provider has authority only as delegated by the Owner, but has no authority to alter design or installation procedures. The Contractor is responsible for the construction phase commissioning process.

Commissioning Services Provider’s Role

When acting as the Owner’s representative on projects, the commissioning Services Provider may be involved from a project’s design phase through the warranty phase. The primary role of the Services Provider during the design phase is to review design intent to meet the Owner’s needs, develop project specific commissioning specifications referencing Owner’s master construction specifications, and review design documents to ensure they meet the Owner’s objectives.

During construction and through the warranty period, the Services Provider, with input from the Contractor, writes and coordinates execution of a commissioning plan, which includes observing and documenting each system’s performance to ensure that systems function in accordance with project contract documents. The Services Provider is not responsible for the design or for construction scheduling, cost estimating, or construction management, but may assist with resolving scheduling conflicts, problem solving on technical issues, or resolving non-conformance issues or deficiencies. Owner’s project contract documents require the Contractor

to organize, schedule, and conduct system start-up, to perform prefunctional tests, and to perform all system functional performance tests and integrated system tests.

GENERAL SCOPE OF SERVICES

The following indicates services that Services Provider may be required to perform based on specific Commissioning Project Requests for Proposals.

Design Phase

1. Develop and communicate an understanding of project requirements in conjunction with the Owner, Owner's construction Contractor, and the project design team. For renovation projects, this includes familiarization with existing building and associated existing equipment and systems that may be impacted by the new construction.
2. Review the Owner's Design Guidelines and the project Facility Program or Pre-Design Report (if applicable) for familiarity with the project scope.
3. Review and comment on design phase project deliverables, including Design Intent Document, drawings, and specifications for clarity, completeness, and compliance with the Owner's Design Guidelines at various stages of development (during schematic design, design development and construction document phases).
4. During the schematic design and design development phases, recommend alternative design approaches or value engineering items based on project design phase reviews that will provide equal or better performance at lower life cycle cost, including initial cost, utility costs, and operating and maintenance costs.
5. Provide input to the project team that will improve or reduce system maintenance and operating costs over the life of the equipment and systems.
6. Assist the project design team with preparation of project-specific commissioning specifications for all commissioned equipment based on Owner's master construction specifications.
7. Participate in design review meetings and technical work sessions with the Owner, the project design team, and Contractor.

Construction Phase

1. Represent the Owner in review and approval of Contractor's commissioning activities in a logical, sequential and efficient manner using consistent protocols and forms, centralized documentation, clear and regular communications and consultations with all necessary parties, frequently updated timelines and schedules, and technical expertise.
2. With Contractor's input, write the project-specific Commissioning Plan. The Commissioning Plan is a document that provides the structure, schedule, and coordination planning for the commissioning process.
3. Participate in Contractor's commissioning meetings, including Pre-Installation meetings and Pre-Commissioning meetings with subcontractors.
4. Review and comment on Contractor's product and shop drawing submittals applicable to systems being commissioned for compliance with commissioning needs, concurrent with project design team and Owner reviews. Generally, the Project Architect retained by the Owner is responsible for approval of all submittals.
5. Review and comment on Test, Adjust, and Balance (TAB) reports.
6. Before start-up, gather and review current control sequences and interlocks and work with Contractor and the project design team until sufficient clarity has been obtained, in writing, to enable preparation of detailed test procedures.
7. With assistance from the Contractor and equipment manufacturers, write the functional performance and integrated system test procedures for equipment and systems.
8. Verify start-up and prefunctional testing of all systems as defined in the Commissioning Plan. Monitor and witness execution of functional performance tests, Owner demonstration of other tests (such as ductwork and pipe pressure testing), integrated systems testing, and document results, follow-up, and signoffs. Functional performance tests include operating the system and components through each of the written sequences of operation, and other significant modes and sequences, including start-up, shutdown, unoccupied mode, manual mode, staging, miscellaneous alarms, power failure, security alarm when impacted and interlocks with other systems or equipment.
9. Provide recommendations to resolve deficiencies noted during the commissioning process.
10. Perform site visits, as necessary, to observe component and system installations and document findings in an inspection report. Attend selected project construction meetings to obtain information on construction progress. Review project construction meeting minutes for revisions/substitutions relating to the commissioning process.

11. Review requests for information and change orders for impact on the Commissioning Plan and contract documents.
12. Analyze functional performance test trend logs and monitoring data to verify performance.
13. Maintain a master deficiency and resolution log and a separate record of tests. Provide written progress reports and test results with recommended actions to the Owner.
14. Review equipment warranties to ensure that the Owner's responsibilities are clearly defined.
15. Participate in training of Owner's operating personnel. Contractor will have primary training responsibility.
16. Review operating and maintenance (O&M) manuals for commissioned equipment and systems.
17. Review and assist in the preparation and organization of Contractor's commissioning documentation, in the form of a Commissioning and Close-out Manual. The Commissioning and Close-out Manual is to contain all documentation related to the commissioning process, including but not limited to: prefunctional checklists and test results, all related correspondence, functional performance test procedures and results; integrated systems test procedures and results, deficiency reports, data trends, punch lists, and signoffs.
18. Services Provider's project deliverables will be in the form of a Commissioning Report that will become part of the Contractor's Commissioning and Close-out Manual. The Commissioning Report is to include written narratives and other documentation of Services Provider's deliverables during the commissioning process, such as written test procedures, test results and remedial recommendations, meeting records, deficiency records, etc. All deliverables must be provided to the Owner in electronic file format.

Warranty Period

1. Facilitate opposite season or deferred testing and deficiency corrections and provide the final testing documentation for the Commissioning and Close-out Manual and O&M manuals.
2. Upon Owner's request and schedule, return to the site during the 12-month warranty period and review with Owner's operating personnel the current building operation and the condition of outstanding issues related to the original and seasonal commissioning. Identify problems or concerns that operating personnel may have with operating the building as originally intended and recommend solutions.

3. Provide suggestions for improvements and for recording suggested changes in the O&M manuals. Identify areas that may come under warranty or under the original construction contract.
4. Assist Owner in developing reports and documents and requests for services to remedy outstanding problems.

Systems to be Commissioned

Depending on specific project requirements, the following systems and assemblies will be commissioned:

1. Building automation system, including linkages to remote monitoring and control sites and any security-related control systems or interlocks
2. Heating, ventilating and air conditioning systems including stairwell pressurization systems, smoke control systems, fire/smoke dampers
3. Mechanical equipment alignment and vibration testing
4. Lighting control systems
5. Lightning protection
6. Refrigeration systems
7. Emergency power systems including generators and automatic transfer switches
8. Uninterruptible power supply (UPS) systems
9. Life safety systems (fire alarm, egress pressurization, fire detection and protection)
10. Room and building pressurization
11. Chemical fume hood and biological safety cabinet airflow
12. Normal power systems
13. Domestic and process water pumping and mixing systems
14. Equipment sound control systems and testing
15. Network and telecommunication systems
16. Communication systems including nurse call systems
17. Security systems
18. Irrigation systems
19. Plumbing systems
20. Conveying systems
21. Medical air, gas and vacuum systems
22. Building envelope
23. Other unique systems as directed by Owner

Attachments

Attachment 1 – Owner's Master Construction Specification Section 01 91 00, General Commissioning Requirements

SECTION 01 91 00 – GENERAL COMMISSIONING REQUIREMENTS

PART 1 – GENERAL

1.1. RELATED DOCUMENTS

- 1.1.1. The Contractor's attention is specifically directed, but not limited to, the Uniform General Conditions for University of Texas System Building Construction Contracts (UTUGCs) for other requirements.
- 1.1.2. Specifications throughout all Divisions of the Project Manual, which pertain to operable equipment and/or building systems, are directly applicable to this Section, and this Section is directly applicable to them.

1.2. SUMMARY

- 1.2.1. This Section establishes general and administrative requirements pertaining to commissioning of equipment, devices, and building systems installed on renovation and new construction projects delivered under various contracting methodologies. Technical requirements for commissioning of particular systems and components are established in the Contract Documents.
- 1.2.2. It is of primary concern that all operable systems installed in the Project perform in accordance with the Contract Documents and the specified Owner's operational needs. During Commissioning, the Contractor systematically demonstrates to the Owner that the operable systems are properly performing in strict accordance with the Contract Documents.
- 1.2.3. Commissioning requires cooperation and involvement of all parties throughout the construction process. The Contractor shall deliver a successful Commissioning process. Successful Commissioning requires that installation of all building systems complies with Contract Document requirements and that full operational check-out and necessary adjustments are performed prior to Substantial Completion, with the exception of deferred tests approved in advance by Owner.
- 1.2.4. Commissioning will encompass and coordinate traditionally separate functions of system documentation, Inspection, Prefunctional Checklists and start-up, control system calibration and point-to-point checkout, testing, adjusting, and balancing, Functional Performance Tests, Integrated System Tests, Contractor demonstration to the Owner, and training of Owner's personnel. This requires assembling all related documentation into one Commissioning Manual. Commissioning is intended to achieve the following specific objectives of the Contract Documents.
 - 1.2.4.1. Verify and document proper installation and design parameters of equipment, systems, and integrated systems.
 - 1.2.4.2. Ensure that operating and maintenance and Commissioning documentation requirements are complete.
 - 1.2.4.3. Provide Owner with functional buildings and systems that meet the Contract Document requirements at Substantial Completion.

1.3. DEFINITIONS

Capitalized terms used in this Section shall have the meanings as set forth in the Contract, the UTUGCs, or both, unless otherwise defined or modified below.

- 1.3.1. Commissioning: A systematic process confirming that building systems have been installed, properly started, and consistently operated in strict accordance with the Contract Documents, that all systems are complete and functioning in accordance with the Contract Documents at Substantial Completion, and that Contractor has provided Owner adequate system documentation and training. Commissioning includes Deferred Tests, as approved by Owner.
- 1.3.2. Commissioning Authority: Party employed on the Project, by Owner under a Separate Contract, to provide certain commissioning services as defined herein under Commissioning Authority's Role and Responsibilities. Commissioning Authority does not have authority to alter design or installation procedures without the written approval of Owner and the A/E.
- 1.3.3. Commissioning Plan: A document that provides the structure, schedule, and coordination plan for Commissioning during the construction phase and through the warranty period. The Commissioning Plan will describe the project and systems to be commissioned, Commissioning activities, procedures to follow throughout Commissioning, roles and responsibilities for each participant, and general description of testing and verification methods. The Commissioning Plan must satisfy all Test Requirements set forth in the Contract Documents.
 - 1.3.3.1 Download an electronic version of the Commissioning Plan Template for submittal purposes at the following website:
<http://www2.mdanderson.org/depts/cpm/standards/templates/CommissioningTemplate.zip>
- 1.3.4. Commissioning Team: Working group made up of representative(s) from the A/E, Contractor, Test, Adjust, and Balance Firm, Building Automation System vendor, specialty manufacturers and suppliers, Owner, and Commissioning Authority. Contractor will provide ad-hoc representation of Subcontractors on the Commissioning Team as required for implementation of the Commissioning Plan.
- 1.3.5. Deferred Tests: Functional Performance or Integrated System Tests performed after Substantial Completion, with Owner's approval, due to seasonal requirements, site conditions, or both, that prohibit the test from being performed prior to Substantial Completion.
- 1.3.6. Deficiency: Condition of a component, piece of equipment, or system that is not in compliance with the Contract Documents.
- 1.3.7. Factory Testing: Testing of equipment at the factory, by factory personnel with an Owner's representative present, if deemed necessary by Owner.
- 1.3.8. Functional Performance Test: Test of dynamic function and operation of equipment and systems executed by Contractor. Systems are tested shall be various modes, such as during low cooling or heating loads, high loads, component failures, unoccupied, varying outside air temperatures, life safety conditions, power failure, etc. Systems are run through all specified sequences of operation. Components are verified to be responding in accordance with Contract Documents. Functional Performance Tests are executed after start-ups and Prefunctional Checklists are complete.
- 1.3.9. Functional Performance Test Procedures: Commissioning protocols and detailed test procedures and instructions in tabular and script-type format that fully describe system configuration and steps required to determine if the system is performing and functioning properly.
- 1.3.10. Integrated System Test: Test of dynamic function and operation of multiple systems. Integrated System Tests are conducted under various modes, such as fire alarm and

emergency situations, life safety conditions, power failure, etc. Systems are integrally operated through all specified sequences of operation. Components are verified to be responding in accordance with Contract Documents. Integrated System Tests are executed after Functional Performance Tests are complete and prior to Substantial Completion. Integrated System Tests provide verification that the integrated systems will properly function according to the Contract Documents.

- 1.3.11. Integrated System Test Procedures: Commissioning protocols and detailed test procedures and instructions in tabular and script-type format that fully describe system configurations and steps required to determine if the interacting systems are performing and functioning properly.
 - 1.3.12. Manual Test: Use of hand-held instruments, immediate control system readouts or direct observation to verify performance (contrasted to analyzing trend data to make the "observation").
 - 1.3.13. Non-Compliance Report (NCR): A tool used to document an item or condition that does not meet the Contract Documents.
 - 1.3.14. Prefunctional Checklist: A list of static inspections and material or component tests that verify proper installation of equipment (e.g., belt tension, oil levels, labels affixed, gages in place, sensors calibrated, etc.). The word Prefunctional refers to before Functional tests. Prefunctional Checklists must include the manufacturer's start-up checklist(s).
 - 1.3.15. Start-up: The activities where equipment is initially energized tested and operated. Start-up is completed prior to Functional Performance Tests.
 - 1.3.16. Test, Adjust, and Balance (TAB) Firm: The Owner may engage a Test, Adjust, and Balance Firm for the Project under a Separate Contract. When engaged for the Project, the TAB Firm shall be a part of the Commissioning Team and shall provide services as set forth in the Specifications.
 - 1.3.17. Test Requirements: Requirements specifying what systems, modes and functions, etc. must be tested. Test Requirements are not detailed test procedures. Test Requirements and acceptance criteria are specified in the Contract Documents.
 - 1.3.18. Training Plan: A detailed plan prepared by the Contractor, and reviewed by the Owner, that outlines the training activities, instructors, time durations, and system requirements in accordance with the Contract Documents and Commissioning Plan.
 - 1.3.19. Trending: Data collection of monitoring points using the Building Automation System or dataloggers.
- 1.4. COORDINATION
- 1.4.1. Commissioning Team:
 - 1.4.1.1. Owner's Members
 - 1.4.1.1.1. Representatives assigned by Owner's Designated Representative
 - 1.4.1.1.2. Commissioning Authority, when engaged for the Project.
 - 1.4.1.1.3. A/E.
 - 1.4.1.1.4. TAB Firm, when engaged for the Project.

1.4.1.2. Contractor's Members:

- 1.4.1.2.1. Individuals, each having authority to act on behalf of the entity they represent, explicitly organized to implement all Commissioning activities through coordinated actions.
- 1.4.1.2.2. Representatives of Contractor, including but not limited to, project manager and commissioning coordinator, Subcontractors, installers, and equipment suppliers. Owner must approve Contractor's commissioning coordinator.

1.4.2. Scheduling:

- 1.4.2.1. Contractor shall integrate all Commissioning activities into the Baseline Schedule and the Work Progress Schedule. All parties will address scheduling problems and make necessary notifications in a timely manner to expedite all Commissioning activities.
- 1.4.2.2. Contractor shall provide the initial schedule of primary Commissioning activities at the pre-commissioning meeting. Prior to the first Start-up or Prefunctional Checklist test occurring, Contractor shall have incorporated and integrated all Commissioning activities into the Baseline Schedule and Work Progress Schedule with appropriately linked predecessors and successors.

1.5. ROLES AND RESPONSIBILITIES

- 1.5.1. Roles and responsibilities of Commissioning Team members are provided in this Section to clarify the commissioning process.

1.5.2. Owner's Role and Responsibilities:

- 1.5.2.1. Review Specifications containing Commissioning requirements.
- 1.5.2.2. Provide Owner's Test Requirements to Commissioning Team.
- 1.5.2.3. Approve the Commissioning Plan, Training Program and Contractor's schedule for completing all Commissioning activities.
- 1.5.2.4. Participate in Commissioning activities, including the following:
 - 1.5.2.4.1. Commissioning Team meetings.
 - 1.5.2.4.2. Review and approve Commissioning Plan, Training Plan, Prefunctional Checklists, Functional Performance Test Procedures, Functional Performance Tests, Integrated System Test Procedures, Integrated System Tests, Deferred Tests, Trending, Training Plan and other Commissioning documents.
 - 1.5.2.4.3. Attendance at Contractor's training sessions in operation and maintenance of systems and equipment.
 - 1.5.2.4.4. Observation of Contractor's demonstration of systems and equipment operation.
 - 1.5.2.4.5.

- 1.5.3. Commissioning Authority's Role and Responsibilities, when engaged for the project.

- 1.5.3.1. Prepare and submit the Commissioning Plan for Owner's approval.

- 1.5.3.2. Review, comment and approve on Contractor's schedule for Commissioning activities.
- 1.5.3.3. Participate in Contractor-led Pre-Commissioning Meeting.
- 1.5.3.4. Conduct and document Commissioning Team meetings.
- 1.5.3.5. Perform site visits as necessary or in conjunction with Commissioning Team meetings to observe component and system installations. Attend selected Project progress meetings to obtain information on construction progress.
- 1.5.3.6. Review and comment on Submittals and coordination drawings applicable to systems being commissioned.
- 1.5.3.7. Review and comment on Contractor-prepared Prefunctional Checklist and other Contractor-prepared documents, including Operating and Maintenance Manuals and Training Plan.
- 1.5.3.8. Prior to equipment Start-ups, review the control sequences and coordinate with the Contractor and A/E in order to prepare the Functional Performance Test and Integrated System Test procedures.
- 1.5.3.9. Witness equipment Start-ups as executed by Contractor.
- 1.5.3.10. Write Functional Performance Test Procedures and Integrated System Test Procedures for Contractor's execution of tests.
- 1.5.3.11. Witness, verify, and document results of Functional Performance Tests and Integrated System Tests.
- 1.5.3.12. Coordinate resolution of Deficiencies identified during Commissioning, Deferred Tests, and during the warranty period.
- 1.5.3.13. Review Contractor's Training Plan.
- 1.5.3.14. Compile Commissioning documentation for Contractor-prepared Commissioning and Closeout Manual including test documentation, Deficiency reports and solution results; non-compliance issue tracking; and recommendations on continuous commissioning, best practices, and preventive maintenance.
- 1.5.4. Architect/Engineer's Role and Responsibilities:
 - 1.5.4.1. Attend Commissioning Team meetings.
 - 1.5.4.2. Review and Approve Commissioning Plan, Training Plan, Prefunctional Checklist, Functional Performance Test Procedures, Functional Performance Tests, Integrated System Test Procedures, Integrated System Tests, Deferred Tests, and other Commissioning documents.
 - 1.5.4.3. Review and Approve Contractor's Training Plan.
 - 1.5.4.4. Review and Approve Test, Adjust, and Balance plan as defined in Specification 23 05 90 and 23 05 93.
 - 1.5.4.5. Approve technical requirements for correction of Deficiencies identified during Commissioning, Deferred Tests, and during the warranty period.
 - 1.5.4.6. Review Operating and Maintenance Manuals.

1.5.5. Contractor's Role and Responsibilities:

- 1.5.5.1 Produce for Owner, Commissioning Authority and A/E's approval, the Commissioning Plan, Prefunctional Checklist, Functional Performance Test Procedures, Integrated System Test Procedures, Equipment Matrix of all devices, systems and equipment supplied, and other Commissioning documents.
 - 1.5.5.1.1 Commissioning Authority will produce the Commissioning Plan, project-specific Functional Performance Test Procedures, and project-specific Integrated System Test Procedures.
 - 1.5.5.1.2 Contractor shall review and provide comments on documents produced by the Commissioning Authority, and shall accept the Commissioning Plan, Functional Performance Test Procedures, and Integrated System Test Procedures as approved by Owner.
- 1.5.5.2 As the Project progresses, add specific checklists, test procedures, schedules, recorded results, action lists, signoff sheets and other documents for the Commissioning and Close-out Manual. Administer updates to the Commissioning and Close-out Manual with the intent that all Commissioning Team members will have up-to-date documentation as the Commissioning progresses.
- 1.5.5.3 Provide an individual, subject to Owner's approval, experienced in construction and Commissioning of building systems to organize, schedule, conduct, and document the Commissioning Plan and the Commissioning process. The Contractor shall assign this individual to act as the Contractor's Commissioning Coordinator. The Contractor's Commissioning Coordinator may have additional duties such as MEP Coordinator, but not as Project Manager or Superintendent. Submit qualifications demonstrating the Commissioning Coordinator's technical expertise and experience to the Owner for approval. In the event that Contractor chooses to subcontract its Commissioning obligations, then Contractor must submit the subcontractor's qualifications and personnel to Owner for Owner's approval.
- 1.5.5.4 Furnish and install systems that meet all requirements of the Contract Documents. Perform construction inspections, Start-ups, Prefunctional Checklists, Functional Performance Tests, and Integrated System Tests in accordance with the Contract Documents and Commissioning Plan. Correct any Deficiencies identified during these processes.
- 1.5.5.5 Ensure that Commissioning activities are incorporated into the Baseline Schedule and the Work Progress Schedule.
- 1.5.5.6 Submit inspection and Start-up documentation to Owner in accordance with this Section – 01 91 00 General Commissioning Requirements, Section 01 45 00 – Project Quality Control, Section 01 77 00 – Project Close-out Procedures, Specifications, and the Commissioning Plan.
- 1.5.5.7 Furnish copies of all Submittals, manufacturers' literature, maintenance information, and any other information required for the Commissioning process. Contractor must submit to Owner installation and checkout materials actually shipped inside equipment and actual field checkout sheet forms used by factory or field technicians. Cross-reference Section 01 31 00 – Project Administration and Section 01 77 00 – Project Close-out Procedures (Operating and Maintenance Manuals) for additional required documentation.
- 1.5.5.8 Schedule and conduct pre-installation meetings and pre-commissioning meetings with Subcontractors and equipment suppliers related to Commissioning. Contractor must

invite A/E and Owner to attend the pre-installation meetings and pre-commissioning meetings.

- 1.5.5.9 Provide qualified personnel, including Subcontractors as required, to fully perform the testing and operational demonstrations required by the Contract Documents and the Commissioning Plan, including any Deferred Tests or re-testing related to warranty work.
- 1.5.5.10 Correct Deficiencies identified during any stage of commissioning prior to proceeding, unless approved by Owner.
- 1.5.5.11 Provide training to Owner. Coordinate Subcontractor and vendor participation in training sessions.
- 1.5.5.12 Perform Deferred Tests and make necessary amendments to Operating and Maintenance Manuals and Record Documents for applicable issues identified during the Deferred Tests.
- 1.5.5.13 Contractor shall be responsible for the following activities, and may contract with a Building Automation System (BAS) vendor for these activities.
 - 1.5.5.13.1 Provide on-site technician skilled in software programming and hardware operation to exercise sequences of operation and to correct controls deficiencies identified during Commissioning. Contractor must provide Record Documents reflecting correction of controls deficiencies identified during Commissioning.
 - 1.5.5.13.2 Provide instrumentation, computer, software and communication resources necessary to demonstrate compliance with the Contract Documents and the Commissioning Plan during the Prefunctional Checklist activities, Functional Performance Tests and Integrated System Tests of Building Automation System equipment.
 - 1.5.5.13.3 Attend pre-commissioning meetings and Commissioning meetings including seasonal, post occupancy, or deferred Commissioning meetings and activities as deemed appropriate by Owner. Prepare BAS Training Plans with Commissioning Team and perform training as specified in Contract Documents and Commissioning Plan.
 - 1.5.5.13.4 Maintain comprehensive system calibration and checkout records. Submit records to Owner.
 - 1.5.5.13.5 Set up, capture, analyze, and report trend logs as requested by Owner to substantiate proper systems operation.
- 1.5.6 Test, Adjust, and Balance Firm's Role and Responsibilities, when engaged for the project:
 - 1.5.6.1 Attend pre-commissioning meetings and Commissioning Team meetings including seasonal, post occupancy, or deferred Commissioning meetings and activities as deemed appropriate Owner.
 - 1.5.6.2 Submit Test, Adjust, and Balance Plan and forms describing methodology for performance of Test, Adjust, and Balance procedures specific to this Project to Owner/Engineer of record for review.
 - 1.5.6.3 Cooperate with Contractor and Contractor's Building Automation System vendor, if any, during Commissioning.

- 1.5.6.4 Re-balance as needed to correct any Deficiencies identified during Commissioning.
- 1.5.6.5 Review BAS graphics and performance tests for accuracy, note deficiencies.
- 1.5.6.6 Provide T A B data to Contractor and Commissioning Team before Contractor begins Functional Performance Tests.

1.6 EQUIPMENT DOCUMENTATION REQUIREMENTS

1.6.1 Equipment Matrix:

- 1.6.1.1 Contractor shall submit a complete listing of all equipment, devices, and systems, with certain information as herein noted, within twenty-one (21) days of issuance of the Notice to Proceed with Construction and at least seven (7) days prior to submission of the first Application for Payment. This listing shall be referred to as the Equipment Matrix. Download an electronic version of this spreadsheet in Microsoft Excel format to use as a template for submittal purposes at the following website:

<http://www2.mdanderson.org/depts/cpm/standards/templates/EquipmentMatrixTemplate.xlsx>

- 1.6.1.2 Contractor shall coordinate Contractor's response to this requirement with Contractor's preparation of the Baseline Schedule, Work Progress Schedule, Submittal Schedule, Schedule of Values, and list of all equipment. Refer to Section 01 32 00 – Project Planning and Scheduling and Section 01 31 00 – Project Administration.

- 1.6.1.2.1 To the extent practical, Contractor should minimize redundant efforts in favor of a single, organized approach to all documentation required for Project equipment, systems, and devices.

- 1.6.1.3 The Equipment Matrix shall be formatted as a spreadsheet per Owner's template, with capability for printing various selected data columns to meet documentation requirements at various stages of construction, and for different purposes as required by various Technical Sections. The Equipment Matrix shall be updated as the Project progresses and submitted periodically as requested by Owner. Provide Owner with an electronic version of the final approved Equipment Matrix at or before Project Close-out.

- 1.6.1.3.1 Contractor may elect to combine the Submittal Schedule and Equipment Matrix into one spreadsheet (with multiple tabbed sheets) that Contractor updates as the Project progresses.

- 1.6.1.4 The Equipment Matrix shall identify all operable devices and equipment grouped by the Construction Specification Institute (CSI) Master Format under the system they are primarily categorized under. When sorted by the column for system identification, the resulting printout must identify all system components, regardless of whether they are mechanical, electrical, or otherwise.

- 1.6.1.5 Contractor shall continue to update the Equipment Matrix for each device or system. Owner will assist the Contractor in collecting information on Owner-furnished and Contractor-installed equipment. The Equipment Matrix shall include the following column headings, as a minimum, for each device per specification 20 05 53:

- 1.6.1.5.1 Equipment Plan Designation: Equipment Naming Convention (equipment acronym and sequential number) from Contract Documents.

- 1.6.1.5.2 Specification Section number.

- 1.6.1.5.3 Building ID: Shall be obtained from Owner.
- 1.6.1.5.4 Location / Room Number: Owner's Wayfinding Codes from Owner's Space Management database referring to room number or building location. Shall be obtained from Owner.
- 1.6.1.5.5 Asset Short Description: The asset short description is to be a very short textual description. Type a brief, identifying description for the asset followed by a comma then the "Equipment Plan Designation". If multiple units, of same type, include equipment ID number from the Construction Documents. This field is limited to 80 characters. Example= Pump, Secondary Chilled Water, SCHWP-01-2B.
- 1.6.1.5.6 Asset Long Description: A more complete description of the asset to make it clearer to the Owner's maintenance group. Include any distinguishing details relevant to identifying the asset from other identical units (color, physical location within a room, and so on. Example: Horizontal split case pump located in North end of room.
- 1.6.1.5.7 System Level Asset: Type of system that the equipment serves. Shall be obtained from Owner. Example: Domestic Hot Water
- 1.6.1.5.8 Product submittal reference number(s).
- 1.6.1.5.9 Product submittal approval date.
- 1.6.1.5.10 Name of installing Subcontractor.
- 1.6.1.5.11 Installing Subcontractor contact information.
- 1.6.1.5.12 Equipment Manufacturer.
- 1.6.1.5.13 Equipment model number.
- 1.6.1.5.14 Equipment serial number.
- 1.6.1.5.15 Emergency Power: Note whether equipment is served from emergency power system.
- 1.6.1.5.16 Equipment manufacturer's representative (Vendor).
- 1.6.1.5.17 Equipment manufacturer's representative (Vendor) contact information.
- 1.6.1.5.18 Manufacturer's purchase order number.
- 1.6.1.5.19 Asset Cost: Full asset cost includes all installation costs to bring asset to full operating condition (vendor commissioning). Cost of controls/panels used to operate the asset. Cost of all supporting infrastructure involved with setting up the asset. Support framework or pad site. Piping and/or conduit runs (chiller supply water/electrical).
- 1.6.1.5.20 Estimated replacement cost: Replacement cost of the equipment only. This cost may be lower than the initial asset cost, because it does not include certain one-time costs such as piping or conduit runs, control panels, base pads.
- 1.6.1.5.21 Start-up Date: Date of initial equipment or device start-up by the Contractor.
- 1.6.1.5.22 Prefunctional Checklist completion date.

- 1.6.1.5.23 Functional Performance Test completion date.
- 1.6.1.5.24 Integrated Systems Test completion date.
- 1.6.1.5.25 Substantial Completion date.
- 1.6.1.5.26 Manufacturer's warranty start date.
- 1.6.1.5.27 Warranty End Date: The date on which the asset warranty ends.

1.6.1.6 Owner will furnish the following additional information; allow column headings for this data:

- 1.6.1.6.1 Asset Number
- 1.6.1.6.2 Parent ID
- 1.6.1.6.3 Asset Group Code
- 1.6.1.6.4 Cost Center
- 1.6.1.6.5 Critical Factor
- 1.6.1.6.6 Estimated Asset Life
- 1.6.1.6.7 Asset Status
- 1.6.1.6.8 Work Group
- 1.6.1.6.9 Work Area

PART 2- EXECUTION

2.1 COMMISSIONING PLAN

- 2.1.1 When a CxA has not been engaged for the project, Contractor shall submit draft Commissioning Plan to Owner and A/E for review within twenty-one (21) days of issuance of the Notice to Proceed with Construction or within ninety (90) days prior to initial installation of materials or equipment that will undergo Start-up and Functional Performance Tests, as directed by Owner.
- 2.1.2 Contractor shall allow in the Work Progress Schedule a minimum of twenty-one (21) days after the receipt by the Owner of the draft Commissioning Plan Submittal for the Owner to submit review comments to Contractor.
- 2.1.3 Contractor shall incorporate Owner's review comments and resubmit the revised Commissioning Plan to Owner within fourteen (14) days of receipt of the review comments.
- 2.1.4 Contractor shall allow in the Work Progress Schedule an additional fourteen (14) days for Owner's approval of the resubmitted Commissioning Plan that incorporates Owner's review comments.
- 2.1.5 **PRE-COMMISSIONING MEETING**
- 2.1.6 Upon obtaining Owner's approval of the Commissioning Plan, Contractor shall schedule, plan, and conduct a Pre-Commissioning Meeting with all parties involved in Commissioning. This meeting should include the major Subcontractors, specialty

manufacturers/suppliers, A/E, Test, Adjust, and Balance Firm, Commissioning Authority, and Owner's representatives as participants.

2.1.7 Contractor shall prepare for the Pre-Commissioning Meeting by creating drafts of the following documents with input from the Owner. Commissioning Authority, when engaged for the project, will prepare the Commissioning Plan, Functional Performance Test Procedures and Integrated System Test Procedures.

2.1.7.1 Approved Commissioning Plan including the Equipment Matrix and the Close-out and Documentation Matrix as defined in Section 01 77 00 – Project Close-out Procedures.

2.1.7.2 Baseline Schedule and Work Progress Schedule incorporating Commissioning activities.

2.1.7.3 Prefunctional Checklists.

2.1.7.4 Functional Performance Test Procedures.

2.1.7.5 Integrated System Test Procedures.

2.1.8 Contractor or Commissioning Authority when engaged for the project shall conduct the Pre-Commissioning Meeting and review all aspects of the Commissioning Plan. All documentation will be discussed and all test procedures and forms reviewed for approval with the Owner. Contractor shall prepare an outline noting responsibilities of the various parties involved in Commissioning for review at this meeting.

2.1.9 The Commissioning Plan shall be reviewed with all attendees and the scope of work discussed. Contractor should be prepared to distribute copies of the pertinent sections to the various Subcontractors involved in Commissioning.

2.1.10 Contractor shall present Commissioning target dates for the Project. These dates and durations shall be incorporated in the Baseline Schedule and the Work Progress Schedule in accordance with Section 01 32 00 – Project Planning and Scheduling.

2.2 REPORTING

2.2.1 Contractor shall provide status reports to Owner at frequencies directed by Owner.

2.2.2 Contractor shall communicate at least monthly with all members of the Commissioning Team, keeping them apprised of Commissioning progress and scheduling changes.

2.2.3 Contractor shall submit Non-Compliance and Deficiency reports to Owner within five (5) days of the date the Non-Compliance or Deficiency is first observed. This includes responses to items noted by the Commissioning Authority.

2.2.4 Contractor shall provide final Commissioning documentation to Owner in accordance with Section 01 77 00 – Project Close-out Procedures, which will become part of the Commissioning and Close-out Manual.

2.3 TEST EQUIPMENT

2.3.1 Contractor shall provide all specialized tools, test equipment and instruments required to execute start-up, checkout, and testing of equipment.

2.3.2 All specialized tools, test equipment and instruments required to execute start-up, checkout, and testing of equipment shall be of sufficient quality and accuracy to test and measure

system performance within specified tolerances. A testing laboratory must have calibrated test equipment within the previous twelve (12) months. Calibration shall be NIST traceable. Contractor must calibrate test equipment and instruments according to manufacturer's recommended intervals and whenever the test equipment is dropped or damaged. Calibration tags must be affixed to the test equipment or certificates readily available.

2.4 PRE FUNCTIONAL CHECKLIST

2.4.1 Contractor shall provide a Prefunctional Checklist for each system to Owner, Commissioning Authority and A/E for review.

2.4.1.1 Contractor shall provide a draft version of each individual Prefunctional Checklist at a pre-installation meeting for the system. Based on discussions at a pre-installation meeting and subsequent as-constructed conditions, Contractor shall amend and revise each Prefunctional Checklist as appropriate prior to requesting system inspection from the Owner.

2.4.1.2 Contractor shall submit the final approved Prefunctional Checklist and all supporting documentation prior to requesting Start-up and Functional Performance Tests.

2.4.2 Contractor shall review the installation and Contract Documents for each system and shall provide written confirmation of the following if not included in the Prefunctional Checklist.

2.4.2.1 All required test reports and certifications have been submitted and accepted by Owner. Contractor must provide certification of acceptance from manufacturer's representative.

2.4.2.2 Evidence that A/E has approved all Submittals for each component device.

2.4.2.3 All valve charts, wiring diagrams, control schematics, electrical panel directories, etc. have been submitted and approved, and that all devices have been installed in accordance with the Contract Documents.

2.4.2.4 All tabulated data has been submitted for each system and for each device.

2.4.2.5 Each component device has been installed in accordance with applicable codes, the Contract Documents, and manufacturer's written recommendations.

2.5 INITIAL START-UP

2.5.1 Start-up of Independent Devices:

2.5.1.1 Prior to Start-up, Contractor shall not energize or activate, or allow to be energized or activated, any operable device until Contractor has verified to Contractor's own satisfaction that all Contract Document requirements for the operable device have been met and have been documented in the Prefunctional Checklists.

2.5.1.2 Contractor may energize or start-up independent devices for operational check-out and testing only after Contractor and manufacturer's representative or engineering technician (if required by the Contract Documents) have inspected and accepted the installation. The installation must not vary from provisions of the applicable Specifications and the manufacturer's written recommendations for Start-up.

2.5.1.3 When Start-up of equipment or systems have the potential to impact Owner's daily operations or when the Contract Documents require the Owner to witness Start-up, Contractor must provide advance notice to Owner in accordance with the procedures outlined in the Contract Documents prior to Start-up. Contractor may not proceed with Start-up without the Owner's written approval.

2.5.2 Start-up of Building Systems:

2.5.2.1 Contractor shall not energize or activate any building system until the following conditions have been met:

2.5.2.1.1 Contractor has verified that all wiring and support components for equipment are complete and have been tested in accordance with the technical specifications and the manufacturer's written recommendations.

2.5.2.1.2 Contractor has verified that each component device has been checked for proper lubrication, vibration isolation, drive rotation, belt tension, control sequence, or other conditions that may cause damage.

2.5.2.1.3 Contractor has verified that all tests, meter readings, and specified electrical characteristics agree with those required by the equipment or system manufacturer and are in compliance with applicable Contract Documents.

2.5.2.1.4 Contractor has received approved building system final inspection reports. Refer to Section 01 45 00 – Project Quality Control.

2.5.2.1.5 Contractor has provided the Owner and A/E with a written fourteen (14) day notice of intent to start-up the system for operational check-out. The notification procedures outlined in the Contract Documents shall be utilized.

2.5.2.2 Contractor shall perform Start-up under supervision of the responsible manufacturer's representative in accordance with manufacturer's instructions and specification requirements.

2.5.2.3 Contractor shall coordinate and schedule system(s) Start-up in a timely manner so that each component or system can operate for a period of time that is sufficient to evaluate and adjust performance as necessary. All building systems shall be operational and must have been successfully inspected by Owner, through attendance and concurrence with results of the Prefunctional Checklists or as otherwise approved by Owner, prior to the Contractor proceeding with Functional Performance Tests.

2.5.2.4 Contractor shall clearly list outstanding items or initial Start-up and Prefunctional Checklists items not completed successfully. Contractor shall obtain from Subcontractor completed forms documenting any outstanding Deficiency within five (5) days of completion of tests.

2.5.2.5 Contractor shall review completed Deficiency forms to determine if outstanding items prevent execution of the Functional Performance Tests and shall issue any necessary responses to the Commissioning Team.

2.6 REQUEST FOR START-UP AND FUNCTIONAL PERFORMANCE TESTS

2.6.2 Contractor shall notify Owner to request: (1) initial energization or operation of equipment and systems; and (2) an inspection of any system or system component for readiness prior to Functional Performance Tests.

2.6.2.1 Request for Start-up. Contractor must certify that: (1) electrical and mechanical connections have been installed and are safe for initial Start-up; (2) Contractor has complied with Owner's utilities outage notifications; and (3) Start-up will not harm Owner's daily routine operations.

2.6.2.2 Contractor shall complete the applicable Prefunctional Checklist(s) signed by Contractor and CxA if engaged for the project, evidencing Contractor's own thorough inspection of

the system and completion of Start-up activities required by the Contract Documents and the Commissioning Plan. Contractor shall submit required supporting documentation, including but not limited to, factory start-up forms, operational testing data, and certifications.

2.6.2.3 Request for Functional Performance Test. Contractor must certify that the Contractor has verified that the installation, Start-up, Prefunctional Checklists, and initial operation of the system or component are in accordance with the Contract Documents and the Commissioning Plan including manufacturer's instructions, manufacturer's requirements for maintenance of warranty, and verification that the system is ready for Functional Performance Tests. Contractor must certify that the manufacturer's representative has verified that the installation, Start-up, and initial operation of the system or component are in accordance with the manufacturer's published recommendations.

2.6.2 Contractor must obtain Owner's approval prior to proceeding with the Start-up or Functional Performance Test. All construction inspections must be completed. Any and all Deficiencies and all items included in the Non-Compliance Report have been brought into compliance with the Contract Documents..

2.7 FUNCTIONAL PERFORMANCE TESTS

2.7.2 Objective and Scope:

2.7.2.1 The objective of a Functional Performance Test is to demonstrate that the entire individual system operates according to the Contract Documents.

2.7.2.2 Contractor shall operate each system through all modes of operation (occupied, unoccupied, warm-up, cool-down, etc.) for specified system responses. Contractor is required to demonstrate to Owner's satisfaction each operational sequence.

2.7.2 Development of Functional Performance Test Procedures:

2.7.2.1 The purpose of a Functional Performance Test is to verify and document compliance with the stated criteria of acceptance. Contractor or Commissioning Authority if engaged for the project shall develop specific script-type test procedures and associated test forms to verify and document proper operation of each piece of equipment and system.

2.7.2.2 Contractor or Commissioning Authority if engaged for the project shall prepare Functional Performance Test Procedure forms as part of the Commissioning Plan. Once approved by Owner, Contractor shall utilize the forms for all testing activities.

2.7.2.3 Functional Performance Test Procedure forms must include the following:

2.7.2.3.1 System and equipment or component name(s).

2.7.2.3.2 Equipment location and identification number as identified in the Equipment Matrix.

2.7.2.3.3 Unique test identification number and reference to unique Prefunctional Checklist identification numbers for the equipment.

2.7.2.3.4 Date and time of test.

2.7.2.3.5 Project name.

2.7.2.3.6 Participating parties.

- 2.7.2.3.7 Specific sequence of operation or other specified parameters, including performance data being verified.
 - 2.7.2.3.8 Instructions for setting up a Functional Performance Test.
 - 2.7.2.3.9 Specific script-type, step-by-step procedures to perform a Functional Performance Test, in a clear, sequential and repeatable format that is customized for the system being tested.
 - 2.7.2.3.10 A Pass / Fail checkbox (or data entry box as appropriate) for clearly indicating whether or not proper performance of each part of a Functional Performance Test was achieved and space for actual readings.
 - 2.7.2.3.11 Section for comments.
 - 2.7.2.3.12 Signatures and date block for participant and Owner approvals.
- 2.7.2 Contractor shall operate, or cause to be operated, each system, device, or equipment item, both intermittently and continuously, for a duration period as indicated in the Specification(s) for each item and/or in accordance with the manufacturer's written recommendations, the Contract Documents and the Commissioning Plan.
- 2.7.2 Contractor shall operate each component device and each building system to the full extent of its capability, from minimum to maximum, and under automatic control and manual control.
- 2.7.2 Contractor and manufacturer's representatives shall supervise and coordinate adjustments and balancing of all devices and systems for proper operation prior to requesting a Functional Performance Test(s).
- 2.7.2.1 Where final balancing of a system is to be performed by Owner, such as final air balancing, Contractor shall provide all services indicated in the applicable Specifications and under this Section, including the following, prior to Owner's final balancing.
 - 2.7.2.1.1 Operational verification of all component devices and the total system, including automatic controls when applicable. Operational verification includes verification that all motors, fans, dampers, and other operable devices are performing in compliance with Specifications throughout their operable range and that all devices are controlled as described in the specified sequence of operation.
 - 2.7.2.1.2 All tabulated data, motor amperage readings, valve tag verifications, and other data required by the Specifications.
 - 2.7.2.2 Where final balancing of a system or particular components of a system are not specifically indicated to be performed by Owner, Contractor shall provide final balancing and adjustments for operation within specified tolerances prior to Functional Performance Test of such system.
- 2.7.2 Coordination and Scheduling.
- 2.7.2.1 Members of the Commissioning Team, including Owner, may observe Functional Performance Tests of equipment components and systems. Contractor shall provide written notice to Owner at least ten (10) days prior to Functional Performance Tests of equipment components and systems. Contractor shall notify Owner in advance of any changes to the Functional Performance Test schedule. Owner may require Contractor to

reschedule Functional Performance Tests to ensure availability of Owner's representative(s).

2.7.2.2 Contractor conducts Functional Performance Tests after system Start-up and Pre-functional Checklists are satisfactorily completed and have been approved by Owner. Air balancing and water balancing shall be completed before Functional Performance Tests.

2.7.2.3 Contractor conducts Integrated System Tests after Functional Performance Tests are satisfactorily completed and have been approved by Owner.

2.8 INTEGRATED SYSTEM TESTS

2.8.1 Objective and Scope:

2.8.1.1 The objective of an Integrated System Test is to demonstrate that each system operates jointly with other systems according to the Contract Documents.

2.8.1.2 Contractor shall operate each system jointly with other systems, through selected modes of operation (fire alarm integration with HVAC, emergency power modes, equipment failures among related systems, etc.) for specified system responses. Contractor is required to demonstrate to Owner's satisfaction each operational sequence.

2.8.2 Development of Integrated System Test Procedures:

2.8.2.1 The purpose of an Integrated System Test is to verify and document compliance with the stated criteria of acceptance. Contractor or Commissioning Authority if engaged for the project shall develop specific script-type test procedures and associated test forms to verify and document proper operation of each piece of equipment and system, jointly and independently of other systems.

2.8.2.2 Contractor or Commissioning Authority if engaged for the project shall prepare Integrated System Test Procedure forms as part of the Commissioning Plan. Once approved by Commissioning Team., Contractor shall utilize the forms for all testing activities.

2.8.2.3 Integrated System Test Procedure forms must include the following.

2.8.2.3.1 System and equipment or component name(s).

2.8.2.3.2 System and equipment location and identification number as identified in the Equipment Matrix.

2.8.2.3.3 Unique test identification number and reference to unique Functional Performance Test identification numbers for the system and equipment.

2.8.2.3.4 Date and time of test.

2.8.2.3.5 Project name.

2.8.2.3.6 Participating parties.

2.8.2.3.7 Specific sequence of operation or other specified parameters, including performance data being verified.

2.8.2.3.8 Instructions for setting up an Integrated System Test.

- 2.8.2.3.9 Specific script-type, step-by-step procedures to perform an Integrated System Test, in a clear, sequential and repeatable format that is customized for the system being tested.
- 2.8.2.3.10 A Pass / Fail checkbox (or data entry box as appropriate) for clearly indicating whether or not proper performance of each part of an Integrated System Test was achieved and space for actual readings.
- 2.8.2.3.11 Section for comments.
- 2.8.2.3.12 Signatures and date block for participant and Owner approvals.
- 2.8.3 Contractor shall operate, or cause to be operated, each system, device, or equipment item, both intermittently and continuously, for a duration period as indicated in the Specifications for each item and in accordance with the manufacturer's written recommendations, the Contract Documents and the Commissioning Plan.
- 2.8.4 Coordination and Scheduling.
 - 2.8.4.1 Members of the Commissioning Team, including Owner may observe Integrated System Tests of equipment components and systems. Contractor shall provide written notice to Owner at least fourteen (14) days prior to Integrated System Tests of equipment components and systems. Contractor shall notify Owner and A/E in advance of any changes to the Integrated System Test schedule. Owner may require Contractor to reschedule Integrated System Tests to ensure availability of Owner's representative(s).
 - 2.8.4.2 Contractor conducts Integrated System Tests after Functional Performance Tests are satisfactorily completed and have been approved by Owner.

2.9 DOCUMENTATION AND NON-CONFORMANCE

2.9.1 Documentation:

- 2.9.1.1 Contractor shall witness and document the results of all Functional Performance Tests and Integrated Systems Tests using specific procedural forms developed for that purpose or an approved electronic database program. Prior to testing, Contractor shall submit these forms to the Owner and A/E for review and approval. Contractor will include the completed, filled-out forms in the Commissioning and Close-out Manual.

2.9.2 Non-Conformance:

- 2.9.2.1 Contractor shall record results of Functional Performance Tests and Integrated System Tests. Contractor or Commissioning Authority if engaged for the project shall report all Deficiencies and non-conformance issues to Commissioning Team.in accordance with the procedures outlined in the Commissioning Plan.
- 2.9.1.2 At the sole discretion of Owner, Owner may permit Contractor to make corrections of minor Deficiencies observed during a Functional Performance Test or during an Integrated System Test. However, the Contractor must document the Deficiency and resolution on the appropriate report form.
- 2.9.1.3 Contractor shall make every effort to expedite testing and minimize unnecessary delays, while not compromising the integrity of a Functional Performance Test or an Integrated Systems Test.
- 2.9.1.4 Contractor, A/E and Owner will attempt to resolve Deficiencies in the following manner.

- 2.9.1.4.1 When there is no dispute about a Deficiency and Contractor accepts responsibility for correction.
 - 2.9.1.4.1.1 Commissioning Authority if engaged for the project or Contractor documents the Deficiency and the corrective actions, and then proceeds to another test or sequence. A Deficiency report is submitted to Owner. Contractor corrects the Deficiency, completes the statement of correction form certifying that the equipment or system is ready for retesting, and sends the certification to Owner.
 - 2.9.1.4.1.2 Contractor reschedules test with Owner.
- 2.9.1.4.2 When there is a dispute about whether or not the test indicates a Deficiency or the Contractor's responsibility for correction of the apparent Deficiency.
 - 2.9.1.4.2.1 Commissioning Authority if engaged for the project or Contractor documents the apparent Deficiency. A Deficiency report is submitted to Owner, including the apparent Deficiency.
 - 2.9.1.4.2.2 Contractor facilitates resolution of the Deficiency and provides recommendations to the Owner. Contractor and Owner may bring other parties into the discussions as needed. Final technical interpretive authority is with the A/E. Final acceptance authority is with the Owner.
 - 2.9.1.4.2.3 Contractor documents the resolution process.
 - 2.9.1.4.2.4 If Owner and the A/E agree with Contractor's interpretation and proposed resolution, Contractor forwards response to Owner. Contractor reschedules test with Owner. Contractor must repeat this process until satisfactory performance and Owner's approval is obtained.

2.10 DEMONSTRATION AND OWNER TRAINING

- 2.10.1 Contractor, in coordination with Owner shall develop the Training Plan with project specific requirements for Owner Training, after reviewing the different systems to be installed and commissioned. The purpose of the Training Plan is to specifically communicate the required content and training durations required by the Owner based upon the type of equipment and the Owner's past experience.

- 2.10.2 Refer to Section 01 79 00 - Demonstration and Training for specific requirements.

2.11 DEFERRED TESTS

2.11.1 Deferred Tests:

- 2.11.1.1 Deferred Tests shall be identified in writing and shall be approved by Owner.
 - 2.11.1.1.1 Contractor shall complete Deferred Tests as part of this Contract during the Warranty Period. Contractor shall schedule this activity with Owner. Contractor shall perform tests and document and correct Deficiencies. Owner may observe the tests and review and approve test documentation and Deficiency corrections.
 - 2.11.1.1.2 Contractor shall incorporate final updates to the Commissioning and Close-out Manual.

- 2.11.1.1.3 If any check or test cannot be completed prior to Substantial Completion due to the building structure, required occupancy condition, or other condition, performance of such test may be delayed to later in the Warranty Period, upon approval of the Owner.
- 2.11.1.1.4 Commissioning of systems which provide Life Safety (passive or active) to the building and its occupants shall not be deferred unless occupancy is deferred.

2.12 COMMISSIONING DOCUMENTATION

- 2.12.1 Contractor shall compile and organize all Commissioning documentation into a Commissioning and Close-out Manual and deliver to the Owner as specified in Section 01 77 00 – Project Close-out Procedures.
- 2.12.2 The Commissioning and Close-out Manual submitted to Owner shall contain all Commissioning documentation, including, but not limited to:
 - 2.12.2.1 The Commissioning Plan.
 - 2.12.2.2 Final Baseline Schedule filtered to show only the Commissioning activities.
 - 2.12.2.3 Completed Equipment Matrix.
 - 2.12.2.4 Completed Prefunctional Checklists with all required attachments,
 - 2.12.2.5 Functional Performance Test Procedures and results.
 - 2.12.2.6 Integrated System Test Procedures and results.
 - 2.12.2.7 Training Plan and all supporting documentation. Refer to Section 01 79 00 – Demonstration and Training for specific requirements.
 - 2.12.2.8 Deficiency reports and solution results.
 - 2.12.2.9 Recommendations on continuous Commissioning, best practices, and preventive maintenance.
 - 2.12.2.10 Refer to Section 01 77 00 – Project Close-out Procedures for additional Close-out documentation to be included in the Commissioning and Close-out Manual.

END OF SECTION 01 91 00

Attachment No. 1 – Equipment Matrix

Download an Electronic Version of the Equipment Matrix template at the following Internet Address:

<http://www2.mdanderson.org/depts/cpm/standards/supp.html#templates>

		Project Name Equipment Matrix																		
Integrated System		Equipment Manufacturer	Equipment Model Number	Equipment Serial Number	Emergency Power	Manufacturer / Vendor Representative	Manufacturer / Vendor Contact Information	Manufacturer PO Number	Estimated Replacement Cost	Start-Up Date(s)	Prefunctional Checklist Approved	Functional Performance Test Approved	Integrated Systems Test Approved	Substantial Completion Date	Warranty Start Date	Warranty Duration (Years)	Short Description (from MDACC)	Mainsewer Work Group (from MDACC)	Mainsewer Group Code (from MDACC)	Estimated Service Life (from MDACC)
I	System																			
S	Component																			
C	Unit																			
	U.1																			
	U.2																			
	U.3																			
I	MECHANICAL																			
S	CWS- Chilled Water System																			
C	Pump																			
	U.1																			
S	AHU- Air Handling Units																			
C	VFD																			
	U																			
C	Air Terminal Units																			
	U																			
S	FCU- Fan Coil Units																			
C																				
S	CRAC- Computer Room Air Condition Units																			
C																				
S	Fans																			
C																				
	U																			
I	PLUMBING																			
S	Domestic Water System																			
C																				
	U																			
	U.1																			
S	Diesel Fuel System																			
	U																			
	U.1																			
S	Subsurface Drainage System																			
C																				
S	Elevator Sump System																			
C																				
S	Sewage System																			
C																				
S	Med Gas																			
C																				
S	Lab Piping System																			
C	Lab Waste																			
	U																			
	U.1																			
C	Liquid Nitrogen																			
	U																			
	U.1																			
C	Lab Vacuum																			
	U																			
	U.1																			

EXHIBIT B

SERVICES PROVIDER'S SCHEDULE OF BILLING RATES

EXHIBIT C

REQUEST FOR PROPOSAL FORM

REQUEST FOR COMMISSIONING PROJECT PROPOSAL

Date: [Month Day, Year]

To: [Services Provider]

Attn: [Services Provider's representative]

From: [Sender's Name]
 [Sender's Position Title], and
 Owner's Project Representative

Ref.: Request for Commissioning Project Proposal
 MD Anderson Project Name: [Enter MD Anderson project name]
 MD Anderson Project Number [Enter MD Anderson project number]
 MD Anderson Commissioning Services Agreement No. [Enter MD Anderson agreement no.]

Pursuant to the terms of the referenced MD Anderson Commissioning Services Agreement, MD Anderson hereby requests a written Project Proposal for the project referenced above and further described below.

Project Location: Enter project location information

Scope of Work:

This Commissioning Project shall include commissioning of facilities, systems, components, or some combination thereof, more particularly described as follows:

[Provide general description of the facility (facilities) and the systems or components thereof that are to be commissioned.]

Initial Schedule: The initial key milestone dates for this Commissioning Project are as follows:

Activity:	Date
Project Proposal Submitted	mm/dd/yy
Project Proposal Accepted	mm/dd/yy
Project Kickoff Meeting	mm/dd/yy
Commissioning Start	mm/dd/yy
Commissioning Complete	mm/dd/yy
Draft Documents Submitted to Owner	mm/dd/yy
Final Documents Submitted to Owner	mm/dd/yy

HUB Requirements: MD Anderson anticipates that the Total Fee associated with this Commissioning Project will be less than \$100,000. Therefore, MD Anderson does not anticipate that

a HUB Subcontracting Plan will be required for this Commissioning Project. As set forth in Article 16 of the Agreement, in the event the proposed not-to-exceed Total Fee equals or exceeds \$100,000, the Project Proposal must include a HUB Subcontracting Plan (HSP) for the proposed not-to-exceed amount for the Total Fee.

OR

MD Anderson anticipates that the Total Fee associated with this Commissioning Project will equal or exceed \$100,000 and has determined that subcontracting opportunities are probable in connection with this Commissioning Project. As set forth in Article 16 of the Agreement, in the event the proposed not-to-exceed Total Fee equals or exceeds \$100,000, the Project Proposal must include a HUB Subcontracting Plan (HSP) for the proposed not-to-exceed amount for the Total Fee.

Additional Services: Within your Project Proposal, please expressly itemize and identify any services that you propose to provide as Additional Services. Your proposal is to include a description of the Additional Service to be provided and a detailed breakdown of the personnel, by Classification as listed in to Exhibit B of the Agreement, who will be engaged in providing the Additional Service, the Hourly Rate for that Classification, an estimate of the number of work-hours that will be required in providing the Additional Service, and an extended line item amount. Your Project Proposal is to include a summary not-to-exceed amount for each proposed Additional Service and the detailed breakdown is to be included as an attachment to your Project Proposal.

Consultant Costs: Within your Project Proposal, please expressly itemize and identify any Consultant Costs that you propose not to be included within your proposed Basic Services Fees or Additional Services Fees. The Project Proposal is to include a summary amount for each such Consultant Cost and is to include a detailed breakdown for each such Consultant Cost as an attachment to the Project Proposal.

Reimbursable Expenses: Within your Project Proposal, please include a proposed not-to-exceed allowance for Reimbursable Expenses.

Please submit your Project Proposal, including the proposed Baseline Schedule, to the undersigned no later than the date included in the Initial Schedule that is set forth above.

Attachments: [list attachments as appropriate]

Copy: [include a destination or path to where an image of this Request for Commissioning Project Proposal is to be uploaded.]

Editorial guidelines:

- *Blue text indicates information to be provided by the project manager when preparing to issue this Request for Commissioning Project Proposal to the Services Provider.*
- *For the section on HUB Requirements, only one of the option paragraphs should be included. The paragraph to be used will vary from project to project. All unused paragraphs should be deleted along with all "OR"s.*
- *All text color should be changed to **black**.*
- *All editorial guidelines, including these paragraphs, should be deleted prior to sending this document to the Services Provider.*

EXHIBIT D

INITIAL PROJECT PROPOSAL FORM

EXHIBIT D

INITIAL COMMISSIONING PROJECT PROPOSAL

Name of Agreement: Agreement for Facility Commissioning Services

MD Anderson Master Agreement Number: _____

MD Anderson Project Name: _____

MD Anderson Project Number: _____

Date: Month, Day, Year

To: Owner's Representative: _____
Street Address: _____
City, State, Zip: _____

From: Services Provider: _____
Street Address: _____
City, State, Zip: _____

Please refer to the Agreement with an Effective Date of _____ between MD Anderson Cancer Center ("Owner") and the undersigned ("Services Provider") as amended to the date hereof (such agreement as so modified and amended being hereafter called the "Agreement") pursuant to which Services Provider is to perform certain services. The terms, which are defined in the Agreement, shall have the same meanings when used in this Project Proposal.

In response to Owner's Request for Commissioning Project Proposal, dated _____, _____, Services Provider proposes the following:

Basic Services:

[Using Exhibit B to the Agreement, identify the classifications for the workers to be involved in providing Basic Services for the Commissioning Project and the not-to-exceed amount of work-hours the workers in that classification will be involved in the project. Provide the not-to-exceed extended amount for each classification and the total not-to-exceed amount for Basic Services.]

Worker Classification	Hourly Rate	Not-to-Exceed Hours	Not-to-Exceed Extended Amt.
Total:			

Additional Services: Owner has requested the performance of the services described below which, in accord with the terms of the Agreement, are to be provided as Additional Services. A detailed breakdown for each Additional Service summarized below is included as an attachment to this Project Proposal.

Description of Proposed Additional Service	Proposed Not-to-Exceed Amount
Proposed Not-to-Exceed Amount for Additional Services	

Consultant Costs: Services Provider proposes to engage consultants, as described below, for this Commissioning Project and proposes that the costs associated with these consultants not be included within the Basic Services or Additional Services Fees set forth above. A detailed breakdown for each of these Consultant Costs is included as an attachment to this Project Proposal.

Description of Proposed Consultant Cost	Proposed Not-to-Exceed Amount
Proposed Not-to-Exceed Amount for Consultants	

Reimbursable Expenses: Services Provider anticipates incurring certain Reimbursable Expenses in completing the work associated with this Commissioning Project. The estimate for these expenses is as follows:

Description of Reimbursable Expense	Proposed Not-to-Exceed Amount
Proposed Not-to-Exceed Amount for Reimbursable Expenses	

Project Schedule: Services Provider will perform the services as set forth in the Owner's Request for Commissioning Project Proposal, except as follows.

Project Proposal Fee Summary:

Not-to-Exceed Amount for:	Proposed Amount
Basic Services Fee	
Additional Services Fee	
Consultant Costs	
Reimbursable Expenses	
Total Not-to-Exceed Amount for this Project Proposal	

Services Provider

By: _____

Name: _____

Title: _____

Date: _____

Commissioning Projects Summary

	Basic Services	Additional Services	Consultant Costs	Reimbursable Expenses	Commissioning Project Total
This Project Proposal					
Previous Project Proposals					
Totals:					

EXHIBIT E
ADDITIONAL SERVICES PROPOSAL FORM

EXHIBIT E

ADDITIONAL SERVICES PROPOSAL

Name of Agreement: Agreement for Facility Commissioning Services

MD Anderson Master Agreement Number: _____

MD Anderson Purchase Order Number: _____

MD Anderson Project Name: _____

MD Anderson Project Number: _____

Date Month, Day, Year

To: Owner's Representative : _____
 Street Address: _____
 City, State, Zip: _____

From: Services Provider: _____
 Street Address: _____
 City, State, Zip: _____

Please refer to the Agreement with an Effective Date of _____ between MD Anderson Cancer Center ("Owner") and the undersigned ("Services Provider") as amended to the date hereof (such agreement as so modified and amended being hereafter called the "Agreement") pursuant to which Services Provider is to perform certain services. The terms, which are defined in the Agreement, shall have the same meanings when used in this Additional Services Proposal.

Owner has requested the performance of the services described below which, in accord with the terms of the Agreement, Services Provider deems to be Additional Services. A detailed breakdown for each Additional Service summarized below is included as an attachment to this Additional Services Proposal.

Description of Proposed Additional Service	Proposed Not-to-Exceed Amount
Proposed Not-to-Exceed Amount for Additional Services	

Consultant Costs: Services Provider proposes to engage consultants, as described below, in order to deliver these proposed Additional Services and proposes that the costs associated with

these consultants not be included within the Additional Services fees set forth above. A detailed breakdown for each of these Consultant Costs is included as an attachment to this Additional Services Proposal.

Description of Proposed Consultant Cost	Proposed Not-to-Exceed Amount
Proposed Not-to-Exceed Amount for Consultants	

Reimbursable Expenses: Services Provider anticipates incurring certain Reimbursable Expenses in completing the work associated with these proposed Additional Services. The estimate for these expenses is as follows:

Description of Reimbursable Expense	Proposed Not-to-Exceed Amount
Proposed Not-to-Exceed Amount for Reimbursable Expenses	

Schedule: Services Provider will provide these services as set forth below.

Milestone/Task Description	Proposed Completion Date

Additional Services Proposal Fee Summary:

Not-to-Exceed Amount for:	Proposed Amount
Additional Services Fee	
Consultant Costs	
Reimbursable Expenses	
Total Not-to-Exceed Amount for these Additional Services	

Services Provider

By: _____

Name: _____

Title: _____

Date: _____

Current Commissioning Project Summary

ORIGINAL PURCHASE ORDER AMOUNT:	\$ _____.
Previous Additions:	\$ _____.
Previous Deductions:	\$ _____.
NET BALANCE OF PURCHASE ORDER AMOUNT:	\$ _____.
THIS Addition/(Deduction):	\$ _____.
ADJUSTED PURCHASE ORDER AMOUNT:	\$ _____.

EXHIBIT F
AUTHORIZATION TO COMMENCE WORK

AUTHORIZATION TO COMMENCE WORK

Date: Month Date, Year

To: Services Provider

Attn: [Enter Name of Services Provider's Project Manager]

From: [Enter name and position of Owner's representative] and Owner's Representative

Ref.: Authorization to Commence Work

MD Anderson Commissioning Project Name: [_____]

MD Anderson Project Number: [_____]

MD Anderson Agreement No. [_____] for Facility Commissioning Services

Services Provider's Project Proposal No.: [_____]

Pursuant to the terms of the referenced MD Anderson Agreement, MD Anderson hereby authorizes, effective [Month Date, Year], [enter name of Services Provider as it appears in the Agreement] (Services Provider) to begin providing certain Facility Commissioning Services as set forth in MD Anderson's Commissioning Project RFP dated [Month Date, Year] and Services Provider's Project Proposal No. [_____].

Please be advised that the MD Anderson Purchase Order Number specific to this Commissioning Project is _____.

Please do not hesitate to contact me if you have any questions concerning this Commissioning Project.

Copy: [Enter copy recipients or filing directions as appropriate.]

EXHIBIT G
FORM OF INVOICE

Agreement for Facility Commissioning Services
on
Projects of Limited Scope

Exhibit G

Form of Invoice

Owner's Project No.: FPDC-_____ Owner's Project Name: _____

Owner's Agreement No.: _____ Owner's Purchase Order No.: _____

Services Provider's Tax Identification No.: _____ Name of Services Provider's Project Manager: _____

Billing Period No.: _____ Billing Period Start Date: _____ Billing Period End Date: _____ Commissioning Project Percent Complete: ____%

Category	Initial Purchase Order Amount	Net Cumulative Adjustments via Change Order(s)	Current Purchase Order Amount	Cumulative Previous Payments	Previous Balance Due	Requested Payment Amount	Remaining Balance Due
Basic Services			\$ -		\$ -		\$ -
Additional Services			\$ -		\$ -		\$ -
Consultant Costs			\$ -		\$ -		\$ -
Reimbursable Expenses			\$ -		\$ -		\$ -
Totals:	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

Percentage of Current Purchase Order Amount Paid to Date: #DIV/0! (Including Requested Payment Amount for this invoice.)

Attachments:

- (1) Itemized description of services provided including names, billing rates and amount of time per task expended by all persons who performed services during billing period.
- (2) Copy of receipt in support of each Reimbursable Expense invoiced.

EXHIBIT H

POLICY ON UTILIZATION OF HISTORICALLY UNDERUTILIZED BUSINESSES

RIDER 104-A

EXHIBIT I

ATTACHMENT 1 to EXHIBIT H

Services Provider's Letter of HUB Commitment

EXHIBIT J

RIDER 105, CONTRACTOR'S AFFIRMATIONS AND WARRANTIES

RIDER 105
CONTRACTOR'S AFFIRMATIONS AND WARRANTIES

By signing the Agreement, or accepting the Purchase Order, to which this Rider is attached Contractor affirms, certifies, and warrants that the information set forth in this Rider is current, complete, and accurate. Contractor agrees that in the event Contractor makes a false statement by affirming, certifying, or warranting the information set forth in this Rider, MD Anderson may, at its option, terminate the Agreement/Purchase Order to which this Rider is attached without further liability, and Contractor shall be removed from all MD Anderson bid lists.

Contractor agrees to notify MD Anderson in writing within thirty (30) days of any changes in the affirmations, certifications, and warranties made by Contractor under this Rider.

1. By signing the Agreement, or accepting the Purchase Order, Contractor affirms, certifies, and warrants that it has neither given, offered to give, and has no intention to give at any time hereafter, any economic opportunity, future employment, gift, loan, gratuity, special discount, trip, favor or service to a public servant in connection with this Agreement/Purchase Order.
2. By signing the Agreement, or accepting the Purchase Order, Contractor affirms, certifies, and warrants that neither Contractor nor the firm, corporation, partnership or institution represented by Contractor, or anyone acting for such firm, corporation, or institution, has violated the antitrust laws of the State of Texas, codified in Section 15.01, et. seq. *Texas Business and Commerce Code*, or the federal antitrust laws, nor communicated directly or indirectly Contractor's bid or proposal made to MD Anderson to any competitor or any other person engaged in such line of business. By signing the Agreement, Contractor affirms, certifies, and warrants that it has not received compensation for participation in the preparation of the specifications for this Agreement or of the request for proposal—on which this Agreement is based. (Reference Section 2155.004, *Texas Government Code*.)
3. By signing the Agreement, or accepting the Purchase Order, Contractor affirms, certifies, and warrants that it is not suspended, debarred, or listed in the U.S. General Services Administration's List of Parties Excluded From Federal Procurement or Non-Procurement Programs, or excluded from award by the United States Office of the Inspector General ("OIG") regarding Medicare, Medicaid, or other federal programs. Contractor further acknowledges that MD Anderson is prohibited by federal regulations from allowing any employee, subcontractor or agent of Contractor to work on site at MD Anderson's premises or facilities if that individual is not eligible to work on federal healthcare programs such as Medicare, Medicaid, or other similar federal programs. Therefore, Contractor affirms, certifies, and warrants that it shall not assign any employee, subcontractor or agent that appears on the List of Excluded Individuals/Entities issued by the OIG to work on site at MD Anderson's premises or facilities. Contractor affirms, certifies, and warrants that it shall perform an OIG sanctions check quarterly on each of its employees, subcontractors and agents during the time such employees, subcontractors and agents are assigned to work on site at MD Anderson's premises or facilities. Contractor acknowledges that MD Anderson will require immediate removal of any employee, subcontractor or agent of Contractor assigned to work at MD Anderson's premises or facilities if such employee, subcontractor or agent is found to be on the OIG's List of Excluded Individuals/Entities. The OIG's List of Excluded Individuals/Entities may be accessed through the following Internet website: <http://oig.hhs.gov/fraud/exclusions/listofexcluded.html>.
4. By signing hereon Contractor certifies it qualifies status in one of the below as defined by the State of Texas.

4.1 Contractor, **is a Small Business** (as defined by Chapter 2155 of the Texas Government Code), and claims the following status:

<input type="checkbox"/> (100) Small Business, Non-HUB	<input type="checkbox"/> (160) Non-minority, Female, Small Business
<input type="checkbox"/> (100N) Disabled Person, Small Business	<input type="checkbox"/> (171) Asian Pacific American, Male, Small Business
<input type="checkbox"/> (141) Black American, Male, Small Business	<input type="checkbox"/> (172) Asian Pacific American, Female, Small Business
<input type="checkbox"/> (142) Black American, Female, Small Business	<input type="checkbox"/> (181) Native American, Male, Small Business
<input type="checkbox"/> (151) Hispanic American, Male, Small Business	<input type="checkbox"/> (182) Native American, Female, Small Business
<input type="checkbox"/> (152) Hispanic American, Female, Small Business	

4.2 Contractor, **is not a Small Business** as defined above and claims the following status:

<input type="checkbox"/> (900N) Disabled Person	<input type="checkbox"/> (971) Asian Pacific American, Male
<input type="checkbox"/> (941) Black American, Male	<input type="checkbox"/> (972) Asian Pacific American, Female
<input type="checkbox"/> (942) Black American, Female	<input type="checkbox"/> (981) Native American, Male
<input type="checkbox"/> (951) Hispanic American, Male	<input type="checkbox"/> (982) Native American, Female
<input type="checkbox"/> (952) Hispanic American, Female	<input type="checkbox"/> (900) None of the above
<input type="checkbox"/> (960) Non-minority, Female	

RIDER 105
CONTRACTOR'S AFFIRMATIONS AND WARRANTIES

- 4.3 Contractor is to indicate below if they are /are not certified by the Texas Procurement and Support Services Division of the Texas Comptroller's Office as a Historically Underutilized Business.

_____ **YES**, Contractor is certified by the Texas Procurement and Support Services Division of the Texas Comptroller's Office.

_____ **NO**, Contractor is not certified by the Texas Procurement and Support Services Division of the Texas Comptroller's Office.

- 4.4 Contractor is:

_____ A Non-Resident Contractor (e.g., does not maintain a permanently staffed full time office in Texas).

_____ A Resident Contractor (e.g., does maintain a permanently staffed full time office in Texas).

_____ Anticipating the use of Texas Non-Resident firms as sub-contractors and will provide information of such contracts, when requested.

_____ Not anticipating the use of Texas Non-Resident firms as sub-contractors.

5. By signing the Agreement, or accepting the Purchase Order, Contractor affirms, certifies, and warrants that it will comply with all specifications, requirements, terms, and conditions set forth in this Agreement/Purchase Order and on any rider or attachments to the Agreement/Purchase Order. Contractor affirms, certifies, and warrants that the products or services Contractor provides under this Agreement/Purchase Order will meet or exceed the specifications set forth in this Agreement/Purchase Order.
6. By signing the Agreement, or accepting the Purchase Order, Contractor affirms, certifies, and warrants that all statements and information prepared and submitted under this Agreement/Purchase Order (including all information submitted by Contractor in response to or to verify the affirmations, certifications, and warranties set forth in this Rider) are current, complete, and accurate.
7. If Contractor is a franchise, then
- (a) Contractor affirms, certifies, and warrants that it shall maintain such franchise in full force and effect at all times during the existence of this Agreement/Purchase Order, and
- (b) Contractor shall provide MD Anderson with all data that MD Anderson, in its sole discretion, deems necessary to identify Contractor's franchise, the date on which Contractor's franchise will expire, and to certify that Contractor's franchise remains in good standing at all times during the existence of the Agreement/Purchase Order.
8. By signing the Agreement, or accepting the Purchase Order, Contractor affirms, certifies, and warrants that (1) no relationship (whether by blood, marriage, business association, capital funding agreement or by any other kinship or connection) exists between Contractor and an employee of MD Anderson, and (2) Contractor has not been an employee of MD Anderson within the twelve (12) month period immediately prior to the date of this Agreement/Purchase Order, or (3) in the event such a relationship does exist, full written disclosure of the relationship has been made by Contractor to MD Anderson prior the execution of this Agreement, or acceptance of Purchase Order. Contractor understands that all such disclosures will be subject to administrative review, and approval by MD Anderson prior to MD Anderson's execution of this Agreement/Purchase Order.
9. By signing the Agreement, or accepting the Purchase Order, Contractor affirms, certifies, and warrants that: (1) Contractor is not a party to any agreement with MD Anderson whereby it has licensed from MD Anderson any technology, invention, or other intellectual property that relates to or is used with any goods or services being acquired by MD Anderson hereunder; and (2) as a result of the sale to MD Anderson of the goods or services hereunder, Contractor will not owe, directly or indirectly, any royalties, fees, or other consideration of any kind to MD Anderson or any employee of MD Anderson under the terms of any license agreement with MD Anderson. Contractor will advise MD Anderson in writing of any change in status with respect to the foregoing items (1)-(2), by sending written notice within ten (10) days of such status change to: Legal Services, Unit 537, The University of Texas MD Anderson Cancer Center, P.O. Box 301439, Houston TX 77230-1439, ATTENTION: Chief Legal Officer.

RIDER 105
CONTRACTOR'S AFFIRMATIONS AND WARRANTIES

10. OSHA COMPLIANCE

By signing the Agreement, or accepting the Purchase Order, Contractor affirms, certifies, and warrants that all goods and services furnished under this Agreement/Purchase Order will meet or exceed the safety standards established and promulgated under the Federal Occupational Safety and Health Law (Public Law 91-596) and its regulations in effect as of the date on which the goods or services are furnished.

11. AFFIRMATIVE ACTION COMPLIANCE

In addition to the Contractor's affirmation, certification, and warranty under Section 10 of this Rider, if this Agreement exceeds \$50,000.00 in value Contractor, shall provide a copy of its written Civil Rights "Affirmative Action Compliance Program" which shall be incorporated into Exhibit A to this Rider. If Contractor is NOT required to have such a written Civil Rights "Affirmative Action Compliance Program", Contractor must state the reasons why it is not required to have such a written program in Exhibit A to this Rider.

CONTRACTOR NAME

DATE

BY (ORIGINAL SIGNATURE)

COMPTROLLER I.D. NO., FEI NO. or SSN

TYPED NAME & TITLE

TELEPHONE NUMBER

CORPORATE CONTRACTORS SHALL FURNISH THE FOLLOWING INFORMATION:

WHERE INCORPORATED

CHARTER NUMBER

SOLE OWNER'S SOCIAL SECURITY NUMBER

EXHIBIT A

Civil Rights "Affirmative Action Compliance Program"

EXHIBIT K

RIDER 106, PREMISES RULES

RIDER 106 PREMISES RULES

If this Agreement requires Contractor's presence on MD Anderson's premises, buildings, grounds, facilities, or campus, whether owned, leased or otherwise controlled by MD Anderson (collectively, "MD Anderson's campus"), Contractor represents and warrants that it will ensure that its representatives, agents, employees, and permitted subcontractors are aware of, fully informed about and in full compliance with Contractor's obligations under the following rules:

- A. Contractor (and its representatives, agents, employees and permitted subcontractors) will comply with all applicable MD Anderson rules and policies, including, without limitation, those related to environmental quality, safety, fire prevention, noise, information security, and architectural barriers issued by MD Anderson's Department of Environmental Health and Safety, (713) 792-2888, and those that restrict the use of alcohol on MD Anderson's campus.
- B. MD Anderson is a smoke-free institution. Smoking, or use of smokeless tobaccos, is prohibited throughout MD Anderson's campus.
- C. Contractor will have the right to access only those areas in MD Anderson's campus that are public areas or areas that it is necessary for Contractor to access in order to provide the products and perform the services under this Agreement. Cellular telephones and two-way radios are prohibited in some areas of MD Anderson's campus and Contractor affirms, certifies, and warrants that its representatives, agents, employees, and permitted subcontractors will abide by such prohibitions.
- D. It is the policy of MD Anderson to maintain a safe environment free from violence on MD Anderson's campus. Any direct or indirect threats or acts of violent behavior are prohibited. Violence includes, but is not limited to, intimidating, threatening, or hostile behavior; physical or verbal abuse; harassment, stalking, vandalism, arson, sabotage, use of weapons, possession of weapons on institutional property, the threat of any of the above, or any other act inconsistent with MD Anderson's campus violence policy. Intentionally bringing a prohibited weapon including a licensed, concealed handgun on MD Anderson's campus is a violation of MD Anderson's campus violence policy. Furthermore, any violation of a law prohibiting violence and violent behavior (including, but not limited to, the violation of Section 37.125 of the Texas Education Code or of Section 46.03 of the Texas Penal Code) also constitutes a violation of MD Anderson's campus violence policy. Violators of MD Anderson's campus violence policy or of any law prohibiting violence or violent behavior may be removed from or refused further access to MD Anderson's campus. Contractor represents and warrants that Contractor and all of its representatives, agents, employees, and permitted subcontractors will comply with MD Anderson's campus violence policy and all laws prohibiting violence and violent behavior. MD Anderson reserves the right to pursue criminal or civil actions against violators of MD Anderson's campus violence policy or of any law prohibiting violence and violent behavior. Contractor will remove from the performance of any work under this Agreement any Contractor representative, agent, employee, or permitted subcontractor that MD Anderson, in its sole discretion, finds has violated MD Anderson's campus violence policy or any law prohibiting violence and violent behavior.
- E. Contractor will ensure all personnel sent to work at MD Anderson's campus that have direct patient care/contact under this Agreement will be able to show proof of a tuberculosis screening having been completed within ninety (90) calendar days prior to starting work at MD Anderson's campus and every two years thereafter. Contractor will also be able to show proof that these same personnel do not have active tuberculosis. Contractor will ensure all personnel with direct patient care/contact will be able to show proof of current immunization to influenza and proof of immunization or immunity to varicella (chicken pox) prior to active duty at MD Anderson. Records of screenings, vaccinations, immunity and related reports will be made immediately available to M.D. Anderson upon request. This paragraph does not apply to contractors deemed by MD Anderson to not have direct patient care/contact.
- F. Contractor will be solely responsible for ensuring that all of its agents, employees, personnel, permitted subcontractors, or representatives abide by the provisions set forth in this Rider 106.
- G. The University of Texas Police Department ("UTPD") & Security Equipment:

The UTPD is the law enforcement agency of record for all property and premises owned, leased, or otherwise under the control of MD Anderson. The UTPD will be notified in matters relating to the following:
 - 1. Reporting of criminal incidents, including those occurring to or involving Contractor property and personnel if the incident occurs on MD Anderson campus;
 - 2. The investigation of crimes, including those involving Contractor's property and personnel, if the incident occurs on MD Anderson campus; and
 - 3. Reporting of security problems.
- H. Contractor will not retain the services of outside guard or law enforcement services in connection with work on MD Anderson's campus without the specific prior written approval of the Chief of the UTPD.
- I. Contractor will not install or operate any system intended to electronically control access and/or detect and report intrusion, hold-up or duress on any MD Anderson property, any MD Anderson leased premises or any premises otherwise under the control of MD Anderson. Where such systems are required due to the nature of the Contractor's operation, the UTPD will be responsible for approval, design and installation. Once approved by UTPD, the system's cost will be Contractor's responsibility.

**RIDER 106
PREMISES RULES**

these Premises Rules, MD Anderson will have the right to deny Contractor and its personnel access to MD Anderson's campus.

J. Installation by Contractor of any security system is subject to the review and approval of UTPD. If Contractor desires to install an electronic security system in accordance with the terms of this Agreement, Contractor will contact the UTPD - Crime Prevention Component of UTPD at (713) 792-2890 and request that UTPD establish design criteria for the application. Contractor will provide written evidence of the estimated cost of the electronic security system to the Technical Services Component of UTPD located at 7777 Knight Road and, if the electronic security system is approved by UTPD, the Technical Services Component of UTPD will coordinate the installation of the approved system. Upon written approval of the UTPD Chief, Contractor may use a commercial installation company to install the electronic security system under the coordination of the UTPD.

P. MD Anderson will not be obligated to pay for labor hours supplied by any individual(s) upon whom a background check and records check is not completed or who fails to meet the standards described in this Rider.

K. All security related systems must be monitored and controlled by the UTPD and UTPD must be the primary monitoring station. If Contractor utilizes the services of a commercial alarm company or a proprietary alarm monitoring station, the system may report to such location after first transmitting the alarm to the UTPD.

L. Contractor is responsible for the performance of the persons Contractor assigns to provide services for MD Anderson on MD Anderson's campus. Contractor will not knowingly assign individuals to provide services on MD Anderson's campus who have a history of violent, unacceptable, or grossly negligent behavior or who have a felony conviction. Prior to supplying labor services under this Agreement, MD Anderson may require Contractor to provide a list identifying the individuals that may be assigned to MD Anderson along with a letter signed by an appropriate officer of Contractor that affirms compliance with this Rider. Contractor will revise such letter each time there is a change in Contractor's personnel assigned to MD Anderson's campus, but in any case, annually on the anniversary date of this Agreement.

M. Contractor will ensure that all individuals assigned by Contractor to perform services on MD Anderson's campus will display in plain view a photo identification badge provided by MD Anderson while on MD Anderson's campus.

N. Contractor will retain resumes of all Contractor's employees assigned to this project. Contractor will ensure the proper maintenance of these documents for a minimum of one (1) year after contract completion. Contractor will maintain all documentation, including the results of any background checks, during the term of this Agreement.

O. MD Anderson will have the right to reject any individual(s) that Contractor offers to assign to MD Anderson's account for any reason. In addition, if Contractor and/or its personnel fail to abide by

EXHIBIT L

RIDER 107, TRAVEL POLICY

Rider 107
TRAVEL POLICY

All travel and expense costs will be calculated as follows:

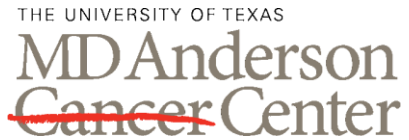
1. Vendor must use regular coach (state rate or corporate rate, whichever is lower) air transportation for travel in excess of 200 miles, unless otherwise agreed by MD Anderson. In order to maximize discounted airfares, Vendor, with the cooperation of MD Anderson, will schedule on-site visits far enough in advance to take advantage of most advance-purchase offers. In the event meetings or on-site visits are cancelled by MD Anderson, the Vendor may charge for any advance-purchase cancellation penalties imposed by the airline.
2. Corporate or state, whichever is lower, rate discounts will be used for hotel accommodations.
3. Maximum billable amount per person per day for meals will be \$36.00. Departing from MD Anderson prior to 12:01 p.m. negates any billing for meals for that day. Meal expenses are reimbursable for vendors who travel 50 miles or more, and stay overnight.
4. Rental cars will be the least expensive, air-conditioned, automatic transmission, mid-size car available to the vendor under corporate rate programs. Full coverage collision insurance may be used for rental cars, but personal protection plans will not be reimbursed.
5. Ground transportation, parking costs and tolls may be invoiced at cost.
6. Personal automobile mileage charges will be computed based upon actual miles to and from the appropriate office to and from the client facility. Mileage charges will be invoiced at the standard mileage rate recognized by the State of Texas at the time of invoicing.
7. Miscellaneous expenses (i.e., tips, transfers, etc.) will be invoiced at not-to-exceed \$5.00 per person per day, if deemed reasonable.

All travel or miscellaneous expenses must receive prior written approval by the Project Coordinator. Vendor will not be reimbursed for expenses which do not receive this prior written approval.

All travel or miscellaneous expenses must be submitted with an original receipt. All approved expenses will be reimbursed at “actual cost” only. Vendor will not be reimbursed for expenses which are not accompanied by original receipts.

EXHIBIT M

RIDER 117, COMPLIANCE WITH INSTITUTIONAL POLICIES



RIDER 117

Institutional Policies

In accordance with the education requirements set forth in Section 6032 of the Deficit Reduction Act of 2005 (Act), MD Anderson has implemented, and Contractor agrees to abide by, the following policies, as may be subsequently amended, that are available by going to the following link and look to your right pane under “Resources for Vendors & Suppliers”:

<http://www.mdanderson.org/about-us/doing-business/vendors-and-suppliers/index.html>

1. [Fraud, Waste, and Abuse Policy](#)
2. [Hospital Compliance Plan](#)
3. [Non-Retaliation Policy](#)

EXHIBIT N

SALES TAX EXEMPTION FORM

Texas Sales and Use Tax Exemption Certification

This certificate does not require a number to be valid.

Name of purchaser, firm or agency The University of Texas MD Anderson Cancer Center	
Address (Street & number, P.O. Box or Route number) 1515 Holcombe Boulevard, Unit 1695	Phone (Area code and number) (713) 792-6161
City, State, ZIP code Houston, Texas 77030-7009	

I, the purchaser named above, claim an exemption from payment of sales and use taxes (for the purchase of taxable items described below or on the attached order or invoice) from:

Seller: _____

Street address: _____ City, State, ZIP code: _____

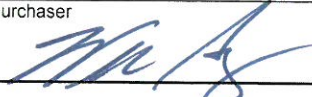
Description of items to be purchased or on the attached order or invoice:

Purchaser claims this exemption for the following reason:

EXEMPT UNDER SUBCHAPTER H. SEC. 151.309 GOVERNMENTAL ENTITIES. PURCHASER IS AN AGENCY OF THE STATE OF TEXAS. FEDERAL I.D. 74-6001118; TEXAS TAXPAYER I.D. 35065065068.

I understand that I will be liable for payment of all state and local sales or use taxes which may become due for failure to comply with the provisions of the Tax Code and/or all applicable law.

I understand that it is a criminal offense to give an exemption certificate to the seller for taxable items that I know, at the time of purchase, will be used in a manner other than that expressed in this certificate, and depending on the amount of tax evaded, the offense may range from a Class C misdemeanor to a felony of the second degree.

sign here ▶	Purchaser 	Title Vice President & Chief Financial Officer	Date 1/26/2015
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NOTE: This certificate cannot be issued for the purchase, lease, or rental of a motor vehicle.

THIS CERTIFICATE DOES NOT REQUIRE A NUMBER TO BE VALID.

Sales and Use Tax "Exemption Numbers" or "Tax Exempt" Numbers do not exist.

This certificate should be furnished to the supplier.

Do not send the completed certificate to the Comptroller of Public Accounts.

EXHIBIT O

EXECUTION OF OFFER