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iCT Elite

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iCT Elite Configuration

The iCT Family of premium CT scanners continues to take CT imaging to new levels. Not only does this scanner family deliver exceptional image quality, its advanced technology can also help you to manage x-ray dose and injected contrast — important factors for managing patient risk. Built upon our latest advances in iterative reconstruction techniques, workflow, and detector technologies, the iCT Elite is our flagship scanner designed to redefine CT imaging.

The iCT Elite includes the best-in-Philips class technologies:

- **iPatient** (*future delivery*): an advanced platform that delivers focused innovations to facilitate patient-centered imaging, now and in the future.
- **iDose4 Premium Package**: two leading technologies that can improve image quality — iDose4 iterative reconstruction technique, and metal artifact reduction for large orthopedic implants (O-MAR).
- **Step & Shoot Complete**: full field-of-view, prospective-triggered cardiovascular examinations
- **Jog Scan**: full-coverage brain perfusion
- **NanoPanel II3D detector technology** with 256 slices, 8 cm coverage, ClearRay collimator, and spherical geometry
- **iMRC X-ray tube**: segmented anode, double-supported spiral groove bearing, Smart Focal Spot and 120 kW generator
- **AirGlide Gantry**: air-bearing technology with as low as 0.27 s per rotation

Patient handling and setup

Breathing Lights

Visual display of breathing instructions coordinated with recorded breath hold instructions (Auto Voice) to improve the patients experience and compliance.

Gantry Scan Control Panel

Touch screen controls and displays for patient couch elevation and stroke are located on both sides of the gantry using color LCD displays on the front and tactile displays on the rear.

Scan Control Box (ScanTools)

Gantry and patient couch controls and displays are located conveniently at the operator's console. Additional functions include emergency stop, intercom, and scan enable/pause buttons.

Gantry Aperture: 700 mm diameter

AutoVoice (ScanTools)

A standard set of commands for patient communication: before, during and after scanning.

Multi-lingual AutoVoice (ScanTools)

Commands for patient communication in multiple languages including: English, French, Spanish, Italian, Japanese, Hebrew, Arabic, Russian and Georgian. Also provides the ability to record customized messages - up to 25 seconds per message.

Intercom System: Two-way intercom allows patient monitoring and communication.

Table Accessories (ScanTools)

From extra padding to optimal support, these table accessories prevent fatigue and discomfort and give both patients and technologists a sense of security: patient restraint kit, table extension, standard head holder, table pad, IV Pole, arm rests, cushions, and pads.

Infant Calibration Phantom

The Infant Calibration Phantom is a Philips exclusive tool used to calibrate system parameters (HCOR) to optimize the system for scanning infants.

Scan Planning

The iCT Elite provides intuitive registration and easy entry of patient information and clinical procedure selection, using anatomic graphical display and sample images.

Expert Protocol Planning (ScanTools)

Tailor protocols to meet specific needs via a selection of parameters optimized for certain studies.

Preset Post-processing (ScanTools)

User-defined presets improve workflow, by automatically opening the relevant post-processing applications for a specific type of exam. For example, automatically launching CTA studies in MIP or spine studies in MPR.

Survival Plan

Planning via interactive mouse control of multiple, independent acquisition series of any type on Survival image

Scan length: up to 2000 mm

Scan width: 500 mm

Dual Survival Planning (ScanTools)

Planning patient scans with two survivals provides flexibility in exam planning and execution, and also avoids repeat scans.

Manual Scan

Places slice-by-slice scans under operator control with on-line or off-line reconstruction, background image archiving to local or remote storage devices. At any time, the operator is able to switch from automatic to manual scan and back.

Automatic Scan

Enables automatic execution of pre-planned studies, with concurrent, on-line or off-line reconstruction, background image archiving to local or remote storage devices, without operator intervention.

Productivity Tools

QuickStart (ScanTools)

Features an efficient start-up sequence that allows scanning to begin within five minutes after turning the system on.

QuickSetup (ScanTools)

Utilities such as quality assurance tools and service functions are readily available with a single mouse click.

DICOM® Modality Worklist (ScanTools Pro)

Provides HIS/RIS interface through DICOM Modality Worklist service class; enhances clinical workflow by importing patient demographics and study information from an information management system.

DICOM® MPPS

Provides performed exam information (start/end/info) to HIS/RIS using DICOM MPPS (Modality Performed Procedure Step) service.

Split Study (ScanTools Pro)

Many times multiple orders or accession numbers are generated for a patient's CT scan that require only a single scan acquisition. In these instances Philips' Split Study feature allows the user to virtually split the acquisition so that proper accession numbers are assigned to specific areas of the scan acquisition (i.e. chest slices to the chest accession number, etc.) and billing and tracking is completed accurately and appropriately. By assigning the accession numbers quickly and easily during scan setup, scan information is matched accurately in all subsequent steps (matching, reporting, archiving, billing, etc.). Philips' Split Study reduces error and improves workflow efficiency.

Prefetch Study (ScanTools Pro)

This feature searches the database (PACS) for previous patient studies (CT, MR, CR, RF). After location and selection, these studies are then sent to the background of the configurable destination (e.g., Extended Brilliance Workspace).

Automatic Procedure Selection (ScanTools Pro)

Maps the procedure selection from the HIS-RIS with individual scan protocol(s) from the CT scanners, simplifying the scanning process. Only the most relevant scan protocol(s) for any requested procedure are shown to the user, ensuring that only the desired scanning procedures are performed. This is especially useful for infrequent users of the CT scanner.

Scan and image acquisition

Reliable, maximized system performance allows clinicians to remain focused on patient care. The iCT platform is perfectly balanced, combining power and flexibility that maximizes image quality, speed and throughput while lowering patient dose.

System: Rotate-rotate architecture with optimized geometry for low dose imaging.

Generator

The iCT generator uses modern, low-voltage slip ring technology to provide a constant high voltage to the CT x-ray tube assembly. Higher mA at 1mA increments improves image quality, optimizes image noise and dose, and decreases gated imaging artifacts.

Output capacity: Up to 120 kW

kV selections: 80, 100, 120, 140 kVp

mA selections: 10 to 1,000 mA

iMRC X-ray Tube

The instantaneous heat management demands of volume imaging calls for an exceptional tube and resilient anode. With its patented segmented anode, double mounted spiral groove bearing design, Philips' iMRC tube manages high instantaneous heat loads and dissipates heat as rapidly as it is collected, with focal spot stability designed to maximize image quality at the fastest gantry rotation speeds.

Motion-free focal spot guarantees optimized image quality.

Unique 100mm, double supported, spiral groove bearing improves focal spot stability.

- Absolute noiseless design calms patients.
- 3rd generation tube technology built on proven record of performance and reliability.

Focal Spot: Smart Focal Spot (X-DFS & Z-DFS)

Anode Rotation Speed: 10,800 RPM

Focal spot (IEC): 0.6mm x 0.7mm (small)

1.1mm x 1.2mm (large)

Smart Focal Spot (SFS)

Smart Focal Spot builds upon Dynamic Focal Spot (ScanTools) to double the in-plane and longitudinal data sampling density from the detectors effectively doubling the number of detectors and provides high spatial resolution in axial and spiral scanning.

Detector

Detector design is fundamental to the objective of acquiring high quality images while minimizing patient dose. Unlike single matrix detectors that simply sum elements, Philips designs configuration-specific detectors that minimize the separation between elements to always provide the highest geometric detector efficiency. Direct-to-digital signal conversion with TACH technology reduces dose and improves image quality.

Material: Solid State - High Performance Multislice Ceramic

Slip Ring: 5.3 Gbps transfer rate

Slice Collimation: (2x0.625), 128x0.625, 112x0.625, 96x0.625, 64x1.25, 64x0.625, 32x2.5, 20x0.625 (UHR)

Image Quality

Spatial Resolution

Ultra-high mode: 24.0 lp/cm @ cut-off (ScanTools)

High mode: 16.0 lp/cm @ cut-off

Standard mode: 13.0 lp/cm @ cut-off

Low Contrast Resolution: 4.0 mm @ 0.3% as measured on the 20 cm CATPHAN phantom

Absorption Range: -1024 to +3096 Hounsfield units

Scanning Modes

Spiral Scanning

- Multiple contiguous slices acquired simultaneously with continuous table movement during scans.
- Multiple, bi-directional acquisitions

Spiral exposure: Up to 100 sec. of uninterrupted spiral scanning

Spiral pitch: 0.07 to 1.5 (user selectable)

Axial Scanning

- Multiple-slice scan with up to 256 slices acquired simultaneously (via Smart Focal Spot) with incremental table movement between scans
- Fused modes for reconstructing partial volume artifacts free thick slices from thin slice acquisition

Scan Times

0.33, 0.375, 0.4, 0.5, 0.75, 1, 1.5 seconds for full 360° scans

0.22 seconds for partial 240° scans

Test Injection Bolus Timing (ScanTools)

This feature establishes the optimum delay time for contrast injection. By using a test injection, a real-time graph of the enhancement in the selected region of interest is displayed. The delay time is then selected to provide optimal peak contrast enhancement and reduced contrast usage - ideal for CTA.

Bolus Tracking (ScanTools Pro)

This automated injection planning technique permits the user to monitor actual contrast enhancement and initiate scanning at a pre-determined enhancement level. Combine with SAS for full automation and efficacy.

Spiral Auto Start (ScanTools Pro)

Spiral Auto Start integrates the injector with the scanner, allowing the technologist to monitor the contrast injection to check for extravasation, and to initiate and stop the scan (with the pre-determined delay) while in the scan room.

NOTE:

- Costs to upgrade an approved injector and any cabling is the responsibility of the user.
- Compatible with most Medrad E-Z-EM and Tyco injectors

Dose Management

Philips' DoseWise philosophy is a set of principles and practices that ensures the best possible outcomes with minimal risk to patients and staff. The iCT platform employs a number of features that help provide extremely high dose efficiency.

DoseRight ACS (Automatic Current Selection) (ScanTools)- Optimizes the dose for each patient based on the planned scan by suggesting the lowest possible mAs settings to maintain constant image quality at low dose throughout the exam.

DoseRight DDOM (Dynamic Dose Modulation) (ScanTools)- Automatically distributes or controls the tube current, increasing the signal over larger areas of attenuation (shoulders, hips, etc.) and decreasing signal over small areas of attenuation.

DoseRight ZDOM (Dynamic Dose Modulation) (ScanTools)- Automatically distributes or controls the tube current, decreasing the signal over thinner areas of attenuation (head, neck, etc.) along the z-axis.

Eclipse DoseRight Collimator – Lowers delivered dose by eliminating start of scan and end of scan radiation not contributing to image formation in spiral scanning.

Dose D isplays

- Volume CTDI (CTDIvol) (*ScanTools*)
- Dose Length Product (DLP) (*ScanTools*)
- Dose Efficiency (*ScanTools*)

Dedicated Pediatric Protocols (ScanTools)

Developed in collaboration with top children's hospitals, age and weight-based infant and pediatric protocols ensure the best clinical results with minimal dose.

iDose4 Premium Package

The iDose4 Premium Package includes two leading technologies that can improve image quality – iDose4 iterative reconstruction technique, and metal artifact reduction for large orthopedic implants (O-MAR). iDose4 improves image quality through artifact prevention and increased spatial resolution at low dose. O-MAR reduces artifacts caused by large orthopedic implants. Together they produce high image quality with reduced artifacts.

iDose4 is an iterative reconstruction technique that gives you control of the dial so you can personalize image quality based on your patients' needs at low dose. When used in combination with the advanced technologies of the Philips CT scanner families, this 4th-generation reconstruction technique provides a unique approach to managing important factors in patient care — a new era in low-energy, low-dose and low-injected-contrast imaging.

iDose4 balances high image quality, low dose, natural appearance, and easy workflow. iDose4 iteratively removes noise, prevents artifacts, and preserves morphological information using statistical and structural models in both projection (raw) and image domains.

iDose4 reconstruction is achieved in seconds rather than minutes. iDose4 features the RapidView IR console — hardware advances designed specifically to satisfy the performance requirements and processing power needed to reconstruct the majority of reference protocols in 60 seconds or less.

As part of our ongoing commitment to streamlining workflow for radiologists, iDose4 is easy to use and easy to adopt into your existing standard of care. The operator simply plans the scan as they normally would. Designed to seamlessly integrate into your CT department, iDose4 provides the look and feel of conventional higher-dose images without long processing times.

iDose4, an output of Philips' DoseWise philosophy, is an advanced fourth generation iterative reconstruction technique. iDose4 provides the flexibility to reduce image noise, while maintaining critical image quality aspects of low-contrast detectability and spatial resolution. The iCT featuring iDose4 complements the DoseRight features and low kV settings for improved, personalized dose management. iDose4 is fast and easy to use - making it possible to see pathology and structural detail typically hidden by excessive noise in under a minute.

In clinical practice, the use of iDose4 may reduce CT patient dose depending on the clinical task, patient size, anatomical location, and clinical practice. A consultation with a radiologist and a physicist should be made to determine the appropriate dose to obtain diagnostic image quality for the particular clinical task.

Reconstruction and Display

RapidView IR Reconstruction (ScanTools)

RapidView IR reconstruction is the result of years of advanced research, and was designed specifically to satisfy the performance requirements and processing power needed to seamlessly integrate iDose4 into your department. RapidView provides dramatic improvements in workflow by displaying images at breakthrough rates, regardless of acquisition speed or reconstruction parameter. The RapidView system employs true cone beam reconstruction algorithms and Philips-patented back projection hardware to provide the user with the images they desire, along with best-in-class reconstruction speeds, without compromise in image quality.

Reconstruction Rate: Up to 24 images per second with iDose4

Reconstruction Rate: Up to 33 images per second without iDose4

ConeBeam Reconstruction Algorithm - COBRA (ScanTools)

Philips' multi-patented Cone Beam Reconstruction Algorithm (COBRA) enables true three-dimensional data acquisition and reconstruction in both axial and spiral scanning. This avoids and/or corrects artifacts present in reconstruction by reducing pixel to noise ratio, resulting in superior multislice image quality.

Reconstruction Modes

- Concurrent: Axial and spiral modes - image reconstruction concurrent with acquisition
- Off-Line (batch): Background image reconstruction of user-defined groups of raw data files with automatic image storage.

Fast Preview (ScanTools)

Provides immediate interrogation of acquired data through realtime, contiguous 5mm x 5mm images during acquisition.

Metal Artifact Reduction for Orthopedic Implants (O-MAR)

Metal Artifact Reduction for Orthopedic implants reduces artifacts in image data caused by high density metal objects such as prosthetic hip replacements. This artifact reduction may aid diagnosis and help treatment planning accuracy by enhancing visualization of critical structures and target volumes.

Add Reconstruction (ScanTools)

Enables quick and easy unplanned or modified reconstructions of part or all of the images prospectively or retrospectively planned.

Reconstruction parameters

Any study can be set up to automatically reconstruct using various reconstruction parameters. Exams can be tailored online while planning the scan, or during off-line recon. Up to six different reconstruction assignments are possible for each study. Image reconstruction parameters include image matrix, filters, enhancements, zoom and pan, and archive.

Ultra High Resolution Matrices (ScanTools Pro)

Exclusive to Philips, 768 x 768 and 1024 x 1024 image reconstruction matrices display all of the high-resolution data acquired in applications, such as inner ear, spine and high-resolution lung imaging. As resolution increases, larger matrices are required to display the full resolution for the reconstructed field of view.

UltraImage (ScanTools)

UltraImage includes proprietary pre- and post-processing hardware and software for enhanced visualization of soft tissue structures. UltraImage significantly improves image quality for the most accurate representation of even the most difficult to image anatomic areas, such as the bone-brain-air interface in neurological exams. The full clinical impact of UltraImage is best appreciated in the brain, long bones, spine, pelvis or shoulder, where subtle, soft tissue structures can be obscured by adjacent high contrast bone.

Adaptive Filtering

Adaptive filters reduce pattern noise (streaks) in non-homogenous bodies, improving overall image quality.

Post-processing and communication

Image Processing (ScanTools)

The interactive image viewer is designed for fast, efficient and simple image review and filming purposes. Images can be handled individually or in user-selected groups.

- Image viewer window: Displays a single image or a selection of images.
- Zoom & Pan: Magnification from 0.8 to 10 times
- Scroll Bar, Leaf and Cine, Invert Image, Image Parameters Display

Organ ID (ScanTools Pro)

Automatically isolates lung images for better viewing, including lung limit detection, zoom and pan setting, lung windowing, image enhancement, and image filming.

Image Graphics (ScanTools)

To help interpret clinical images, a variety of text and graphic aids can be individually positioned and manipulated with the mouse:

- Text annotation
 - Cursors for pixel value measurements.
 - Regions of Interest (ROI) - elliptical, rectangular, curved or freehand, with instantaneous calculation and display of area, average pixel value and standard deviation. Values of several ROIs may be added or subtracted.
 - Lines, grid and scales for distance measurements, curved and freehand lines for measuring any shape.
 - Arrows for pointing to features.
 - Angle measurements.
 - Histogram of pixel values in a user-defined region of interest.
 - Profile of the pixel values along any line.
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- Grid with adjustable spacing for distance assessment

Window Control (ScanTools)

- Eight user-defined preset windows provide fast and convenient window setting. Mouse-driven fine adjustments of the window center and width enable optimal image viewing
- Highlight Window: paints user-defined range of CT densities in color.
- Double Window: Simultaneous displays two independent CT density ranges on the same image, i.e. thorax slice with lung and mediastinum windows
- Invert Window: Ability to toggle between negative and positive image.

Host Computer

Computer Architecture: Windows XP Dell Precision host computer
Main Memory: 4.0 GB RAM

Display Monitor

Dual Monitor Configuration (ScanTools Pro)

Expands the workspace by utilizing two flat panel monitors side-by-side. The left monitor is utilized for scanning operations while the right is used for post-processing activities. These high-resolution, flat panel LCD, color monitors save space and weight when compared to conventional CRT-based monitors.

Post-Processing Analysis Tools

SlabViewer (ScanTools)

MPR- Multiplanar Reformation (ScanTools)

Maximum or Minimum Intensity Projection (MIP) (ScanTools)

3-D SSD Reconstruction (ScanTools)

MasterCut (ScanTools)

With the MasterCut feature, MPR (Multiplanar Reformatting) curved cuts along vascular structures can be defined on Maximum Intensity Projection (MIP) or volume rendered images to display panoramic and cross-sectional views that accurately visualize the vasculature.

RelateSlice (ScanTools)

RelateSlice is a Philips-exclusive tool provided in Volume Rendering, 3-D SSD, MIP, and MPR, that correlates the axial image to a user-selected location on multiplanar views and renderings. RelateSlice makes it easy for a user to compare the axial image to its post-processed presentation, improving the user's productivity and diagnostic confidence.

Masterlook (ScanTools)

An automated real-time image enhancement, or smoothing, that can be defined for up to three independent density ranges, such as lung, soft tissue and bone.

3-D Small Volume Analysis (ScanTools)

3-D Small Volume Analysis permits tumor or nodule characterization with respect to growth rates within the 3-D application. This tool uses automatic segmentation for help in identifying a solitary nodule or tumor (early staging of lung cancer), and measures volumetric parameters such as nodule volume, long axis, and short axis for follow-up purposes.

Q-CTA - Quantitative CT Measurement Tool Package (ScanTools)

Q-CTA is a tool kit for quantitative measurements of anatomic structures, such as vasculature pathology from 2-D, 3-D or volume-rendered images.

Volume Rendering (ScanTools)

Philips advanced volume rendering 3-D visualization software provides unique simultaneous visualization of vasculature, soft tissue and bone. Unlike conventional 3-D or MIP, volume-rendering visualization offers real time interactive control over opacity and transparency values. This permits viewing through and beyond surrounding structures, such as metallic stents and arterial calcifications, and virtually eliminates the need for organ segmentation.

Image Management and Archiving

Image archiving is organized according to the DICOM 3.0 hierarchical model, in a DICOM 3.0 compliant image format. Loss less image compression/decompression algorithm is used during image storage/retrieval to/from all local archives. Images can be auto-archived to selected archive media.

292 GB Hard Disk:	Image Storage Capacity: 512 X 512 Image Matrix = 500,000 typical number of uncompressed images
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DVD-RAM:	Image Storage Capacity: 512 X 512 Image Matrix = 15,000 typical number of compressed images per side.
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CD Writer:	Image Storage Capacity: 512 X 512 Image Matrix = 1,200 typical number of uncompressed images
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DVD RAM Archive

Philips DVD-RAM solution is an archive solution for storing CT and other modality datasets archived from the CT Scanner. The DVD-RAM solution provides an inexpensive, reliable method for high-speed random access recording. Ideally suited for mass storage.

DICOM CD Writer

A DICOM CD Writer option stores DICOM images and associated image viewing software on very low cost CD media. Images on these CDS can be viewed and manipulated on PC meeting the minimum specifications. Ideally suited for individual result storage and referring physician support.

Filming

This function allows the user to set up and store filming parameters. Pre-stored protocols can be set to include auto-filming. The operator can film immediately after each image, at the end of a series, or film after the end of a study and review images before printing. The operator can also automatically film the study at three different windows and incorporate "Combine Images" functionality to manage large datasets. Basic monochrome and color DICOM print capability are supported.

DICOM

Brilliance Workspace supports DICOM connectivity and can work with DICOM 3.0-compliant PACS, scanners, workstations, and printers. It supports IHE requirements for Scheduled Workflow and other integration profiles as defined in IHE Statement. Brilliance Workspace includes DICOM service classes to communicate with the following modalities:

- CT
- MR
- Nuclear Medicine including PET/CT
- Computed Radiography
- Radiography & Fluoroscopy (R&F)

Brilliance Workspace includes the following DICOM functionality:

- Storage Service Class User & Provider (CT, MR, NM, Secondary Capture)
- DICOM Print User
- DICOM Modality Worklist User
- Query/Retrieve User and Provider
- Modality Performed Procedure Step User
- Storage Commitment User
- Removable Media

Siting information

Power Requirements

- 380 - 480 VAC at 225 kVA and 50/60Hz
- Three-phase distribution source

Computer cabinets are included.

DE Ready

Philips' commitment to deliver pioneering applications of CT continues through the integration of an advanced Dual Energy imaging package. The Dual Energy imaging package provides the software needed to ready the iCT scanner to perform spectral analysis. Simply configure the iCT with an Extended Brilliance Workspace (option) and begin your exploration of new imaging frontiers.

DE Ready includes:

- Dual Energy scanning protocol on iCT
 - Acquisition and reconstruction of sequential 140kVp and 80kVp scan series

- Dedicated spectral analysis viewing and CT reporting applications
 - Spectral analysis of Dual Energy image series from iCT
 - Separation and analysis of materials such as bone, iodine and uric acid may be possible using sophisticated registration, segmentation and quantification algorithms when configured with an optional extended Brilliance Workspace (sold separately).
 - CT Reporting software license
 - Provides reporting capabilities of clinical including key images and results frames from when configured with an optional extended Brilliance Workspace (sold separately). Reports are available for paper or electronic distribution to referring physicians, patients, or for medical records. Each report is editable and new default templates can be easily created and included in the system configuration. The report can be saved as a PDF file for digital transfer or printed as a paper report directly from an optional extended Brilliance Workspace (sold separately).

Rate Responsive CV Toolkit for iCT

The "Rate Responsive CV toolkit" package is a set of features designed to allow basic cardiovascular imaging of the heart. This package is a prerequisite to the cardiac packages and to the "Stand Alone" applications, it includes:

Acquisition Features

0.27 Second Rotation

0.27 second 360° rotation provides better temporal resolution in advanced clinical applications such as coronary artery imaging, cardiac perfusion and other high-speed, motion-free imaging. The higher speed especially benefits prospective gating and Step & Shoot Cardiac (separate option).

DoseRight Cardiac

ECG Dose Modulation reduces the mA of the X-ray beam up to 80% during acquisition of non-desired phases (estimated overall dose reduction to the patient of ~45% for single-phase, end-diastolic imaging). For example, only one phase may be required for coronary CTA, and the system will reduce the mA during the other portions of the acquisition, saving considerable dose.

Retrospective Tagging

Spiral Retrospective Tagging allows the CT system to acquire a volume of data while the patient's ECG is recorded. The acquired data is "tagged" using AccuTag and reconstructed retrospectively at any desired phase of the cardiac cycle. This phase selection is accomplished using the Philips' patented Beat-to-Beat Variable Delay Algorithm, which automatically finds the best phase for cardiac CT imaging.

Prospective Gating

Prospective Gating automatically triggers axial multislice scan acquisitions using patient information from the ECG monitor. This feature uses Philips patented Beat-to-Beat variable delay algorithm for accurate and reproducible calcification scoring studies.

Integrated ECG Monitor

Philips' advanced ECG monitor is used to collect the patient's ECG signal and then transfer the signal to the scanner for gated cardiac CT imaging. The ECG signal is stored on the system for later recall and display in the Brilliance Workspace. This can be used to interactively complete raw data reconstructions at different portions of the ECG cycle. Also can be used to correct reconstruction artifacts caused by irregular heartbeats.

Reconstruction Features

COBRA Reconstruction (COBRA Cardiac)

This reconstruction algorithm along with the adaptive multi-cycle reconstruction algorithm (MaxCycle) delivers the clearest images with the best temporal resolution possible at all times, as low as 34mseconds, in full 3-D conebeam resolution.

Review Features

Cardiac Viewer

Provides a comprehensive set of user tools that allows quick visualization of one or multiple cardiac phases, synchronization of multiple cardiac phases with interactive slab-MIP tools for review purposes, cine mode for cardiac axes views and a simple “Area-Length” calculation of End Systolic Volume (ESV), End Diastolic Volume (EDV), Cardiac Output (CO) and Ejection Fraction (EF) for basic ventricular functional assessment.

Calcium Scoring

Cardiac scoring program which provides Agatston, Volume and Mass scores. Incorporates a database of > 5,000 asymptomatic multislice cardiac scoring patients.

Reporting Features

CT Reporting

Provides reporting capabilities for paper print of clinical results from the Philips Brilliance Workspace including display of key images and results frames. The report is available for paper or electronic distribution to referring physicians, patients, or for medical records. Each report is editable and new default templates can be easily created and included in the system configuration. The report can be saved as a PDF file for digital transfer or printed as a paper report directly from the Brilliance Workspace remote station.

Step & Shoot Complete

Step & Shoot Complete enables low dose, axial CT imaging of either the heart or the entire chest. This axial prospective ECG-gated acquisition technique uses a large collimation to achieve full heart coverage with sub-millimeter, isotropic resolution within a short breath-hold. It is ideally suited for patients with heart rates below 75 bpm and where low radiation dose is needed. Arrhythmias are detected by proprietary algorithms; scanner acquisitions are adjusted accordingly. Post-processing may be performed on existing coronary CT software.

This axial prospective ECG-gated acquisition technique uses large collimations and full 50 cm Field of Views to acquire and reconstruct datasets of the entire chest expanding visualization from the coronary arteries to central and peripheral vascular within the thorax.

Jog Scan

This Philips-exclusive feature provides up to 160 mm of imaging area for perfusion studies. An axial scan is taken in one location, the couch translates to another location within a few seconds, and another axial scan is taken. These multiple datasets are registered automatically to provide the extended coverage. Combined with Philips advanced Brain Perfusion with summary maps, the Jog Scan application can position CT as the modality of choice for acute stroke evaluation, providing unprecedented functional information over the functionally significant area of the brain.

Advanced Brain Perfusion (for Console)

Philips' Brain Perfusion package differentiates areas of increased blood volume and decreased blood flow and presents this information in a summary map. The summary maps may help clinicians distinguish between still-viable and non-viable infarcted tissue. Philips Advanced Brain Perfusion provides motion correction, noise reduction and improved ease-of-use to maximize efficiency.

Using serial CT scans obtained with intravenous injection of contrast, the Brain Perfusion package derives perfusion information from the time-density curves based on the uptake of injected

contrast material and subsequent tissue enhancement (or lack of). The package generates quantitative color maps of cerebral blood flow (CBF), cerebral blood volume (CBV), mean transit time (MTT) and time-to-peak (TTP), in addition to the summary maps.

AVA Stenosis (for Console)

AVA Stenosis offers a set of tools for stent planning and general vascular analysis. It allows the user to easily remove bone, and extract and segment the vessels to quickly perform typical measurements such as intra-luminal diameter, cross sectional lumen area, length and tortuosity of vessel's segments, and angle of the vessels. AVA allows the user to display the dataset using volume rendering, Average, or MIP with cross sections images that can be used to delineate aneurysm, presence of mural calcification and lining mural thrombus, branch vessel (celiac, mesenteric, renal) and the ilio-femoral arterial runoff circulation.

The interactive measurement tools make it easy for the user to calculate the angulation between the superior neck and aneurysm, the angle between the superior neck and aneurysm lumen, as well as other complex anatomic calculations.

Clinical Education Program for iCT Systems Configuration:

Essentials Off-Site Education: Philips will provide up to two (2) lead technologists, as selected by customer, with in-depth lectures covering basic clinical applications, Philips-specific imaging techniques, protocol optimization and scan parameters. A Brilliance CT "system emulator" is used during the lab sessions to simulate all basic scanning operations without x-ray exposure. Students will graduate from this class with an 80% understanding of the base system functionality. The remaining 20% is covered during the Handover On-Site experience. This twenty-eight (28) hour class is located in Cleveland, Ohio, and is scheduled based on your equipment configuration, geography, and availability. Due to program updates, the number of class hours is subject to change without notice. Customer will be notified of current, total class hours at the time of registration. This class is a prerequisite to your equipment handover On-Site Education, and should be attended no earlier than two weeks prior to system installation. ASRT CEU credits may be available for each participant that meets the Guidelines provided by Philips during the scheduling process. **Travel and lodging are not included, but may be purchased through Philips. It is highly recommended that 989801292078 (CT Full Travel Pkg Off-Site) is purchased with all Off-Site courses.**

Handover On-Site Education: This twenty-eight (28) training event will fine tune and expand upon knowledge learned during the Essentials Off-Site with focus on maximizing scanning techniques and protocols. This session is to be attended by the same two (2) technologists from Essentials Off-Site, and up to two (2) more of your dedicated CT Technologists, preferably from night or weekend shifts if necessary. ASRT CEU credits may be available for each participant that meets Philips Guidelines. Note: Site must be patient-ready. Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation.

Follow-Up On-Site Education: Clinical Education Specialists will provide twenty-eight (28) hours of follow-up CT On-Site Education for up to four (4) students, selected by customer, including technologists from night/weekend shifts if necessary. CEU(s) are not available in all cases.

Follow-Up On-Site Education: Clinical Education Specialists will provide twenty-four (24) hours of follow-up CT On-Site Education for up to four (4) students, selected by customer, including technologists from night/weekend shifts if necessary. CEU(s) are not available in all cases. Please

read Guidelines for more information, which will be provided to you during the scheduling process. Note: Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation.

The above education entitlements expire one (1) year from System installation date (or purchase date if sold separately). Ref#: 218372366180-100614

2	Bariatric Table	1
	The Brilliance Bariatric Patient Support is designed to meet the CT imaging needs of the growing bariatric population. Allowing for patient loads of up to 295kg (650 lbs.), the Bariatric Patient Support provides CT imaging access to a larger patient population than current offerings.	
	<u>Patient Support Specifications:</u>	
	<i>Longitudinal motion:</i>	
	Manual Stroke:	1890 mm
	Scannable range:	1750 mm
	Acquisition Speed:	0.5 to 185 mm/sec (iCT) 0.5 to 143 mm/sec (Ingenuity CT, Brilliance 40 and 64) 0.5 to 100 mm/sec (Brilliance 6, 10, 16, Big Bore)
	Load/Unload Speed:	0.5 to 185 mm/sec (iCT, Ingenuity CT, Brilliance 64)
	Position accuracy:	±0.25 mm
	<i>Vertical motion:</i>	
	Range:	578 to 1028 mm; 1.0 mm inc. 645 to 1065mm; 1.0 mm inc. (iCT)
	Table load capacity:	295 kg (650 lbs)
	<i>Floating tabletop:</i> Carbon-fiber table top with foot pedal and handrail control for easy positioning and quick release.	
	The Bariatric Table includes the Radiology Flat Top Kit. This kit, comprised of a wide accessory flat top, wide mattress pad and extra long patient restraint straps, provides additional comfort and security for patients. A quality assurance phantom holder fitted for the flat top is also included. Note: This flat top is not qualified for oncology radiation therapy usage and cannot be used to support the iCT calibration phantom	
3	Operator's Manual - English	1
4	Keyboard Language - English	1
5	Operator's Chair	1
	One (1) standard height operator's chair.	
6	Computer Table	1
	Computer Table, for the Brilliance Console or the Extended Brilliance Workspace, provides a large enough working space (120cm) to accommodate dual monitors and other peripheral devices.	
7	Operator's Manual - English	1

Philips' iPatient is an advanced platform that delivers focused innovations to facilitate patient-centered imaging, now and in the future. This powerful platform puts users in control of innovative solutions that drive confidence and consistency through personalized patient centric workflow, increase the ability to do complex and advance procedures with ease and efficiency. iPatient removes unnecessary complexity and allows our customers to get the job done with less stress and greater confidence, and prepares for future innovations that will help improve the care being delivered to the patient.

Dose Management

The Philips iPatient approach to patient-centered imaging includes new, patient-specific methods to facilitate optimal management of both image quality and radiation dose.

These methods were designed to simplify the adaptation of scan protocols and advanced techniques— such as dose modulation and iterative reconstruction — for each individual patient and diagnostic task and include:

- **DoseRight Index (DRI):** a single number used to specify the image quality required for the diagnostic task at hand
- **Organ-specific DRI:** Liver and Head/Neck localized settings to optimize dose and image quality
- **NEMA XR-25 DoseCheck**
- **DICOM Structured Reporting for Dose**
- **IHE REM Profile**
- **DoseRight 3D Modulation**
- DoseRight ACS
- Ability to set a maximum and minimum dose per ExamCard
- Dose display on Surview for the planned acquisitions
- 11 (1 infant, 7 pediatric, 3 adult) size-specific reference diameters, directly related to weight intervals, that may be used to establish patient-centric ExamCards
- Locking Protocols

ExamCards

ExamCards are the evolution of the scanning protocol. With ExamCards, the results are planned, not the acquisition, as traditionally done in CT; this reduces decision points and clicks, saves time and improves operator-to-operator consistency. ExamCards can include axials, coronals, sagittals, MPRs, MIPS, and other results, all of which will be automatically reconstructed and can be sent off to where they will be read with no additional work required by the operator.

Workflow Enhancements

iPatient is the ideal platform for high-throughput for both routine and trauma exams. iPatient's holistic approach to workflow makes the entire procedure simpler and easier. Some features include:

- **Scan Ruler:** provides a visual, highly interactive view of the entire procedure that allows 1-click updates to important study events
- **Fast Preview:** displays real-time 512x512 matrix image reconstruction and 5 mm x 5 mm contiguous slices with helical acquisition or off-line reconstruction. Images can be modified for

window width and level, zoom, and pan prior to larger matrix reconstruction at the end of the acquisition.

- **View2:** allows you to work with more than one patient at a time. With one-click move the current patient to the right monitor to continue working and on the left monitor you can simultaneously begin the next patient.

9 Operator's Manual - English 1

10 SyncRight (WO Injector) 1

SyncRight enables bi-directional communication between the scanner and SyncRight Injector. This communication allows for improved workflow.

Prerequisite: iPatient

Medrad Stellant P3T PA:

Medrad Catalog # 3028465

P3T PA (Pulmonary Angiography) tailors each patient's contrast protocol based on four primary components:

- Patient and procedure data gathered by healthcare personnel
- P3T algorithm for protocol generation
- DualFlow technology (the simultaneous injection of contrast and saline).
- An optional transit bolus that refines the protocol (P3T PA also works with bolus detection software)

P3T PA software enables increased diagnostic studies by fitting into the established CTPA workflow and making consistent administration of personalized dosing practical.

Philips does not warranty the Medrad Stellant CT Injector System or its options but will pass on the Medrad warranty provided in countries where MEDRAD operates. In these countries Medrad or a MEDRAD authorized Distributor warrants each new injector system; including control unit, display control, remote panel and injector head against defects in material and workmanship, under proper, normal use and service for a period of one year (12 months) from the date of installation. There will be no charge for any action deemed necessary by Medrad, including parts, travel, or labor to fulfill the terms of the warranty, during normal business hours (8:30am to 5:00pm, local time, Monday through Friday, except MEDRAD recognized holidays).

11 Operator's Manual - English 1

12 Load Unload Foot Pedal iCT 1

Load and Unload foot pedals allow the operator to move the patient couch to the load or unload position using a foot pedal thus improving patient handling efficiency by the freeing the operator's hands to prepare, restrain, or release the patient.

13 Head-Arm Rest Pad 1

The Head & Arms Rest is a patient positioning pad that provides patient support during examinations when the patient's arms are raised above his/her head. The pad provides an ergonomic rest for the patient's head and arms and straps to secure the patient. The pad is intended to be used outside of the scan length and should not be scanned.

14	SyncRight Injector - OCS Medium	1	<p>The SyncRight Injector is a MEDRAD Stellant D with DualFlow option. The injector, when bundled with the SyncRight (WO Injector) option, interfaces with Ingenuity CT allowing bi-directional communication.</p> <p>This injector comes with an Overhead Counterpoise system with a ceiling column length of 850 mm (33.5").</p> <p>Medrad Stellant D CT - Dual Syringe w/DualFlow - Overhead Counterpoise System (Medium):</p> <p>The Stellant CT Injection System is comprised of the injector head located in the screening room and a touch screen Display Control Unit (DCU) and Base unit, which is typically located in the control room. The three components are connected by a communication link.</p> <p>Control console system with Dual 200 ml variable speed injector head with automatic docking, Auto Advance and Auto retract. Includes touch screen display input, 75 ft. cable to control console, injector head overhead mount, operation manual and two 200 ml syringe kits.</p> <p>Stellant D with DualFlow option is more than a saline flush after a contrast bolus. Now you can inject both contrast and saline at the same time. The key is the simultaneous injection capability of the DualFlow option. DualFlow enables variable ratios of plunger motion from the contrast and saline syringes simultaneously. With the proper ratio, left and right heart ventricles can be illuminated uniformly for improved image quality.</p> <p>Philips representatives are responsible for the unpacking, assembly and installation of the CT Injector equipment. Medrad will be available for technical assistance, by phone: call (412) 767-2400. Medrad will also provide an operational checkout, final calibration, in-service of the equipment and initial applications training. Please contact the local Medrad sales office at least two weeks in advance to schedule installation. Call (412) 767-2400.</p> <p>Philips does not warranty the Medrad Stellant CT Injector System but will pass on the Medrad warranty. Medrad warrants each new injector system; including control unit, display control, remote panel and injector head sold in North America and Europe against defects in material and workmanship, under proper, normal use and service for a period of one year (12 months) from the date of installation. There will be no charge for any action deemed necessary by Medrad, including parts, travel, or labor to fulfill the terms of the warranty, during normal business hours (8:30am to 5:00pm, local time, Monday through Friday, except holidays).</p>
15	30 Min Console UPS	1	<p>Uninterruptible Power Supply (UPS) provides up to 30 minutes of battery backup for computer/reconstruction system.</p>
16	INTL OnSite Travel - DOD Only	2	<p>This package covers travel expenses for International education required by the United States Department of Defense. Based on the destination country, additional quantities of this item may be purchased as required. Specific travel details will be communicated during the scheduling process. Note: Due to the nature of these arrangements, Philips cancellation/rescheduling policy strictly enforced. Education expires one (1) year from equipment installation date (or purchase date if sold separately).</p>
17	IMR Entitlement	1	

100028 Brilliance iCT System

Line #	Part #	Description	Qty
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CT IMR Onsite Education:

Philips Clinical Education Specialist will provide twenty-four (24) hours of CT IMR and/or Advanced CT OnSite Education for up to four (4) students, selected by customer, including technologists from night/weekend shifts if necessary. CEUs are not available in all cases. Please read Training Guidelines for more information, which will be provided to you during the scheduling process. Note: Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation.

Education expires one (1) year from equipment installation date (or purchase date if sold separately). Ref #828-20130121

18

iPatient Entitlement

1

CT iPatient Upgrade Education:

This twenty-eight (28) hour training event will focus on maximizing advanced scanning concepts, protocols, dose tools and interface module for MedRad injector. This session should be attended by the same two (2) technologists from Essentials OffSite, and up to two (2) more of your dedicated CT Technologists, preferably from night or weekend shifts if necessary. ASRT CEU credits may be available for each participant that meets Philips Guidelines. Note: Site must be patient-ready. Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation.

Advanced Follow Up OnSite Education:

Clinical Education Specialist will provide sixteen (16) hours of additional iPatient and/or Advanced CT OnSite Education for up to four (4) students, selected by customer, including technologists from night/weekend shifts if necessary. CEUs are not available in all cases. Please read Training Guidelines for more information, which will be provided to you during the scheduling process. Note: Philips personnel are not responsible for actual patient contact or operation of equipment during education sessions except to demonstrate proper equipment operation.

Note: It is highly recommended that the Adv Follow Up training be scheduled thirty (30) days following the initial iPatient Education has occurred.

Education expires one (1) year from equipment installation date (or purchase date if sold separately). Ref #827743-130121

IMR sets a new direction in CT image quality with virtually noise*-free images and industry-leading low-contrast resolution. Long associated with MR, this improvement in low-contrast resolution is a breakthrough made possible through Philips' first iterative reconstruction technique built on a knowledge-based model. Enabled by next-generation RapidView hardware and reconstruction algorithm innovation, its reconstruction speed allows IMR to be used in even the most demanding applications.

Key Benefits:

- Industry-leading low-contrast resolution
- Virtually noise-free images
- 2.7x low-contrast detectability
- Less than 5-minute reconstruction for the majority of reference protocols
- Integrated design with minimal siting impact

Currently, IMR may be used for patients of all ages for a wide range of clinical applications — such as CTA, trauma, thoracic, abdominal, pelvic, spinal, orthopedic, extremity, and neck scans. IMR is currently contraindicated for cardiac, gated, brain, perfusion, and dual-energy scans. For these acquisition types, iDose4 may be used.

Prerequisites: iPatient and iDose4 Premium Package

* In clinical practice, IMR may reduce image noise depending on the clinical task, patient size, anatomical location, and clinical practice. A consultation with a radiologist and a physicist should be made to determine the appropriate dose to obtain diagnostic image quality for the particular task. As with any imaging reconstruction, the quality of the resulting IMR images is dependent on the scanning parameters required for your particular patient, clinical indication, and clinical practice.

Turnkey Proposal

Summary

The purpose of this scope of work ("SOW") is to define the extent of the Turnkey engineering, procurement and contracting work required to complete the project described above. Anything not specifically included by mention in this description is excluded from the agreed upon SOW. In the event of a conflict between the work described in the SOW definition set forth below, and the supplemental documents attached to this Turnkey Contracting Proposal, the SOW shall govern. The SOW should be thoroughly reviewed by all involved parties to ensure that all areas of concern are addressed, as the items described therein shall govern execution of the project described herein ("Project"). Additional items not addressed in this proposal may be included in the Project, but are subject to negotiation.

This proposal references **site drawing number**: N-SOU131148

DESIGN:

All architectural and engineering work necessary to complete the project described above, including:

- Philips Drawings – Project # N-SOU 131148, dated 03/20/2013
- Architectural, Structural or MEP engineered drawings are not included.
- Physicist shielding report post-testing is included.
- Engineers letter for Injector support included.
- Any pre-construction meetings.
- All necessary construction progress inspections.
- Permits are not included.
- Project duration approximately 45 days.

CONSTRUCTION:

Division 01 – General Requirements

- Keep a current and up to date copy of the Philips construction documents on the job, marked with red-lines for all changes that occur during the work.
- Provide all necessary samples.
- Maintain a full time job superintendent.
- Provide all overtime labor as required to complete the project within the agreed upon schedule.

- Standard job site work hours are 7:00 AM to 5:00 PM. Permission to work at the site during any periods other than standard work hours must be approved by the facility in advance, in writing.
- Noise restrictions at the job site are as follows: As directed by Facility. No restrictions talked during walk through.
- HEPA filters and infection control procedures as required by the facility. Maintain negative pressure in the construction area as required by the facility.
- Provide for daily broom cleaning of the job site and debris removal and appropriate disposal (not including any Philips equipment containers and packing materials). Use of walk off mats as required by the facility. The entire job site shall be cleaned upon completion of the work, prior to turnover to the customer.
- The storage, staging and delivery of materials to the job site shall be as follows: As directed by Facility.
- Parking for construction workers is restricted to: As directed by Facility.
- Compliance with the Owner's security regulations and dress codes is required.
- Use of the Owners' facilities is limited to: As directed by Facility.

Division 02 – Site work

Selective demolition including but not limited to:

- Remove existing VCT flooring.
- Remove existing base and wall cabinets (6 LF each).
- Remove existing sink.
- Open existing sheetrock in selected areas for blocking and new electrical in the exam room and control room.
- Remove acoustical ceiling tile and grid in exam room.
- Provide dumpster for project trash.
- All items that are intended to be salvaged by the owner will be so noted and removed by the owner prior to the start of the demolition work.
- **This scope of work does not include the removal of any materials deemed hazardous by local authorities, the EPA, OSHA, or any other authority having jurisdiction over the work. If such materials are discovered at any time that the work is proceeding, the work will immediately cease, the owner will be notified, and the work will again proceed after the owner has removed all of the hazardous material from the job site.**

Division 03 – Concrete

- Cores for new electrical.
- Fill in all old cores.

Division 04 – Masonry -

N/A

Division 05 – Metals

- Provide Engineered ARJO patient lift support.
- Provide Engineered Injector support.

Division 06 – Wood, Plastics and Composites

- Provide 14' - 6" lineal feet of new plastic laminated storage cabinets at north side wall of room. Uppers and lowers with counter top and dust cover.

Division 07 – Thermal and Moisture Protection

- All new wall penetrations shall have the required fire caulk.

Division 08 – Doors, Windows and Glass

- Provide 2 ea. 3'x7' bi-passing sliding glass door system (6070 total opening). Doors to be clear anodized store front aluminum with 1/4" tempered glass.

Division 09 – Finishes

- All existing drywall disturbed by the work shall be patched, repaired and replaced as required with materials and construction type compatible with existing drywall construction.
- Replace exam room acoustical ceiling with new sheetrock ceiling.
- All walls shall be painted to match existing building standard.
- All door and window frames in the CT room shall be painted to match existing Building standard.
- Level floor and install new Armstrong Medintech seamless flooring with 4" flash cove.
- The services of a professional interior designer are not included, nor are there any furnishings, furniture, art work, window treatments, miscellaneous accessories, etc.

Division 10 – Specialties –

N/A

Division 11 – Equipment -

N/A

Division 12 – Furnishings –

N/A

Division 13 – Special Construction

- Patch wall opening as required in Scan Room with 1/16" lead material up to 7' AFF.

Division 14 – Conveying Equipment –

N/A

Division 21 – Fire Suppression

- Relocate 2 existing sprinkler heads as needed, and add 1 sprinkler head in new equipment room.

Division 22 – Plumbing

- Install new sink in new counter top.
- Move medical gases as per facility direction and replace with new fixtures and hose reel in ceiling. Recertification of 2 sets of gases. (Oxy, Med air, and Vac. In separate rooms.) Rooms 117- 5A & 117-5D

Division 23 – Heating Ventilating and Air Conditioning

- Existing HVAC in exam room to remain as is.
- Modify system to add supply and return to new equipment room and rebalance system.
- Change out all existing registers with new registers to be installed in hard ceiling.

Division 26 – Electrical

- Provide coring, sleeving, and fire caulking as needed for new floor penetrations
- Demo existing equipment, raceways, and conduits not being reused by new equipment
- Provide and install trench duct FR1 (trench duct to be replaced with conduits under floor)
- Provide and install wall raceway R1
- Provide and install wall raceway R2
- Provide and install ISO1
- Provide and install ISO2
- Provide feeder from 175 amp breaker enclosure A1 to ISO1
- Provide feeder from ISO2 to gantry
- Install ISO (provided by Philips)
- Provide and install box UPS
- Provide and install wall raceway WR1
- Provide new data stub up in equipment room
- Provide and install EPO button (A2 on plans)
- Provide and install conduit from UPS to WR1
- Provide and install conduit from UPS to FR1
- Provide and install new warning light
- Provide coring, sleeving, and fire caulking as needed for new floor penetrations
- General Contractor to add access panels as needed in new sheetrock ceiling to access any existing above ceiling j-boxes
- Replace 8 - 2x4 fluorescent lights with new fluorescent flush mounted sheetrock ceiling lights
- Replace 8 orange duplex receptacles with red receptacles
- Demo existing PDU feeder
- Provide and install new 480 volt, 175 amp breaker enclosure A1
- Replace existing 480 volt, 100 amp, 3 pole breaker in Panel C1W with new 480 volt, 175 amp, 3 pole breaker
- Provide and install new 480 volt, 175 amp, feeder (using #3/0 AWG wire) in existing 2" conduit from Panel C1W to new breaker enclosure A1
- Provide and install new 120 volt, 20 amp, dedicated duplex receptacle on critical power for new patient lift
- Provide and install 6 new LED dimmable recessed lights
- Provide and install 1 new LED dimmer switch for recessed lights
- Provide and install 1 new single pole switch in equipment room
- Provide and install 1 new 2x4 fluorescent flush mounted, sheetrock ceiling light
- Providing new low voltage devices or back boxes (i.e. data/phone system, fire alarm devices, nurse call devices, etc...)
- Relocating any existing above ceiling j-boxes (GC to add access panels to

- Accommodate access to areas)

Division 27 – Communications –	N/A
Division 28 – Electronic Safety and Security	N/A
Division 31 – Earthwork –	N/A
Division 32 – Exterior Improvements –	N/A
Division 33 – Utilities –	N/A
Division 34 – Transportation –	N/A

CLARIFICATIONS:

Should any of the following issues arise during construction; the contractor will agree to correct the issues after re-negotiating a price with the government.

- Repair of any existing faulty equipment or wiring to remain in use.
- Repair of any unsafe conditions revealed during the course of construction.
- Any unforeseen or latent conditions.

EXCLUSIONS:

- Overtime
- Code Compliance of existing electrical system.
- Telephone/Data cabling and/or equipment installation.
- Waxing of new floors.
- Nurse call, code blue, intercom, security, CCTV or TV systems.
- Removal of hazardous materials.
- Rigging and/or de-installation of equipment.
- Vibration and noise level studies.
- Repairs of code violations not related to the above Scope of work.
- 3rd Party Commissioning.
- TDH fees for inspections, review or certifications.
- Not responsible for unforeseen conditions.
- All items not included in the scope of work must be added to this section.
- The services of a professional interior designer are not included, nor are any furnishings, furniture, artwork, window treatments, miscellaneous.
- Analysis of the quality, capacity or availability of the existing building power and grounding.