SUPPLEMENTAL BID BULLETIN NO. 2

to the

BID DOCUMENTS

for the

SUPPLY AND DELIVERY OF VARIOUS ENGINEERING SOFTWARE FOR NIA ENGINEERING DEPARTMENT
ITB No. NIACODSD-S-2R1

A. Please be advised of the following revisions in the Bidding Documents for the above-captioned project:

   1) Delete all pages of the Comparative Specifications Table for Lot No. 2, Item D – Solidworks Premium under Section VII. Technical Specifications of the Bidding Documents, and substitute the herein attached Annex "A";

B. Receipt of this Notice must be acknowledged by the Bidders at the Office of the BAC-A Secretariat, 6th Floor, NIA Building "A", EDSA, Diliman, Quezon City.

C. This Notice shall form part of the Bidding Documents.

ORIGINAL SIGNED

ENGR. ROBERT C. SUGUITAN
BAC-A Chairperson

LOT 2: ITEM D – SOLIDWORKS PREMIUM

BID NO. NIACODSD-S-2R1 **QUANTITY: 1**

NIA MANDATORY SPECIFICATIONS	BIDDER'S SPECIFICATIONS
3DCAD Modelling Software with Simulation Premium Design Software	
1) Software Licensing Model: Perpetual License	
2) License Access Management: Standalone Commercial License	
3) Hardware Requirements: Application Desktop/Laptop	
4) Maintenance: Two (2) years after-sales support	
5) Part and Assembly Modeling Handle all aspects of your part and assembly modeling and transform ideas and concepts into virtual 3D models, regardless of design complexity and size. Leverage specialized tools for sheet metal, weldment, mold, and parametric surfacing.	
6) 2D Drawings and 3D Manufacturing Documentation Create production-ready 2D drawings or go drawingless and use intelligent, automated 3D dimensioning and tolerancing capabilities	
7) Productivity Tools Easily analyze, compare, check, and report on your designs.	
8) Design Reuse and Automation Simplify the reuse of existing design data with search, automation, and configuration tools that help you speed up the creation of new designs.	
9) Interference and Clearance Check Before going into production, verify in 2D and 3D that your parts and assemblies will fit, assemble, and operate correctly.	
10) Manufacturability Checks Review your designs for Draft, Undercut, Thickness, and Hole Alignments early in the development process to ensure manufacturability.	
11) Xtended Reality (XR) Exporter Export CAD data for AR, VR, and web-viewing experiences while retaining geometry, appearance, motion studies, display states, and more.	
12) Graphics Performance	

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Utilize the full power of your GPU hardware to speed up viewing and manipulation of your largest designs.	
13) CAM Programming Leverage integrated 2.5-axis milling programming capabilities to improve communication, reduce errors and cycle times, and increase product quality.	
14) CAD Libraries Easily find, customize, and share hundreds of thousands of prebuilt industry-standard fastener models and commonly reused CAD data.	
15) CAD Standards Checking Establish design standards and check drawings (or models) against them to create uniform designs and documentation.	
16) Automated Tolerance Stack-up Analysis Automatically check the effects of tolerances on parts and assemblies to ensure the consistent fit of components and verify tolerancing schemes before manufacturing your designs.	
17) Design for Cost Continuously check your designs against cost targets with automatic cost estimation tools fully integrated within 3D CAD.	
18) Reverse Engineering Recreate designs with the ability to import, edit, evaluate, and create solid geometry from scanned point-cloud and mesh data.	
19) ECAD/MCAD Collaboration Utilize the full power of your GPU hardware to speed up viewing and manipulation of your largest designs.	
20) Sharing of 2D Drawings and Models Get the power to create, view, share, and control the access to 3D models and 2D drawings in an email-ready format.	
21) Advanced Surface Flattening Flatten complex, nondevelopable surfaces typically, encountered in products made from textiles (like clothing), or sheet metal (like metal stampings).	

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22) Pipe and Tube Routing Simplify the design and documentation of piping and tubing for a wide range of systems and applications, including machinery, skid systems, and process plant piping.	
23) Linear Static Analysis for Parts and Assemblies Calculate the stresses and deformations of geometry using Finite Element Analysis (FEA) methods, and running linear stress analysis to determine the response of parts and assemblies.	
24) Time-Based Motion Analysis Realistically visualize your product moving throughout its, operational cycle world, measure the forces and loads on your design, and use the data to correctly size motors and ensure product performance, quality, and safety.	
25) FEA Modeling offer 2D simplification, plane stress, plane strain, axisymmetric and sub-modelling.	
26) Interactions and Connectors • Bonded, Contact, Shrink Fit, Free and Virtual Wall conditions. • Node-to-surface and surface-to-surface contact. • Self-contact. • Connectors: bolt, spring, pin, elastic support and bearing • Connector safety check	
27) Loads and Constraints • Fixtures to prescribe degrees of freedom. • Force, pressure and remote structural loads. • Temperature loading. • Import Pressure and Thermal Loads from SOLIDWORKS Flow Simulation. • includes Load Case Manager to evaluate the effects of various load combinations on your model.	
28) Stress Hot Spot Diagnostics Regions of model with irregular stress gradients can be detected between adjacent elements.	

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The cause of the irregular stress gradients could be stress singularities.	
29) Communication with Reports and eDrawings® Customizable simulation report. eDrawings of simulation results.	
30) Linear Static Simulation for Assemblies Part and assembly structural analysis problems solved for stress, strain, displacements and Factors of Safety (FOS). Typical analysis assumes static loading, elastic linear materials and small displacements.	
31) Time-Based Motion Rigid body kinematic and dynamic motion tool used to calculate velocities, accelerations and movements of assembly under operational loads. With motion analysis complete, component body and connection loads can be included in linear analysis for a complete structural investigation.	
32) Design Comparison Studies "What if" scenarios based on defined variables (dimensions, mass properties, simulation data).	
33) Fatigue Simulation Estimation of high cycle fatigue life of components subjected to multiple varying loads where peak stress is below material yield stress. Cumulative damage theory used to predict locations and cycles to failure.	
34) Trend Tracker Detection of trends in results from different iterations of a static study.	
35) Automatic Conversion of Toolbox Fasteners to Bolts Automatic conversion of Toolbox fasteners from SOLIDWORKS CAD models to simulation bolt connectors. Patent awarded in 2018.	
36) Design Optimization Based on a Design of Experiments (DoE) method, Design Optimization finds the optimum design according to design variables and user-defined goals such as minimize mass, stress, deflections.	

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Design variables can be CAD dimensions, material properties or load values.	
37) Load Case Manager Effects of various load combinations on your model can be evaluated.	
38) Advanced Interactions and Connectors • Thermal contact resistance condition • Insulated condition • Edge weld connector • Link Rod connector	
39) Topology Optimization Studies Ability to discover new minimal material design alternatives under linear elastic static loading while still meeting component stress, stiffness and vibrational requirements.	
40) Event-Based Motion Simulation Motion analysis generated by event-triggered motion control using any combination of sensors or events or time schedule.	
41) Frequency Simulation Product's natural modes of vibration can be determined—important for products that experience vibration in their working environment.	
42) Buckling or Collapse Simulation Buckling failure mode for long and slender components is by collapse at load below material yield stress. Buckling study predicts components' buckling load factor.	
43) Thermal Simulation Solution of steady-state and transient thermal problems for temperature, temperature gradient and heat flux. Thermal analysis results can be imported as loads into Static Studies.	
44) Drop Test Simulation Ability to analyze effect of impact of part or assembly on target surface.	
45) Pressure Vessel Design	

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Pressure Vessel Study calculates linearized stress, key for safe pressure design.	
46) Submodeling Simulation	
47) 2D Simplification Dramatic reduction in amount of time needed to solve problem by simplifying 3D models to 2D in plane stress, plane strain or axi-symmetric models.	
48) Linear Dynamic Simulation	
49) Nonlinear Simulation Calculation of effects of dynamic loads, forcing vibrations, impact or shock loading for linear elastic materials. Study types are *Modal Time History Analysis *Harmonic Analysis *Random Vibration Analysis *Response Spectrum Analysis. Nonlinear Analysis enables users to analyze complex material behavior, such as post-yield metals, rubbers and plastics, as well as account for large deflections and sliding contact. Complex material models in Nonlinear Static Studies can be used to calculate permanent deformation and residual stresses due to excessive loads, as well as predict performance for components, such as springs and clip fasteners. Nonlinear Dynamic Study accounts for effect of real-time varying loads. In addition to solving nonlinear static problems, Nonlinear Dynamic Studies can solve impact problems.	
50) Composites Simulation Analysis of structural response of composite, which is mixture of two or more materials.	
51) Miscellaneous - 4 days training for a minimum of 10 participants with inclusion of meals and snacks - Fundamentals and Advanced Training - Documentation (Installers/Manual)	
Name of Firm	Name in Print & Signature of Bidder