



CITY OF TORRINGTON INVITATION TO BID

BID #DCP-023-030210 DISPATCH CENTER FOR TORRINGTON POLICE DEPARTMENT

Date of bid opening: March 2, 2010 Time: 11:00 AM Location: Temporary City Hall, 59 Field St., Torrington

Bid Bond or Certified Check required with bid: 10%

Performance Bond required if awarded bid: See "Instructions to Bidders"

Submit an original bid and three (3) duplicate copies.

The City of Torrington reserves the right to accept or reject any or all bids or any portion thereof, to waive technicalities, and to award the contract as will best serve the public interest.

Omit State and Federal Taxes.

All prices must be F.O.B.: Destination (Torrington) unless otherwise requested.

Dated in Torrington: 2/5/10

Purchasing Agent _____
Pennie Zucco

Item	PRICE
THE CITY OF TORRINGTON IS REQUESTING BID PROPOSALS TO FURNISH ALL LABOR, MATERIALS, TRANSPORTATION AND INSTALLATION OF PROPOSED DISPATCH WORK STATIONS FOR DISPATCH CENTER PER SPECIFICATIONS	\$ _____

The Purchasing Agent is authorized to offer City based bidders that exceed the lowest bid by up to 6%, the opportunity to match the lowest bid. A City based bidder within the 6% differential who agrees to accept the amount of the lowest bid will be awarded the bid. When multiple City based bidders agree to accept the amount of the low bid then the City based bidders will be invited to submit a new bid, not to exceed the low bid. The bid will then be awarded to the lowest responsive, responsible bidder.

Bid Submitted By: _____

Name of Company _____
Address _____

Signature

Phone _____ Fax _____

Title

Delivery Date _____

Date

E-mail address _____

Web Page

Comments: _____

INSTRUCTIONS TO BIDDERS

Sealed bids will be received by the Purchasing Agent, Temporary City Hall, 59 Field Street, Torrington, CT until the time and date specified on the cover sheet and opened thereafter in the Purchasing Department. Bids received later than the time specified will not be accepted. Amendments to or withdrawal of any section of the submitted bid received later than the time & date set for the bid opening will not be considered. Bid proposals must remain in effect for a minimum of 30 days unless otherwise noted elsewhere in the bid specifications.

BID DOCUMENTS: are available over the Internet on the City's web page, under "open bids", www.torringtonct.org. Businesses without internet access may contact the Purchasing Department at 860-489-2224 for the bid documents. Any alleged oral agreement made by a bidder or contractor with any agency or employee of the City of Torrington will be disregarded.

BID BONDS: shall be in the amount of 10% of the total bid made out in favor of the City of Torrington and issued by a Surety company acceptable to the City of Torrington must accompany each bid. A certified check, cashier's check, Treasurer's check, or money order in the same amount may be submitted in lieu of the bid bond. Bids submitted without Certified Check or Bid Bond will not be accepted. The City of Torrington will not be held liable for the accrual of interest on any check held by the city in conjunction with this bid. All checks or bid bonds will be refunded to the unsuccessful bidders after award of the bid by the City Council. The deposit check or Bid Bond of the successful bidder will be held in escrow until such time as the city determines that the bidder has or will meet their obligations as stated by the bid. If the bidder fails or refuses within a reasonable time after due notice that the contract has been awarded to him, to execute the same, an amount representing a loss to the city by reason of such failure shall be retained and paid into the city treasury.

FREIGHT: Prices quoted shall be net delivery **F.O.B. Torrington, CT**. All bid prices must include prepaid delivery, assembly, and/or installation (ready for operation and/or use) of all equipment and/ or materials to the individual locations(s) as designated by the Purchasing Agent. All bid prices are to be submitted on the sheets provided on this bid. Quantities and pricing are to be listed in accordance with these sheets.

EXPARTE COMMUNICATION: Please note that to insure the proper and fair evaluation of a bid, the City of Torrington prohibits exparte communication (i.e., unsolicited) initiated by the Bidder to a City Official or Employee evaluating or considering the bids prior to the time a bid decision has been made. Communication between Bidder and the City will be directed in writing to the Purchasing Agent only. The Purchasing Agent will obtain the information or clarification needed. Exparte communication may be grounds for disqualifying the offending Bidder from consideration or award of the bid and repeat offenders may be disqualified from future bids.

QUESTIONS: Request for interpretation of any portion of the bid shall be made to the Purchasing Agent at (860) 489-2225. All replies will be given verbally and a copy of any such inquiry and advice (if deemed vital to the bid by the Purchasing Agent) will be made available to each prospective bidder. Bidders should check the web site for addendums/updates 48 hours prior to the bid opening.

In the event of receipt of identical bids as to offerings, delivery, service, content, price, etc., the bid will be awarded in accordance with the information contained in the bid document, based on first received as to date and time of receipt of the bid.

NON-COLLUSION STATEMENTS: In order for bids to be considered, a non-collusive statement must be submitted with the bid. A sample non-collusive bid statement is attached. Bidders may elect to submit their own notarized non-collusion statement.

CONDITIONAL, QUALIFIED OR NON-RESPONSIVE BIDS/PROPOSALS: All bids/proposals shall be submitted in the form and manner as indicated by the bid documents and bid forms. Any proposal which is not submitted in the form and manner indicated by the bid documents or which contains information, statements, conditions, or qualifications which place conditions or qualifications on the proposal submittal for purposes of making an award, or which alter any proposal terms, conditions, specifications, or forms, which has not been previously approved by written addendum from the Purchasing Agent, or which does not meet legal requirements, shall be declared as a qualified, conditional, or non-responsive proposal and shall be rejected without further consideration. Any proposal response that does not fully respond to and comply with all detailed specifications or requests for information including execution of proposal forms, may be declared "non-responsive" and recommended for rejection. The City of Torrington shall not be responsible for any errors or omissions of the Offeror.

UNBALANCED BIDS AND/OR EXCESSIVE LINE ITEM PRICES: The City reserves the right to reject any bids in which unit prices, in the sole opinion of the City, are unbalanced. In addition, where the City has decided to make an award, it further reserves the right to non-utilize a particular line item that in the sole opinion of the City is excessively priced, and reserves the right to obtain that item from another source.

CONTRACT: A response to an Invitation To Bid is an offer to contract with the City of Torrington based upon the terms, conditions, and specifications contained in the City's ITB. Bids do not become contracts unless and until executed by the City, eliminating a formal signing of a separate contract. For that reason, all of the terms and conditions of the contract are contained in the ITB, unless any of the terms and conditions are modified by an ITB Amendment, a Contract Amendment, or by mutually agreed terms and conditions in the contract documents.

TAXES: Omit all State and Federal taxes from the bid. The City of Torrington is exempt from the payment of taxes imposed by Federal government and/or the State of Connecticut.

OWNERSHIP OF DOCUMENTS: All documents, including drawings, plans, specifications, videotapes, or other documents or maps prepared by a contractor pursuant to any agreement arising from this bid shall become the property of the City of Torrington upon completion of the project or any termination of the project prior to the completion of the project.

LEGALITY: All bid offers for commodities, work, materials, or equipment hereunder shall comply in every respect with the laws, specifications

and requirements of the State of Connecticut and the Federal government. Contractor will comply with the provisions of the Connecticut Fair Employment Practices Law.

LANGUAGE DISPUTES: Any disputes over the interpretation and/or meaning of any individual terms, conditions, and/or language within this Request for Bid/Proposal document shall be resolved by and at the sole discretion of the City Purchasing Agent in a manner that is in the best interest of, and best advantage to, the City of Torrington, provided any such interpretation shall be reasonable. In the event that an individual term, condition, and/or language wording is determined at any time, including after award, by the City Purchasing Agent to be "not applicable at all" to this contract, then the term, condition, and or language wording may be disregarded, even though an addendum is not issued. However, if the Purchasing Agent determines that the term, condition, and/or language wording "is applicable in part", then the term, condition, and/or language wording will apply to the degree applicable, even though an addendum is not issued.

RESPONSIBILITY: The Contractor shall save the City of Torrington, its agents or employees, harmless from liability of any kind for all claims of labor payments and materials furnished for this work, and for use of any copyrighted or uncopyrighted composition, secret process patented or unpatented invention, article or application furnished or used in the performance of the contract of which the Contractor is not the patentee, assignee, or licensee. The successful bidder agrees to indemnify and hold harmless the City of Torrington, its agents and employees from any and all liability arising out of the successful bidders' operations, functions and/or supplied items.

The successful bidder, vendor, and/or contractor must protect all property of the City of Torrington (i.e. all floors, furniture, grass, land, etc.) from injury or other damage. Any damage so caused must be repaired by contractor/vendor at his/her own expense. At the completion of work, the vendor and/or contractor must remove from the premises all surplus materials and all debris created by same. The premises must be left in a broom-clean and finished condition acceptable to the owner or its agents. Successful bidder will furnish adequate protection from damage for all work and to repair damage of any kind; for which he or his workers are responsible, to the premises or equipment to his own work or to the work of other contractors.

DEFAULT: It shall be understood that a bidder supplying equipment and/or supplies will be considered to be in default if/when they have not delivered the item(s) within the time constraints listed in this document or subsequent purchase orders and/or contract. Bidders providing a service and/or construction will be considered to be in default if/when they have failed to meet the completion date set forth in this document or its subsequent contract and/ or purchase orders and/ or they have ceased work on the project for a period of fifteen (15) working days, cumulative or consecutive.

SUSPENSION AND DEBARMENT: The Purchasing Agent may suspend or debar the right of a vendor to be included on the vendor list and has the authority to reject any bid or response from any suspended or debarred vendors.

Suspension: A vendor may be suspended based on the following:

- 1) A vendor defaults or fails to fully comply with the conditions, specifications, or terms of a Bid, Quotation, Proposal or Contract with the City of Torrington.
- 2) A vendor commits any fraud or misrepresentation in connection with a Bid, Quotation, Proposal, or Contract with the City of Torrington.
- 3) A vendor is charged by a court with the commission of a criminal offense as incident to obtaining or attempting to obtain a public or private contract or sub-contract, or in the performance of such contract or sub-contract
- 4) A vendor is charged by a court with the following: embezzlement, theft, forgery, bribery, falsification or destruction of records, receiving stolen property, or any other offense indicating a lack of business integrity or business honesty which currently, seriously, and directly affects responsibility as a City contractor. If charges are dismissed or the vendor is found not guilty, the suspension shall be lifted automatically upon written notification and proof of final court disposition provided by the vendor to the City of Torrington.
- 5) A vendor becomes insolvent, has proceedings in bankruptcy instituted against it or, compounds its debts or assigns over its estate or effects for payment thereof, or has a receiver to trustee appointed over its property.
- 6) A vendor's commission of any act or omission to perform act is grounds for debarment.
- 7) A vendor violates the ethical standards set forth in local, state, or federal law.
- 8) Any other cause the Purchasing Agent determines to be so serious and compelling as to materially and adversely affect responsibility of a vendor as a City contractor, including but not limited to suspension by another government entity

Debarment: A vendor may be permanently debarred for the following:

- 1) Default or failure to fully comply with the conditions, specifications, drawings, or terms of a bid, proposal, or contract with the City of Torrington twice in any three-year period.
- 2) Conviction of or judgment obtained in a court for commission of those offenses in connection with the vendor's commercial enterprise stated sections 3) or 4) of suspension section listed above. If the conviction is reversed through the appellate process, the debarment shall be removed upon written notification and proof of final Court disposition from the vendor to the City of Torrington.

TRADE NAME REFERENCES: Any and all references to trade names, types, styles, model numbers, stock numbers or catalogs are intended to be descriptive only and not restrictive. The intention is to indicate to bidders the type and quality of the articles and or materials that will be satisfactory. When reviewing the information, it is the responsibility of the prospective bidder to inform the City of Torrington of any discrepancy that is found (i.e. number listed does not fit item description) Bids received on other makes or models with reference to other catalogs will be considered. The bidder is to clearly state in his bid exactly what he intends to furnish and to furnish with his bid a cut or illustration or other descriptive matter that will clearly indicate and give specification as to the product he/she proposes to furnish. Where a bid is offered on an item other than the trade standard used in the specification the item should be identified on the bid form by entering the MAKE, TRADE NAME AND MODEL NUMBER. It is understood that any substitute and/or alternate that might be offered are guaranteed by the bidder to be of equal or better quality than is referenced in the bid. The item(s) must be equivalent as to function, basic design, type and quality of material, method of construction and any required dimensions. It shall be further understood that during original as well as

subsequent shipments spot checks will be performed to insure that the items received are in fact the items offered in the bid. When received, should items/materials prove to be different from what was bid in any way, the bidder agrees to the return of the items and agrees to supply correct items (per bid specifications) at the bidders expense. In the event this return action is required, it is understood the bidder may be subject to removal from the city's approved bidder's list. Bidders are cautioned that surplus, seconds, factory rejects, floor samples, close outs or distressed items are not acceptable and shipments of substitutions, defective or shop-worn equipment will be returned for a full refund at the vendor's expense.

QUANTITY: The quantities and/or materials listed in the specifications/bid sheets may be increased or decreased by the City of Torrington or its designated representative based on actual need at the time the purchase orders are placed.

QUALITY: The City of Torrington reserves the right to reject any proposal in whole or in part offering equipment and/or materials and/or services that in its or its agents opinion does not meet the quality standards desired. Such decision is final and not subject to further recourse by the bidder.

SAMPLES: forwarded by the bidder will be returned to the bidder at his request and expense. Requests for return of samples must be submitted in writing at the time the sample is given to the City of Torrington or its representative. Samples not returned to the bidder will be disposed of at the discretion of the City of Torrington or its designated representative. Large pieces of equipment submitted for evaluation and inspection are to be picked up by the bidder within 30 days of the bid opening date. Items remaining with the City of Torrington after 30 days will be discarded.

AWARD: It is the intent to award this bid in its entirety to one bidder, however, the City reserves the right to award the bid line item by line item if it is deemed in its best interest to do so. In addition, bidders are advised that should budgetary constraints dictate, part, and/or all the items in this bid may be rejected. This decision shall be considered final and not subject to recourse by the bidder.

In determining the lowest or highest responsible bidder, the City reserves the right to consider, in addition to price, the compatibility, quality, cost of maintenance and availability of parts, experience and/or past performance of the bidder, sufficiency of the financial resources of the bidder as relates to the offerings as well as the ability of the bidder to provide future maintenance and service.

Documents previously submitted to the city of Torrington will not be considered as satisfying submission requirements for this bid.

No bidder can claim any contract rights by virtue of bidding alone. Awarding of the contract means actual written notice by letter and a properly executed purchase order to the bidder or bidders to whom the bid has been awarded.

BONDS:

Performance Bond: The Contractor, when awarded the Bid, must submit within 10 days of the bid award, and before beginning the work or signing a contract, a Performance Bond amounting to one hundred percent (100%) of the total amount of the bid. Said performance bond must be in favor of the City of Torrington and executed by a surety company authorized to do business in the State of Connecticut. The City of Torrington reserves the right to retain the Bid Bond or Certified Check on bids below \$25,000.00 as a Performance Bond. On bids of \$25,000.00 or more the Performance Bond may be furnished in the following manner: Performance Bond, Surety Bond, Certified Check, Bank Check, Savings Account in both the City & Vendor's name or Letter of Credit

Maintenance Bond: The contractor, upon signing a contract and before beginning the work, must submit to the Purchasing Agent a Maintenance Bond to guarantee that if defects in either labor or materials becomes evident within one year after completion and acceptance of work will be fixed at no cost to the City of Torrington. The maintenance bond may be included as a portion of the Performance bond or as a separate bond. If it is issued as a separate bond said maintenance bond must be in favor of the City of Torrington and issued by a surety company licensed and authorized to do business in the State of Connecticut.

Labor and Material Bonds: Per Section 49-41 of the Conn. General Statutes, on Public Works project where the estimate is in excess of \$25,000.00, a labor (payment) and material bond must be furnished to the City. Said bonds must be filed with the Purchasing Agent prior to the commencement of work.

Consent for Release of Final Payment: AIA Document G707 & G706, or equivalent, must be signed and returned by the Surety Company before final payment will be released to the contractor.

INSURANCE:

Certificate of Insurance: All insurers must have an AM Best rating of A-V11 or better and admitted to do business in the State of Connecticut. All insurance policies must include a Waiver of Subrogation whereby the insured waives its right to subrogate against the City, its subsidiaries, employees, volunteers, directors and officers. Proof of proper insurance coverage, Workers Compensation Insurance, Liability and Property damage, and Vehicle Insurance shall be filed with the City of Torrington Purchasing Agent within 10 days after the award of the bid. The Certificate of Insurance must name the City of Torrington, 140 Main St., Torrington, CT, its subsidiaries, employees, volunteers, directors & officers as the additional insured and filed with the Purchasing Agent ten (10) prior to commencement of work. Renewal Certificates of Insurance must be mailed to the Purchasing Agent 10 days prior to the expiration of the required coverage.

Workman's Compensation Insurance: The Contractor shall take out and maintain during the life of the contract adequate Workman's compensation Insurance for all the employees employed on said work. In case any class of employees or subcontractors is engaged in hazardous work under the contract at the site of the work is not protected under the Workman's Compensation statute, the contractor shall provide Workman's Compensation Insurance for the protection of employees not otherwise protected.

Liability Insurance: The Contractor shall take out and maintain for the life of the contract, adequate public liability insurance insuring against liability to persons not employed by him in an amount of not less than \$1,000,000.00 for injuries, wrongful death to any one person and subject to the limit for each person in an amount of not less than \$2,000,000.00 on account of one accident and property damage insurance in an amount of not less than \$1,000,000.00.

Vehicle Insurance: The Contractor shall take out and maintain for the life of the contract, adequate automotive/truck or other vehicle insurance with minimum coverage of \$1,000,000.00 each for both liability and under insured and uninsured motorist as well as any other coverage required by the State of Connecticut or requested by an official of the City of Torrington as relates to the contract.

Additional Security: The City of Torrington reserves the right to require successful bidders to enter into and such security arrangements as are deemed necessary to protect the City of Torrington, its property and goods.

PERMITS: The successful bidder agrees to obtain all work/building permits as might be required. The cost of obtaining such permits is the responsibility of the bidder. The City of Torrington reserves the right to waive local permit fees. In addition, it shall be understood that where property lines are to be considered, bidders are to verify said lines and measurements with proper City Officials prior to commencement of work.

It is to be understood that any/all specifications and/or plans or drawings contained in or developed as a result of the bid process are and shall be presented subject to the approval of the City of Torrington planning, zoning and building officials and that awards made prior to said approval are subject to cancellation.

PREVAILING WAGE: When the State of Connecticut Prevailing Wage Rate is applicable to the bid, the successful bidder must submit a Certified Payroll Record prior to any request and/or invoice for payment.

CITIZENSHIP: Each employee of the Contractor shall be a citizen of the United States or an alien who has been lawfully admitted for permanent residence as evidenced by an Alien Registration Receipt Card. The Contractor agrees not to employ any person undergoing sentence of imprisonment except as provided by Public Law 89-176, September 10, 1965, (18 USC 4082)(c)(2).

SAFETY:

Machine and/or Equipment Hazard Assessment and Safety Training: Upon delivery of machines and/or equipment, suppliers are required to provide to the end-user employees, at no additional charge, a training session that will emphasize hazard awareness and assessment and the safe use of such machinery/equipment.

Occupational Safety and Health Act of 1970: Seller shall warrant that the machinery, equipment or other materials covered hereby shall upon delivery to the City of Torrington, be in compliance with the standards required by said Act and any updates as pertain to or reference said Act as well as the standards required by comparable State and local laws, if any, for such machinery, equipment or other materials in effect at the time of delivery.

Machines and/or Equipment Lockout/Tagout: In an effort to comply with OSHA's final rule on the control of hazardous energy sources, vendors must warrant that any and all machines and/or equipment as is covered under this bid will be supplied and/or installed equipped with lockout/tagout devices as prescribed by OSHA.

Toxic Substance Control Act (PL94-469): Seller warrants that each and every chemical substance constituting or contained in the products sold or otherwise transferred to the City of Torrington under this bid and subsequent purchase orders is not on the list of prohibited chemical substances compiled and published by the Administrator of the Environmental Protection Agency pursuant to Act PL94-469 and are otherwise in compliance with said Act.

Hazardous Materials: Any materials required by this bid and subsequent purchase orders that are hazardous under federal, state, or local statute, ordinance, regulation, or agency order will be packaged, labeled, marked and shipped by the seller to comply with all federal, state and local regulations then in effect including but limited to the provisions of the Hazardous Materials Transportation Act and Regulations promulgated thereunder and will further comply with any special requirements and any policies and procedures of the City of Torrington relating to the purchase of hazardous materials as might be noted on subsequent purchase orders or otherwise communicated to seller in writing.

Material Safety Data Sheets: Shall be provided by the Seller upon delivery to the City of Torrington of any goods having constituents listed in the following references - OSHA 1910, ACHIG Current Threshold Values, DOT HazMat Table 49, IARC Carcinogen List, National Toxicology Program Carcinogen List, and/or Radioactive Materials. These Material Safety Data Sheets must be consistent with and include information required by the OSHA Hazard Communication Standard published as 29 CFR 1910.1200, as the same may be amended or supplemented from time to time.

Asbestos: Bidders are advised that asbestos-containing material may be located in the boiler rooms, pipe tunnels, storage areas and various portions of City buildings. Before proceeding on any contractual work on City buildings or their interiors, it is mandatory that bidders familiarize themselves with the asbestos-containing material and that said material be considered as a health hazard and all precautionary measures according to the Ahera Rules & Regulations be observed. It is the bidder's responsibility to notify all employees and/or subcontractors of this notification.

SUBCONTRACTORS: The successful bidder shall not employ any subcontractor to fulfill any of the duties herein specified without express, prior written approval of the City of Torrington or its designated agent.

EEO: The successful bidder shall provide any/all additionally required, affirmative action statements, fair employment plans and non-discrimination programs and statement as might be required by the City of Torrington. In connection with the execution of this bid, subsequent purchase orders and/or contracts, the seller shall not discriminate against any employee or applicant for employment because of age, race, religion, color, sex or national origin. Bidders must comply with all rules & regulations of the Department of Labor with regard to Equal Employment Opportunities as pertains to municipalities.

TERMINATION OF CONTRACT: Any contract entered into by the City and the successful bidder shall provide that the City may terminate the contract upon thirty (30) days notice to the bidder.

The City of Torrington reserves the right to award or reject any or all bids, or any portion thereof, to waive technicalities, and to award the bid and/or contracts to one or more bidders submitting essentially identical proposals and, that in the city's judgment, will best serve the public interest.

The terms and conditions of these "Instructions To Bidders" are made a part this bid.

SAMPLE FORM

Bid # _____

NON-COLLUSION AFFIDAVIT

STATE OF _____ COUNTY OF _____

I, _____, being first duly sworn, deposes and says that:

1. I am _____
of _____, the bidder that has submitted the
attached request for proposal
for _____;

2. I am fully informed respecting the preparation and contents of the attached RFP and of all pertinent circumstances
respecting such bid;

3. Such Bid is genuine and is not a collusive or sham Bid;

4. Neither the Bidder nor any of its officers, partners, owners, agents, representatives, employees or parties of interest,
including this affiant, has in any way colluded, conspired, connived or agreed directly or indirectly with any other Bidder, firm
or person to submit a collusive or sham Bid in connection with the work for which the attached Bid has been submitted nor
has it in any manner, directly or indirectly, sought by agreement or collusion or communication or conference with any other
Bidder, firm or person to fix the price or prices in the attached Bid or of any other Bidder, or to fix any overhead, profit or cost
element of the Bid price or the price of any Bidder, or to secure through any collusion, conspiracy, connivance or unlawful
agreement any advantage against the City of Torrington or any person interested in the proposed Bid; and

5. The price or prices quoted in the attached Bid are fair and proper and are not tainted by any collusion, conspiracy,
connivance or unlawful agreement on the part of the Bidder or any of its agents, representatives, owners, employees, or
parties in interest, including this affiant.

Signed _____

Title _____

My commission expires _____

Subscribed and sworn to before this
_____ day of _____, 20____.

Notary Public

NOTE: Documents must be signed before and sealed by a Notary Public. Only documents bearing a notary seal will be accepted.

SAMPLE FORM

BID # _____

**CONSENT OF SURETY COMPANY
TO RELEASE FINAL PAYMENT**

City
Architect
Contractor
Surety
Other

PROJECT/BID NUMBER :

TO: City of Torrington
 Attn: Purchasing Agent
 140 Main Street
 Torrington, CT 06790

CONTRACTOR: _____

In accordance with the provisions of the Contract between the City of Torrington and the Contractor as indicated above, the (insert name & address of Surety Co.)

_____, SURETY COMPANY on bond of (insert name & address of Contractor) _____, CONTRACTOR, hereby approves of the final payment to the Contractor, and agrees that final payment to the Contractor shall not relieve the Surety Company of any of its obligations to the CITY OF TORRINGTON as set forth in the Surety Company's bond.

Subscribed and sworn to before this _____ day of _____, 20__.

Notary Public

Surety Company

Authorized Representative's Signature

My commission expires _____

Title

NOTE: Documents must be signed before and sealed by a Notary Public. Only documents bearing a notary seal will be accepted.

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**SPECIFICATIONS
BID #DCP-023-030210
DISPATCH CENTER FOR TORRINGTON POLICE DEPARTMENT**

Section 1

1. STATEMENT OF PURPOSE

It is the intention of City of Torrington/Torrington Police Department (hereinafter "City") to procure from Vendor, ergonomic workstations/consoles for a Public Safety/911 Emergency Communications Center. The emergency communications console systems must be specifically designed and engineered for Emergency Communication Centers. At a minimum, console should meet ANSI-BIFMA, BSR/HFES100, and ADA guidelines and requirements. **Office grade furniture systems will not be considered for this bid.** Recipients of the bid documents hereinafter shall be referred to as "Vendor". **THIS IS NOT AN ORDER.**

It is the City of Torrington's procurement policy to seek out and purchase technically suitable, available products and services at the lowest overall cost. However, the decision in the selection of a vendor may not rest solely on the lowest overall cost.

Vendor must analyze and respond to all sections of this bid, from Section 2 through the appendices, and provide sufficient information and product prototypes (if necessary) to allow the City of Torrington to evaluate the proposal. No response is required to Section 1. Vendor must furnish all information as requested and complete all forms according to the section instructions.

Vendor must complete the attached Specification Compliance Table (Appendix C) as a part of their response to this bid. An indication of compliance (Y) means that the Vendor accepts responsibility for, and agrees to comply with, the requirement as stated; any additional comments in the explanation column will be ignored. A designation of (P) for partial compliance and (N) for non-compliance with any section of this specification must be accompanied with a detailed explanation submitted with each proposal of this bid to the City of Torrington.

The City of Torrington shall incur no obligation or liability whatsoever to anyone by reason of issuance of this bid or action by anyone relative thereto.

2. VENDOR INQUIRIES AND CLARIFICATIONS

A mandatory pre-bid meeting will be held at 10:00am on February 17, 2010 located at Torrington Police Department, 576 Main Street, Torrington, CT. All potential bidders will have a chance to ask questions and verify measurements. Bids for this project will only be accepted from bidders that attend this mandatory pre-bid meeting.

Questions and answers will be made available through an Addendum to all vendors responding to the bid to ensure consistent interpretation of the bid items. Vendor has an obligation to explain and clarify any and all conditions imposed on or included in their responses to this bid. Responses must be sealed and submitted with one (1) original and (3) three copies. One copy of the proposal must be clearly marked "Master Copy".

If discrepancies between one or more copies are found, the master copy will provide the basis for resolving any discrepancies. **The bid opening will be public.**

3. CRITICAL DATES

Vendor is required to respond in the following time frames:

3.1. Vendor must notify the City of Torrington of their intention to submit their bid no later than 11:00 a.m. on February 19, 2010. Vendor shall make notification via e-mail to Purchasing Agent **Pennie Zucco at pennie_zucco@torringtonct.org** to convey this information. In case there is a problem with the email system, Pennie Zucco can also be reached @ 860-489-2225.

3.2. Questions regarding this bid will be address during the mandatory pre-bid meeting on February 17, 2010 at 10:00 AM at the Torrington Police Department, 576 Main Street, Torrington, CT.

3.3. Sealed bids shall be received no later than 11:00 a.m. on Tuesday March 2, 2010. Bid proposals received after this date and time will be rejected and returned unopened.

4. BID DUE DATE

Vendors must use the assigned Bid Proposal number in their bid submittals. Sealed bids bearing the label "**BID #DCP-023-030210, DISPACTCH CENTER FOR POLICE DEPARTMENT**" on the front of the envelope which shall be delivered to **Purchasing Agent Pennie Zucco at Temporary City Hall, 59 Field Street, Torrington, CT 06790** on or before **11:00 a.m., March 2, 2010**. Bids received after this time and date will be rejected.

5. BID EXPIRATION

Vendor shall indicate expiration date for pricing in any bid proposal submitted. Expiration date shall not be less than 365 days from the bid due date indicated in Section 1.5 "Bid Due Date".

6. UNAUTHORIZED DISCUSSION

Prior to the opening of bids, all responses will remain unopened in the Purchasing Department office. During this period, any discussion by Vendor with the City of Torrington involving price information may result in rejection of said bid.

7. COMPLIANCE OF BID

Bids must be signed as set forth in Appendix A: A "Vendor Authority Statement", by a duly authorized representative of business. An unsigned proposal shall be rejected. The bid shall be signed by an agent of the business only if that person is authorized to sign contracts on behalf of Vendor.

8. COMPLETENESS OF BID

Each bid submittal shall provide a clear, concise delineation of vendor's capabilities to satisfy the requirements of the bid. Emphasis in each bid submittal shall be on completeness and clarity of content. In order to expedite the evaluation of bids, it is mandatory that Vendor follow the instructions contained herein.

Failure to comply with any of the bid mandatory requirements shall subject the bid proposal to immediate rejection. **Bids which do not include all specified elements of the bid as a part of the **BASE BID** will be considered non-responsive and rejected immediately.** Please list as "optional" only those elements which are specifically noted in this specification. The mandatory submissions are not the sole requirements of this bid. All conditions and requirements throughout this bid are considered binding. The City of Torrington will be the final authority in determining the responsiveness of each bid.

9. REVIEW CRITERIA

Vendor understands that the City of Torrington will review all bid proposals with particular weight to the following five (5) major elements: Quality, Service, Price, CAD drawings and bid terms and conditions. This evaluation will include, but not be limited to, the following criteria:

A) Conformity to Specifications.

B) Bidders must provide detailed CAD made drawing and color renderings.

- Each bidder must submit a floor plan to scale, showing each item being proposed.
- Drawings must have equipment schematic to verify location and fit for all Technical components.
- City provided electronics such as CPU'S, Flat panel displays, telephones back up radios etc. must be shown in the drawings and in the 3-dimensional Drawing.

C) Price Quote

D) Delivery Schedule

E) Responsiveness to Bid Requirements

F) Contract Terms and Conditions

10. PRICES

A detailed price quotation on all products and services required to meet the City of Torrington's objectives should be provided as set forth in Section four of this bid. All prices provided in Vendor's proposal shall be unit priced and remain firm as provided for in Section 1.6, "Proposal Expiration."

11. PRODUCT/SERVICES QUALIFICATION

During the time the City of Torrington is evaluating the bid proposals, Vendor(s) or its authorized representative should be prepared to demonstrate, at the City of Torrington's request, that the advertised objectives and requirements can be met or exceeded on all aspects of the proposed Products and Service.

Vendor shall include a list of three (3) installations in the past two years of like size, complete with contact name, address, phone, email and date and size of installation. Only the manufacturer's factory installers or their certified and authorized designees shall assemble and install the console system.

12. COSTS INCURRED BY VENDORS

Vendor, by submitting their bid, agrees that any costs incurred by the vendor in responding to this bid, or in support of activities associated with this bid, are to be borne by vendor and may not be billed to the City of Torrington.

13. DISPOSITION OF BIDS

All information submitted in response to this bid will become the property of the City of Torrington and may be returned only at the option of the city and at the expense of the vendor. In any case, one copy shall be retained by the City of Torrington for official files. Successful and unsuccessful bidders will be notified by letter. In any case, the City is not obligated to detail any of the results of the evaluation.

14. LETTER OF INTENT

The City of Torrington may elect to issue letters of intent or an unconfirmed order at some point during contract negotiations. These letters are used to establish planned service dates.

15. BONDING

All bids submitted shall include a 10% bid bond in the form of a commitment from a bonding company or a cashier's check. The successful vendor should be prepared to post a 100% payment and performance bond. Bids submitted without a bid bond or cashier's check **will not** be accepted. **All checks or bid bonds will be refunded to the unsuccessful bidders after award of the bid by the City Council.**

Section 2

Response Requirements

1. The City of Torrington/Torrington Police Department intent is to purchase emergency communications console systems that are specifically designed and engineered for Emergency Communication Centers. The consoles at a minimum shall meet ANSI-BIFMA, BSR/HFES100, and ADA guidelines and requirements. **Office grade furniture systems will not be considered for this bid.**

Following is a specification that has been developed for the **Centralized Dispatch Center** workstations/consoles for your consideration and response. This specification was developed with the comfort, safety and productivity of **Torrington Police Department** employees as its primary focus, and is not intended to mirror the performance characteristics of a specific manufacturers' product, but to establish performance criteria required to best accommodate a range of users and potential users.

2. **SPECIFICATIONS** - Sit - Stand Adjustable Height Workstations

2.1. Adjustable Height Workstations

2.1.1. Stability – Function

- 2.1.1.1. **Requires** completely separate *independent electric floor supported adjustable* work surfaces for both monitor and keyboard.
- 2.1.1.2. **Console** must demonstrate stability at full extension.
- 2.1.1.3. **Each** work surface (input and monitor) shall have a lifting equipment weight capacity of 300lbs. minimum which does not include weight of work surface.
- 2.1.1.4. **The console** system must be modular in design for ease of reconfiguration and allow for future expansion and/or upgrading to emerging new technology.
- 2.1.1.5. **The console** system, as it relates to the frame and wall, shall provide an integrated raceway for power supply, electrical and data cable management.
- 2.1.1.6. **The primary** structural foundation for the Console System shall be manufactured of durable materials that will withstand the 24x7 usage. Structural integrity of the console system is a priority: **therefore “cubical” type office walls shall be deemed unacceptable.**

2.1.2. Keyboard/Input Surface - Sitting/Standing

Keyboard Surface height requirements are considered paramount to proper ergonomic positioning. All proposers must clearly identify the height range of the keyboard/input surface and submit drawings illustrating adjustment range of product proposed for this project. Failure to submit drawings illustrating this range will render the proposal non-responsive.

- 2.1.2.1. **Keyboard** surface must **not** be attached to monitor surface.
- 2.1.2.2. **Keyboard** Surface **width** must accommodate multiple keyboards or other input devices and still provide room for note taking on either the right or left hand side

2.1.3. Monitor Surface - Sitting/Standing

Monitor Surface height requirements are considered paramount to proper ergonomic positioning. All proposers must clearly identify the adjustment range of the monitor surface and submit drawings illustrating adjustment range of product proposed for this project as well as the monitor mounting for purposes of illustrating proper adjustment ranges. Failure to submit drawings illustrating this range will render the proposal non-responsive.

- 2.1.3.1. **Monitor Surface must be wide and deep enough to accommodate up to (6) six 19" LCD flat panel monitors.**

2.1.4. Adjustment Devices

- 2.1.4.1. **Monitor** and keyboard surfaces must each have separate electric adjustment and shall provide for smooth transition between settings.
- 2.1.4.2. **Adjustment** must be able to be made from the working positions.
- 2.1.4.3. **Adjustments** must be made with minimal noise.
- 2.1.4.4. **Independent** keyboard surface to be separately adjustable with electronic controller.
- 2.1.4.5. **Keyboard surface** controller must allow for **electronic adjustment** at both seated and standing postures.
- 2.1.4.6. **Safety finger** clearance of 1.5" minimum safety clearance is required between all moving surfaces.

2.1.5. Laminate – Console Tops, Work surface

- 2.1.5.1. **Keyboard**, console tops and fixed height returns must be non-glare, high pressure laminate.
- 2.1.5.2. **Laminate** color to be selected from Formica®, Pionite®, Wilsonart or of equal quality. Colors with matte (non-glare) finish or equal.
- 2.1.5.3. **Particleboard** shall meet or exceed the requirements of ANSI A208.1-99 grade M-2 performance standards for particle board.
- 2.1.5.4. **Particleboard** shall be covered with a decorative laminate on top and equivalent backer sheet on the underside.

3.1.7 Knee space / Leg Room

- 3.1.7.1 **Knee space** shall be free of levers or controls, creating a smooth underside of the work surfaces.
- 3.1.7.2 **Must be** designed to provide un-obstructed knee clearance in the seated operating position in accordance with ANSI standards.

3.1.8 Drawer Pedestals

- 3.1.8.1 **All drawers** to have full extension, precision ball bearing construction.
- 3.1.8.2 **Each pedestal** to include pencil tray insert and side filing conversion bar with capability to hang letter or legal size hanging files.

3.1.9 Acoustical Panel System – Specified to provide for cable management, visual separation of tasks and both sound barrier and sound absorptive functions where applicable.

Panel frames shall be 14-gauge and 16-gauge steel – roll formed and powder coat paint finish or equivalent **non combustible material**. Frames to provide for approximately 3¼" finished thickness and 2¼" interior cavity and allow top, middle or bottom cable distribution with a minimum of two vertical cable access channels per frame.

3.1.10 Cable Management

- 3.1.10.1** **Console System** will have ability to internally run cabling, keeping the cabling clean and organized.
- 3.1.10.2** **Console System** shall be designed to allow for unrestricted cable management and access.
- 3.1.10.3** **Bidder shall** provide full detail in summary of how power/cable management shall be addressed in proposed Console System.
- 3.1.10.4** **Panels that cover** the cable management system shall be easily removed by hand and permit service access to the interior of the frame.

3.1.11 CPU Enclosures

- 3.1.11.1** **CPU enclosures** shall be available in sizes to accommodate mini-tower cases up to 8" wide x 18" high and be available in 1, 2, 3, 4, 5, or 6 unit capacity.
- 3.1.11.2** **CPU's shall** sit on full extension slide out shelves to allow easy access to back of CPU's.
- 3.1.11.3** **Extendable CPU** shelves shall be equipped with folding cable management arm which will secure cables during shelf extension and retraction.
- 3.1.11.4** **Slide out shelves** must have ball bearing full extension slides to enable full access to equipment.
- 3.1.11.5** **CPU enclosures** shall be available in either vertical "technology tower" or horizontal under the work surface configurations.
- 3.1.11.6** **All CPU enclosures** shall have an internal service light as standard equipment.
- 3.1.11.7** **CPU enclosure** shall be equipped standard with active ventilation using a minimum of two (2) quiet, 28db (decibel) 45 cfm fans to keep electronic equipment cool. The path of the air shall be from the bottom front of the enclosure to the top rear of the enclosure to follow the air flow path of CPU's. - **Passive cooling is unacceptable.**
- 3.1.11.8** **CPU enclosures** shall not move with the adjustment of the console table. CPU enclosures that hang under the monitor surface present an unacceptable hazard due to potential for crushing objects inadvertently placed in the path of the enclosure and the possibility of tipping the entire console in such an event.

3.1.12 Console Anchoring

- 3.1.12.1** **Panel Frames** shall have the ability to be anchored to the building floor or sub-floor below access floor per local requirements. The connection of panel frames and consoles to floor must be a steel to steel connection. **Particle board will be deemed unacceptable as an anchoring point.**
- 3.1.12.2** **Panel Frame** to panel frame connectors shall be steel bolt and nut type, with a minimum of 5/16" (8mm) diameter bolt for strength. **Wood screws, or threaded inserts shall be unacceptable for panel to post or panel to panel connectors.**
- 3.1.12.3** **Freestanding** consoles shall have the ability to be anchored to the concrete floor per local requirements.

3.1.13 Rotating Resource Guide (Option)

- 3.1.13.1** **Rotating Resource Guide** shall be available in 30" to 42" diameter.
- 3.1.13.2** **Rotating Resource Guide Capacity** to hold 2 levels of 3 ring binders.
- 3.1.13.3** **Rotating Resource Guide** shall have a weight capacity detailed by the bidder.
- 3.1.13.4** **Optional rotational stop** and continuous cable pathway may be available.
- 3.1.13.5** **Optional forms shelves** may be available.
- 3.1.13.6** **Rotating Resource Guide** may have the ability to be positioned under a peninsula top style work surface.

3.1.14 Personal Climate Controls

- 3.1.14.1 Desktop Airflow** shall allow the dispatcher to select the airflow rate delivered to the desktop area through desktop diffusers and shall be user controlled. Desktop diffusers shall be available in low profile (3" maximum height) version, so not to interfere with the view of the monitors, and shall have adjustable vanes to control airflow direction.
- 3.1.14.2 Radiant Heat Panel** Unit shall be freestanding and fit into the user foot well. Optional radiant heat footpad may be available as an alternative to the radiant heat panel
- 3.1.14.3 Air filtration** Airflow shall be filtered through an air filter. The filter must be user replaceable.
- 3.1.14.4 User Control** shall be within easy reach of a dispatcher. User control shall control airflow, heating, background noise, and task light dimming.
- 3.1.14.5 Power Requirements** are 115 VAC, 60hz; 6 foot power cord with a 3 prong plug. Must be UL listed, CSA certified and FCC certified.
- 3.1.14.6 Five Hundred or One Thousand** watt forced air heater can be available as an option to be separately controlled by the user with a rocker switch

3.1.15 Adjustable Monitor Rack

- 3.1.15.1 The monitor** brackets shall achieve as close to equal focal lengths from the user's eyes to the face of each monitor as possible.
- 3.1.15.2 The monitor** brackets shall be designed to permit "stacking" of a single monitor up to a complete additional row without removal or disassembly of any existing monitors or any portion of the base unit.
- 3.1.15.3 Monitor racks** shall have the capacity to hold minimum of 6 (six) 19" monitors at each workstation.

3.1.16 Manufacturing

Based on the information provided, please identify the manufacturers lead time for delivery of this product to the **Torrington Police Department, 576 Main Street, Torrington, CT** location designated in an order.

4. PROJECT CONSIDERATIONS

- 4.1.** For purposes of this bid, vendors are to base their unit costs proposal on a quantity of **(4) Four workstations**. Two workstations (Unit #1 and Unit #2) shall be for sit-stand adjustable height workstations and two workstations (Unit #3 and Unit #4) will not require the stand or sit adjustable height requirements. The size of the workstations will be based on the room measurements allowing for the appropriate size workstations based on the existing room measurements.

>All four workstations shall also include in the price the personal climate control as Listed in 3.1.14.

>CPU cabinets as listed 3.1.11

> Proposed storage cabinets for each workstation for binders, resource guides etc...

>Desk top lighting.

>Cup holder if available.

> 24/7 high back dispatcher chair rated for a min of 300 lbs. This chair has to be rated for its intended use, ordinary office chair is not suitable for this application.

Also included in this bid shall be storage cabinets along the wall space near workstation (Unit#3). These storage cabinets will be discussed during the mandatory walk through to address the customers storage needs and for placement of fax machine, 911 printer and air cleaner unit.

- 4.2. All bid proposals shall be unit priced and include freight and installation based on quantities stated in section 4.1. Any bid which does not include all component parts included in this specification and the accompanying drawings or is incomplete in any way will be considered non-responsive and rejected immediately. Quoted unit prices shall be guaranteed for one year from date of installation – plus freight and installation – in any quantity.
- 4.3. Product to be delivered and installed beginning the week of **April 12, 2010**.
- 4.4. Delivery and installation will take place at **Torrington Police Department, 576 Main Street, Torrington, CT** between the hours of **7:00am and 7:00pm** on **Monday – Friday**.
- 4.5. Vendor must provide sufficient manpower to complete each installation within designated time frame.
- 4.6. Installation must be coordinated with **Torrington Police Department** designated facilities person Lt. Wayne Newkirk, (860)489-2071 and/or subcontractors responsible for takedown/reconfiguration of existing furniture system, electrical, communications and data distribution.
- 4.7. All materials, tools, equipment and trash must be removed from project site each day, and installation must be complete ready for occupancy and use by: **Torrington Police Department** on April 23, 2010.

5. **Unit Cost Information**

Vendor must include cost of materials in unit pricing. Vendor must quote unit prices for individual items specified and guarantee said unit price (including freight and installation) for additional purchases for one year following sign-off and/or beneficial use and occupancy. Failure to provide this information will cause Vendor's proposal to be eliminated from the decision.

6. **Sales Taxes**

Sales taxes **are not** to be included in unit pricing. The City of Torrington is tax exempt and shall provide tax exemption certificate/number to awarded vendor.

7. **Payment Terms**

Standard terms shall be 90% NET 30 days after final acceptance or beneficial use and occupancy whichever occurs first with 10% retention due immediately on final acceptance. If delivery and installation spans multiple billing periods, the City of Torrington will authorize payment of partial invoices submitted based on vendor's standard terms and conditions and substantial completion (suitable for occupancy and use) of workstations in each installation segment.

8. **Warranty**

Warranty of items in this bid **shall** to be submitted with the bid proposal.

9. **Additional Services**

Please list the additional services your company is able to provide for this project and what are the related charges for those services.

SPECIFICATIONS
BID #DCP-023-030210
DISPATCH CENTER FOR TORRINGTON POLICE DEPARTMENT

Section 3
Optional Features

1. Vendors Response
2. Vendor is encouraged to describe any optional features of its proposed products or services.
3. The prices for such features that are mandatory to the application must be listed separately in Section 4, "Pricing Criteria."
 - At a minimum, the following storage options should be made available:
 - Bookcases
 - File Drawers
 - Box Drawers
 - Lateral File Drawers
 - Wardrobe Cabinets
 - Installations of Network wiring for CPU's & monitors for Dispatch Work Stations

Section 4

Pricing Criteria

1. **Vendors Response**

Vendor's proposal should include one proposal cost including material, delivery and installation of **(4) four** workstations plus detailed prices for each requirement stated within section two.

Total Cost including specified materials, freight, installation labor \$ _____

2. Vendor must state its payment policy.
3. Vendor must state any applicable discounts and penalties for late payment.
4. Optional equipment costs must be submitted on a separate quote form. Any upgrades to base quote required for implementation of options must be included in the cost of the option.

Section 5

Vendor Proposal Format

1. **Proposal Number**

Vendor must use the same number, "**BID #DCP-023-030210 DISPATCH CENTER FOR TORRINGTON POLICE DEPARTMENT**", in its bid submittal, or other correspondence relating to the bid, as that used in Customer's bid.

Appendix A

VENDOR AUTHORITY STATEMENT

The proposer represents and certifies as part of the proposal that he/she is authorized to act as an agent for the company responsible for this proposal.

The costs stated in this proposal were arrived at independently, without consultation, communication or agreement with any other proposer, or with any competitor, for the purpose of restricting competition.

Legal name and address of firm submitting proposal:

Signature of Approving Authority

Title: _____

Date: _____

Appendix B

Excerpts from BSR/HFES 100

Human Factors Engineering of Computer Workstations

8.2 General Specifications

This standard recognizes that VDT users frequently change their working postures to maintain comfort and productivity. Four reference postures are used in this standard to represent a range of postures observed at computer workstations.

Reference Postures

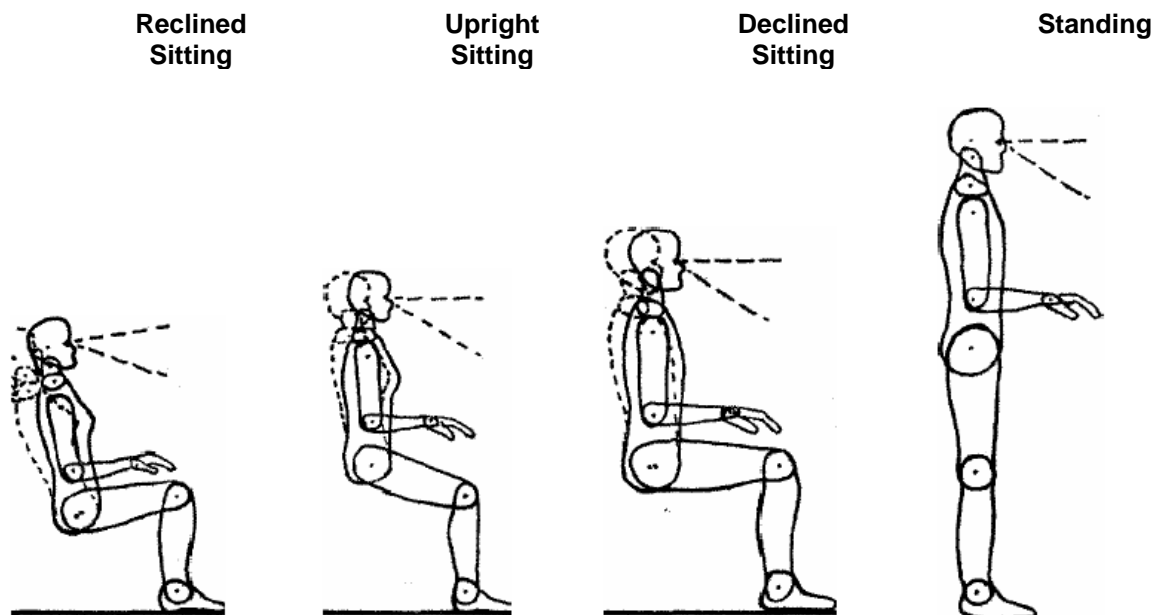


Figure 5-1. Reference postures for computer workstation users (see also page 9, Chapter 5).

The four reference postures are characterized as follows:

Reclined sitting. In the reclined sitting posture, the user's torso and neck recline between 105 and 120 degrees to the horizontal.

Upright sitting. In the upright sitting posture, the user's torso and neck are approximately vertical and in line (between 90 and 105 degrees to the horizontal), the thighs are approximately horizontal, and the lower legs are vertical.

Declined sitting. In the declined sitting posture, the user's thighs are inclined below the horizontal, the torso is vertical or slightly reclined behind the vertical, and the angle between the thighs and the torso is greater than 90 degrees.

Standing. In the standing posture, the user's legs, torso, neck, and head are approximately in line and vertical.

Users require frequent movement and postural changes to achieve and maintain comfort and productivity (Kroemer, Kroemer, & Kroemer-Elbert, 1994; Sanders & McCormick, 1993). The four reference postures are

intended to illustrate the diversity of body positions observed at computer workstations. Because these reference postures are intended as examples of human postures, variations in actual postures observed during work sessions can be expected. However, not all postures are equally comfortable or productive.

Appendix B Excerpts from BSR/HFES 100 Human Factors Engineering of Computer Workstations

8.3.2.1 Operator Clearances

Operator clearance spaces under all working surfaces (i.e., primary work surface, display support surface, input device support surface) **shall** accommodate at least two of the three seated reference working postures, of which one must be the upright seated posture, by utilizing:

- Method 1 or Method 2 as described below

For seated work, the clearance dimensions **shall**:

- Provide the minimal clearance space labeled as Clearance Space 1 in Figure 8-1 for all workstations
- Provide the additional clearances illustrated in either Clearance Space 2 or 3 in Figure 8-1
- Comply with the dimensions given below for either Method 1 or Method 2

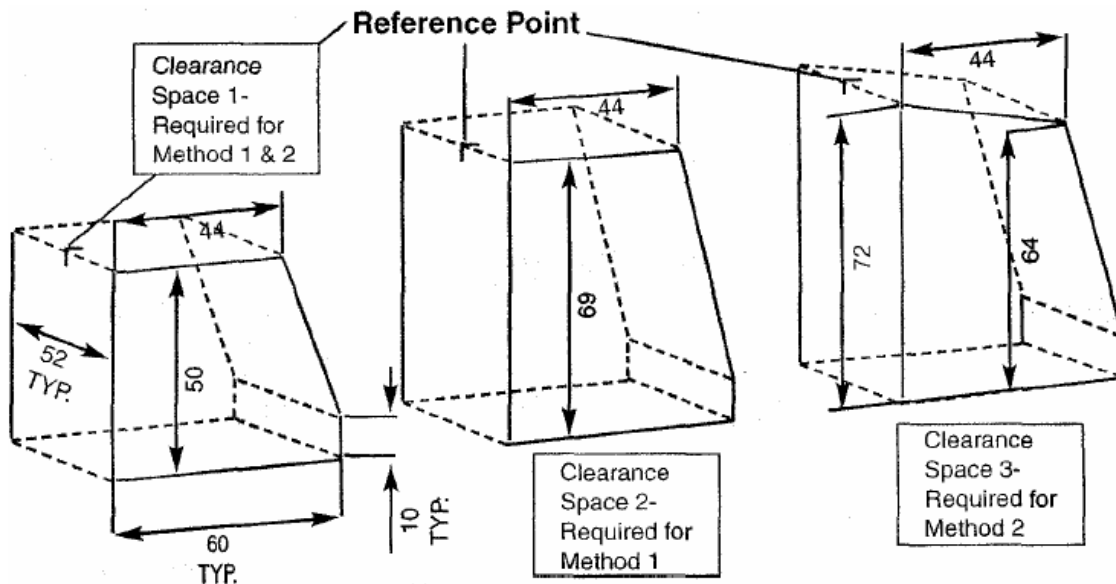


Figure 8-1. Required leg and foot clearances.

8.3.2.1.1 METHOD I—RECLINED SEATED AND UPRIGHT SEATED POSTURES

Method 1 defines the required operator clearances for the intended users in workspaces designed to accommodate only the upright and reclined seated reference postures. The intended users range from 5th percentile females to 95th percentile males.

- 52 cm wide
- 44 cm deep at the level of the knee
- 60 cm deep at the level of the foot

- Adjustable between 50 and 69 cm at the edge of the work surface closest to the operator
- Adjustable between 50 and 64 cm at the horizontal position of the knee
- At least 10 cm in height at the position of the foot

The upper limit of the height adjustability range at the forward edge of the work surface is based on thigh clearance requirements of a horizontal seat pan angle. The upper limit of the height adjustability range at the level of the knee is based on height of the knee while seated. The lower limit of the height adjustability range is based on the height of the knee while seated. The width requirement is based on 95th percentile female hip breadth plus a 1.8 cm clothing allowance. The anthropometric basis for these requirements is contained in Appendix A.

Appendix B

Excerpts from BSR/HFES 100

Human Factors Engineering of Computer Workstations

8.3.2.1.2 METHOD 2—UPRIGHT, RECLINED, AND DECLINED SEATED POSTURES

Method 2 defines the required operator clearances for the intended users in workspaces designed to accommodate the declined seated reference postures where the intended users range from 5th percentile females to 95th percentile males. As Method 2 describes the largest operator clearance space, any operator clearance space that meets the specifications of Method 2 will automatically meet the operator clearance space specifications for upright seated and reclined seated postures.

- 52 cm wide
- 44 cm deep at the level of the knee
- 60 cm deep at the level of the foot
- Adjustable between 50 and 72 cm at the edge of the work surface closest to the operator
- Adjustable between 50 and 64 cm at the horizontal position of the knee
- At least 10 cm in height at the position of the foot

The upper limit of the height adjustability range at the forward edge of the work surface is based on thigh clearance requirements of a forward declined seat pan angle of 4 degrees. The upper limit of the height adjustability range at the level of the knee is based on height of the knee while seated. The lower limit of the height adjustability range is based on the height of the knee while seated. The width requirement is based on 95th percentile female hip breadth plus a clothing allowance. The anthropometric basis for these requirements is contained in Appendix A.

The clearance envelope must provide space for the operator's thighs, knees, lower legs, and feet under the work surface while allowing support surfaces to be low enough for input device and visual display use (Grandjean et al., 1983; Kroemer, 1981). Pheasant (1986) defined clearance as one of cardinal ergonomic requirements. The purpose of the lower limit on the range of height adjustability is to provide work surfaces that allow the operator to achieve working postures within the horizontal work envelope (see Section 5.2.4.1, Horizontal Work Envelope).

Appendix B

Excerpts from BSR/HFES 100

Human Factors Engineering of Computer Workstations

8.3.2.2 Work Surfaces

The work surface **should** be:

- At least 70 cm wide

The depth of the work surface **should**:

- Allow a viewing distance of at least 50 cm
- Allow positioning of the monitor so that the gaze angle to the center of the screen ranges between 15 and 20 degrees
- Allow positioning of the entire viewing area in an arc 60 degrees below horizontal eye level

A minimum workstation width of 70 cm is based on the forearm-to-forearm breadth of a 95th percentile male user with the addition of an 8.5 cm margin for postural adjustment (Gordon et al., 1989). This is strictly an anthropometric requirement. In fact, the functional requirements of the task will most likely dictate a larger width. The overall area of the work surface required depends on the size and number of components in the workstation in addition to the monitor and keyboard, including books, papers, and telecommunication equipment.

8.3.2.3 Monitor Support Surface/Device

The monitor support manufacturer **shall**:

- Specify the size and weight of monitor that can be accommodated by the support surface because monitor support surfaces may not be compatible with certain-sized monitors
- Specify the range of adjustment if the support surface is adjustable

The support surface **should**:

- Be designed so as to allow placement of the viewing area of the screen at a minimum viewing distance of 50 cm
- Be designed so as to allow placement of the monitor's viewing area below the user's horizontal eye height
- Be stable during use
- Not interfere with the user's ability to adjust the height, tilt, and rotation of the monitor

There are a number of devices for supporting a monitor. The monitor may rest on the work surface, or it can be supported by an articulated platform attached to the work surface or a fixed platform resting on the work surface. The monitor may also be supported by a separately adjustable work surface or by a platform built into the work surface but at a different level. Placement of the monitor is dependent on a variety of factors, including visual display factors, the user's optical correction (if present), the size and shape of the monitor, and the effort required by the user to activate adjustment controls. The proper location of larger monitors with respect to viewing distance and angle may be particularly problematic. Accordingly, the manufacturers of monitor support surfaces are responsible for specifying the characteristics of monitors that are compatible with their products.

Appendix B
Excerpts from BSR/HFES 100
Human Factors Engineering of Computer Workstations

8.3.2.4.3 SIT/STAND WORKING POSTURES

If **height adjustable only**, the input device support surface designed for both sitting and standing work postures shall:

- Adjust in height between 56 cm and 118 cm (22 – 46.5")
- Comply with the clearance requirements specified in Section 8.3.2.1 when used in the seated position

Specification Compliance Table
BID #DCP-023-030210
Dispatch Console furniture
Appendix C

Please note: An indication of compliance (Y) means that the Vendor accepts responsibility for, and agrees to comply with, the requirement as stated; any additional comments in the explanation column will be ignored. Partial compliance will be indicated with a (P), Non-compliance will be indicated with an (N) and both must be accompanied by a detailed explanation

Specification Section	Compliance Y/P/N	Comment / Explanation
2.1.1 Stability- Function		
2.1.1.1		
2.1.1.2		Stability rating at full extension
2.1.1.3		State lifting capacity: monitor _____ Keyboard _____
2.1.1.4		Modular design
2.1.1.5		Integrated raceway
2.1.1.6		Structural integrity for 24/7 use
2.1.2 – Keyboard Surface – Sitting/Standing		
2.1.2.		State value: _____ Lift
2.1.2.		State height sitting _____
2.1.2.		State height standing _____
2.1.3 – Monitor Surface – Sitting/Standing		
2.1.3.		
		Requires submittal of dimensioned drawings detailing how specified monitor view angles are achieved
2.1.3.1		Accommodate min 6 - 19" monitors
2.1.3		Rating for maximum allowable weight for service personal _____
2.1.4 – Adjustment Devices		
2.1.4.1		Separate electric adjustment for monitors and keyboards
2.1.4.2		Adjustments to be made at sitting and standing positions
2.1.4.3		Noise rating if available _____
2.1.4.4		
2.1.4.5		State speed:
2.1.4.6		State minimum clearance _____
2.1.4		State memory positions: _____
2.1.4		Collision detection works in both directions _____ Y/N Collision detection works on both surfaces _____ Y/N Collision detection works regardless of location of obstruction _____ Y/N

Specification Section	Compliance Y/P/N	Comment / Explanation
2.1.5.		2.1.5 – Laminate – Console Tops and Side Surfaces
2.1.5.1		Non-glare, high pressure laminate
2.1.5.2		List Manufacturer
2.1.5.		State thickness _____
2.1.5.3		Work surface material and thickness _____
		3.1.7 Knee space/ Leg Room
3.1.7.1		Free of levers, controls, smooth underside
3.1.7.2		Un-obstructed knee clearance in seated operating position ANSI standards. List clearances or provide detailed drawings
		3.1.8 – Mobile Drawer Pedestal
3.1.8.1		Ball bearing guide construction/full extension
3.1.8.1		Rating for ball bearing guides _____ lbs
3.1.8.2		Pedestal to include pencil tray and capability for hanging files.
		3.1.10 – Cable Management
3.1.10.1		Ability to internally run cabling
3.1.10.2		Design to allow for unrestricted cable management and access
3.1.10.3		Ability to provide full detail of summary to address customers equipment
3.1.10.4		Panel covers that allow easy access from the front/ sitting area.
3.1.10		Wire management that allows for units adjustment from sit or stand w/o wiring Complications.
		3.1.11 – CPU Enclosures
3.1.11.1		
3.1.11.2		
3.1.11.3		
3.1.11.4		Ball bearing rating for slide out shelves _____ lbs
3.1.11.5		
3.1.11.6		Internal service light
3.1.11.7		Two fans for cooling of equipment enclosure
		CFM rating on fans _____
		Decibel ratings on fans _____

