ORDER FOR SUPPLIES OR SERVICES

PAGE OF PAGES: 1 | 3

ORTANT: Mark all packages and papers with contract and/or order numbers. BPA NO. NRC-33-01-183

DATE OF ORDER: SEP 29 2004	2. CONTRACT NO. (If any): GS35F4366G
ORDER NO.: NRC-21-04-233 MODIFICATION NO.	4. REQUISITION/REFERENCE NO.: ASB-04-233 -05/05/04 & 08/06/2004

3. ISSUING OFFICE (Address correspondence to):
U.S. Nuclear Regulatory Commission
Div of Contracts
Two White Flint North - MS T-7-I-2
Contract Management Center No. 1
Washington, DC 20555

6. SHIP TO:
a. NAME OF CONSIGNEE: Pacific Enterprise Plaza Building One
b. STREET ADDRESS: 6197 Sagebrush Street
c. CITY: Las Vegas | d. STATE: NV | e. ZIP CODE: 89120
f. SHIP VIA:

7. TO:
NAME OF CONTRACTOR: PEC SOLUTIONS, INC.
COMPANY NAME:
STREET ADDRESS: 12750 FAIR LAKES CIRCLE
CITY: FAIRFAX | e. STATE: VA | f. ZIP CODE: 220334901

8. TYPE OF ORDER
[ ] a. PURCHASE ORDER — Reference your _____ Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.
[X] b. DELIVERY/TASK ORDER — Except for billing instructions on the reverse, this delivery/task order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract.

9. ACCOUNTING AND APPROPRIATION DATA: 47D-15-301-209 N7048 252A 31X0200 — $84,500.00
10. REQUISITIONING OFFICE: ASB — Atomic Safety Licensing Board Panel

BUSINESS CLASSIFICATION (Check appropriate box(es))
[ ] a. SMALL [X] b. OTHER THAN SMALL [ ] c. DISADVANTAGED [ ] d. WOMEN-OWNED

12. F.O.B. POINT	14. GOVERNMENT B/L NO.	15. DELIVER TO F.O.B. POINT ON OR BEFORE	16. DISCOUNT TERMS
Destination		September 30, 2005	N/A

13. PLACE OF: a. INSPECTION	b. ACCEPTANCE	FOR INFORMATION CALL: (No collect calls)
		Carolyn A. Cooper 301-415-6737

17. SCHEDULE (See reverse for Rejections)

ITEM NO. (A)	SUPPLIES OR SERVICES (B)	QUANTITY ORDERED (C)	UNIT (D)	UNIT PRICE (E)	AMOUNT (F)	QUANTITY ACCEPTED (G)
	The U.S. Nuclear Regulatory Commission hereby accepts PEC's offer dated August 5, 2004, as revised on September 27, 2004 and September 28, 2004, for the delivery and installation of a Digital Data Management System for the Las Vegas Hearing Facility located in Nevada, in accordance with the statement of work (SOW) (Attachment No. 1) at the prices listed in the price schedule (Attachment No. 2) of this order. The period of performance of this order shall be from September 30, 2004 through September 30, 2005. Deliverables shall be submitted in accordance with the schedule provided on Page 49 of the SOW. The ceiling amount for this order is $2,393,960.40. The amount obligated with respect to this order is $84,500.00. Additional funding will be provided on an incremental basis as funding becomes available. (Refer to Sections 6 through 17 of the SOW for Order Terms, Conditions and Requirements.) See Section 11 for Security Requirements applicable to this order in accordance with NRC Form 187 (Attachment No. 3).					

18. SHIPPING POINT	19. GROSS SHIPPING WEIGHT	20. INVOICE NO.	$2,393,960.40	SUBTOTAL
				17(h) TOTAL (Cont. pages)
			$2,393,960.40	17(i). GRAND TOTAL

21. MAIL INVOICE TO:
a. NAME: U.S. Nuclear Regulatory Commission, Payment Team, Mail Stop T-9-H-4
b. STREET ADDRESS (or P.O. Box): Attn: (NRC-21-04-233)
c. CITY: Washington | d. STATE: DC | e. ZIP CODE: 20555

SEE BILLING INSTRUCTIONS ON REVERSE

UNITED STATES OF AMERICA BY (Signature)

23. NAME (Typed): Robert B. Webber
TITLE: CONTRACTING/ORDERING OFFICER

TEMPLATE - ADM001 SISP Review Complete OPTIONAL FORM 347 (Rev. 2/93) ADM002

SUPPLEMENTAL INVOICING INFORMATION

ɔsired, this order (or copy thereof) may be used by the Contractor as the Contractor's invoice, instead of a separate invoice, provided the following ement, (signed and dated) is on (or attached to) the order: "Payment is requested in the amount of $__________. No other invoice will be submitted." vever, if the Contractor wishes to submit an invoice, the following information must be provided: contract number (if any), order number, item number(s), cription of supplies or services, sizes, quantities, unit prices, and extended totals. Prepaid shipping costs will be indicated as a separate item on the ice. Where shipping costs exceed $10 (except for parcel post), the billing must be supported by a bill of lading or receipt. When several orders are iced to an ordering activity during the same billing period, consolidated periodic billings are encouraged.

RECEIVING REPORT

antity in the "Quantity Accepted" column on the face of this order has been: ☐ inspected, ☐ accepted, ☐ received by me and forms to contract. Items listed below have been rejected for the reasons indicated.

PMENT JMBER	PARTIAL		DATE RECEIVED	SIGNATURE OF AUTHORIZED U.S. GOV'T REP.	DATE
	FINAL				
AL CONTAINERS		GROSS WEIGHT	RECEIVED AT	TITLE	

REPORT OF REJECTIONS

EM NO.	SUPPLIES OR SERVICES	UNIT	QUANTITY REJECTED	REASON FOR REJECTION

Please indicate your acceptance of this order by having an official who is authorized to bind your organization, execute three copies of this document in the spaces provides below and return two copies to the Contract Specialist. You should retain the third copy for your records.

ACCEPTED:

Stuart R. Lloyd
NAME

Stuart R Lloyd
SIGNATURE

Sr. VP & CFO
TITLE

September 29, 2004
DATE

Attachment No. 1

STATEMENT OF WORK

FOR THE

DIGITAL DATA MANAGEMENT SYSTEM

FOR THE LAS VEGAS HEARING FACILITY

TABLE OF CONTENTS

1. BACKGROUND 1
   1.1 Facility 2
      1.1.1 First Floor Hearing Room 3
      1.1.2 First Floor Conference Rooms 3
      1.1.3 First Floor Auxiliary Support Rooms 3
      1.1.4 First Floor Information Technology Room 4
      1.1.5 First Floor No Technology 4
      1.1.6 Exterior Security Systems 4
      1.1.7 Second Floor Offices 4
      1.1.8 Second Floor Break Room/Fax/Copy Room 4
      1.1.9 Second Floor IT/Communications Closet 4
      1.1.10 Second Floor Future Office Expansion Spaces 5
   1.2 Government Furnished Digital Data Management System 5
      1.2.1 Rockville, MD Operational DDMS Description 5
      1.2.2 DDMS Production Architecture Functionality 7
      1.2.3 Rockville, MD DDMS Servers 10
      1.2.4. Software 12
         1.2.4.1 System Software 12
         1.2.4.2 Application Software 12
            1.2.4.2.1 Video Indexing Software 12
            1.2.4.2.2 Search & Retrieval Software 13
         1.2.4.3 Database Management Software 13
            1.2.4.3.1 Video Encoding Software 13
            1.2.4.3.2 Video Streaming Software 13
            1.2.4.3.3 Real-time Transcription Software 13
         1.2.4.4 System Hardware 13
            1.2.4.4.1 Hardware Description 13
            1.2.4.4.2 Multimedia Subsystem 14
   1.3 Other Government Furnished Components 17
      1.3.1 Desktop Office Automation 17
      1.3.2 Telecommunications Service 17
      1.3.3 Webstreaming Hosting 17

2. OBJECTIVE 17

3. SCOPE 18
   3.1 Scope of Interaction with Concurrent Projects 18
   3.2 Infrastructure Considerations and Requirements for Operational Implementation 18
   3.3 NRC's System Development Life Cycle Management Methodology (SDLCMM) Mandatory 18

4. STATEMENT OF WORK 20
4.1 Design of the Las Vegas DDMS Production System 20
4.1.1 Detailed Design Basis 20
4.1.2 Description of Core System Components 20
4.1.2.1 Document Management Component 21
4.1.2.2 Video conferencing 21
4.1.2.3 Real-time Transcription 21
4.1.2.4 Video Capture/Playback 21
4.1.2.5 Video Cassette Recorder (VCR) 21
4.1.2.6 Evidence and Argument Presentation 22
4.1.2.7 Audio Translation 22
4.1.2.8 Audio Support 22
4.1.2.9 Audio/Video System Control 22
4.1.2.10 Hearing Management Component 23
4.1.2.11 Hearing Management Reporting Component 23
4.1.2.12 Hearing Management Research Support Component .. 24
4.1.2.13 Hearing Management Integrated Case Management System 24
4.1.2.14 Multimedia Management Component for Transcript Handling 24
4.1.2.15 Multimedia Management Component for Video Handling 24
4.1.2.16 Data Storage Component Digital Versatile Disk (DVD) 25
4.1.3 Communications Component: Telecommunications 25
4.1.4 Detailed Design for Communications Component: Local Area Networking 25
4.1.5 Detailed Design for Data Storage Components 26
4.1.6 Detailed Design for World Wide Web Access Video streaming Component 27
4.1.7 Detailed Design for World Wide Web Access Remote Access Component 27
4.1 8 Enhanced Audio Visual Design 28
4.1.9 Additional Detailed Design Attributes 30
4.1.10 Detailed Design Controls 33
4.1.11 Detailed Design Constraints 34
4.1.12 Detailed Design Review: Acceptance Criteria for Design Activities 35
4.2 Performance Standards 36
4.2.1 System Availability 36
4.2.2 System Performance Requirements 36
4.2.3 System Scalability 37
4.2.4 Existing Infrastructure Parameters 38
4.2.5 NRC Enterprise Server Environment 39
4.2.6 Security and Recovery 39
4.2.7 System Administration Capabilities and Documentation 40
4.3 Engineering the Las Vegas DDMS Production System 41
4.3.1 Engineering the Solution 41
4.3.2 Development 42

4.3.3 Code and Integration Testing 42
4.3.4 Requirements Testing 43
4.3.4.1 Contractor's Test Report 44

4.3.5 Acceptance Standards for the Las Vegas DDMS Production System Deliverable 44
4.3.5.1 Quality Assurance (QA) Plan for Las Vegas DDMS Production System 44
4.3.5.2 Demonstration 46
4.3.5.3 Assessment 48
4.3.5.4 Recommended Revisions for Implementation 48
4.3.6 Las Vegas DDMS Production System Deliverables 48
4.4 Operations and Maintenance 50
4.4.1 Objective 50
4.4.2 Scope 50
4.4.3 Maintenance Support 50
4.4.3.1 Definition 50
4.4.3.2 Initiation of Work 51
4.4.3.3 Independent Action 51
4.4.3.4 Work Actions Requiring Pre-approval 52
4.4.3.5 Standard Work Approach 52
4.4.3.6 Specialized Maintenance Support Services 52
4.4.4 Operational Support 52
4.4.4.1 Definition 52
4.4.4.2 Independent Action 53
4.4.5 Work Effort Ceiling Notification 54
4.4.6 Work Effort Reporting 54
4.4.7 Place of Performance 55
4.4.8 Schedule of Deliverables 55
4.4.9 Performance Measures 56

5. **LIST OF GOVERNMENT FURNISHED EQUIPMENT/FACILITIES** for DDMS Production System for Las Vegas Hearing Facility 57

6. **PERFORMANCE REQUIREMENTS** 58

7. **PLACE OF PERFORMANCE** 58

8. **KEY PERSONNEL** 58

9. **TRAVEL** 59

10. **REPORTING REQUIREMENTS** 59
10.1 Weekly Reports and Meetings 59
10.2 Project Management Plan 59
10.3 Monthly Reports 60

11. **SECURITY** 60

12. BILLING INSTRUCTIONS 67

13. PROJECT OFFICER 69

14. PERIOD OF PERFORMANCE 71

15. CONSIDERATION AND OBLIGATION 71

16. FAR 52.232-7, "PAYMENTS UNDER TIME-AND-MATERIAL AND LABOR-HOUR CONTRACTS" 72

17. FAR 52.232-18, "AVAILABILITY OF FUNDS (APR 1984)

APPENDIX I ..... APPENDIX I - 1

APPENDIX II ..... APPENDIX II - 1

APPENDIX III ..... APPENDIX III - 1

APPENDIX IV ..... APPENDIX IV - 1

APPENDIX V ..... APPENDIX V - 1

APPENDIX VI ..... APPENDIX VI - 1

APPENDIX VII ..... APPENDIX VII - 1

APPENDIX IIX ..... APPENDIX IIX - 1

APPENDIX IX ..... APPENDIX IX - 1

Las Vegas Digital Data Management System (DDMS)
STATEMENT OF WORK

1. BACKGROUND

The Atomic Safety and Licensing Board Panel (ASLBP) is responsible for conducting the adjudicatory proceeding regarding the Department of Energy's (DOE) application for construction authorization for a high-level waste (HLW) repository at Yucca Mountain, Nevada. The current estimated date for beginning evidentiary hearings in Las Vegas, Nevada is May 2005. The scope and nature of this proceeding dictate the essential need for efficient capture and management of the enormous volume of multimedia data that must be processed and displayed in a very short time frame for this hearing.

The U.S. Nuclear Regulatory Commission (NRC) has a requirement for establishing and operating digital information retrieval, utilization, and display capabilities in conjunction with a potential licensing proceeding for an HLW repository at Yucca Mountain, Nevada. Such a system - the Digital Data Management System (DDMS) - has already been successfully developed and deployed in the NRC Two White Flint North (TWFN) complex in Rockville, Maryland. The same capabilities available in the NRC's Rockville Hearing Room are needed for use in licensing hearings conducted by the ASLBP in the NRC's Las Vegas, Nevada facility, scheduled to be opened on October 1, 2004 for systems installation. All installation and connectivity with the existing system must be concluded by April 1, 2005.

Because judges, lawyers, counsel for parties, and technical support staff will use DDMS systems interchangeably in both Rockville, Maryland and Las Vegas, Nevada in support of the Yucca Mountain proceeding, the system installed in the Las Vegas facility must be as nearly identical in operation and component parts as possible to that already installed in Rockville. Additionally, it is expected that data and document files stored in the Rockville system must be made available to support hearings held in Las Vegas, and vice versa, driving a requirement that the databases and data files installed in Las Vegas under this effort be a virtual mirror image of the existing Rockville DDMS configuration and be fully integrated with its operation.

The currently operational Rockville, Maryland system enables the creation and use of an integrated, comprehensive digital record for an adjudicatory licensing proceeding. Using information that is pre-filed electronically by hearing participants in the Agencywide Documents Access and Management System (ADAMS)-based Electronic Hearing Docket (EHD), the DDMS records, stores, and displays the text and image of documents and other digital data presented in the hearings and permit access and retrieval of the entire documentary and video record of the proceeding in an electronic format. The system allows counsel for the parties to bring prepared materials to the evidentiary hearings electronically and to have them integrated and accessible concurrently with the record being presented in the hearing room. The record is continually accessible by the presiding officer and the parties in the litigation. The DDMS supports hearing activities and information management during the pre-hearing, hearing, and post-hearing phases.

Finally, it is envisioned that portable and remote capabilities will be necessary to support local hearings conducted across the United States.

1.1 Facility

The Las Vegas facility is new construction that has been architecturally designed to accommodate a hearing room, participant conference rooms, IT/Communications Equipment room, IT/AV Control room, and public spaces on the first floor, and to provide general offices and an optional second hearing room on the second floor. Construction is standard office grade drywall, with dropped acoustic tile ceiling systems to be used in the hearing room but some areas may have drywall-finished ceilings. The entire building will have pre-existing conduit for planned equipment including computers, monitors, sound system, and cameras to be emplaced during construction per local building codes terminating in expected locations. Note that local code requires all wiring carrying current to be conduited to its terminal junction boxes. Electrical outlets are provided with the facility as per General Services Administration (GSA) standards and local code.

As part of the design activities for the Las Vegas facility, the developer's architect/engineering firm commissioned a study on a technology solution for providing microphones, speakers, cameras and display monitors for the entire facility. The developer used the resulting configuration to determine the conduit sizing, placement of junction boxes for associated A/V components, placement of electrical connections and locations for flat panel display monitors.

Although the study proposed a possible technical solution, it remains the NRC's desire to implement equipment configurations compatible with the Rockville hearing room to minimize system maintenance, maintenance contracts, and staff training on diverse equipment. The NRC recognizes that the Las Vegas hearing room represents different configuration challenges that could warrant use of different technology solutions, especially in the audio-visual components and found two other similar systems: the ConferenceONE Discussion Systems by Shure and the Conferencing System by Sennheiser[1]. Since all three systems employ a different cabling configuration, the proposed conduit sizing requirements were amended in the hearing room to accommodate the maximum required wiring for the considered solutions. Consequently the conduit capacity and wiring layouts may, or may not, impose design constraints based on specific equipment being proposed and should be carefully studied, along with the construction drawings and the cable matrix provided in APPENDIX II, in preparing lists of proposed equipment.

Offerors are cautioned that certain adjustments may need to be made in the final positioning of equipment and should take this into account in determining the amount of time and labor needed to make a final installation. To facilitate analysis of the optimal locations and the construction conditions that can be anticipated, a complete set of A/E drawings for the proposed facility is being made available as APPENDIX III to this SOW. Wherever possible, recommended adjustments to the locations identified in APPENDIX III should be identified and reflected in the proposal submitted in response to this solicitation.

[1]The detailed specifications for these systems are not included as part of APPENDIX I.

1.1.1 First Floor Hearing Room

The first floor hearing room will be approximately 88' wide by 73' deep. The overall hearing room configuration has three distinct areas: the bench area for judges, witnesses, clerk of the court, and an AV control room (Room112); a "well" area with a presentation podium, desks where the parties to the proceeding are seated and a work station for a court reporter; an audience area with a seating capacity of approximately 275; and a press area in the rear corners of the hearing room. There are three significant architectural features affecting equipment installations:

A. The bench and well areas sit beneath an interior atrium/skylight that elevates up to a rooftop celestery (clear story) providing natural lighting over this area. The atrium is not equilaterally rectangular in its footprint above the well area, rather, it is cross shaped with angled steps between the perpendicular intersection.

B. Both the bench area at the head of the hearing room and the well area where the parties are seated sit atop a raised floor panel system. The floor system sits atop a sunken pit in the foundation so that the floor level in the well area is flush with the floor for the audience area but has easy access for adjustment of conduits and outlets needed at each participant seating area.

C. The judges bench table, witness table, and clerk of court booth are elevated approximately 18" above the floor level in the rest of the hearing room.

1.1.2 First Floor Conference Rooms

Eleven designated rooms on the first floor will be made available to the parties to the proceeding or other approved groups for caucus, meetings, and conferences. These rooms will require access to DDMS database resources via a terminal, keyboard, mouse, and monitor to be provided under this contract, and, a wall-mounted display monitor - independent of the use of the terminal capable of providing a video feed of hearing room activities. The building developer will install a speaker system with volume control in each conference rooms. Additionally an audio input will be provided in the AV room to this speaker system. The offeror is responsible for providing the network resources and cabling to connect this equipment with DDMS equipment located in rooms 112 and 122.

Rooms designated for this usage include rooms 103, 104, 113, 114, 115, 116, 117, 118, 119, 123, and 124.

1.1.3 First Floor Auxiliary Support Rooms

Designated rooms on the first floor requiring DDMS resources include room 105 (Press Room), room 101 (Security) and room 100 (Lobby/Security Screen Area). These rooms will require access to DDMS database resources via a terminal, keyboard, mouse, and monitor to be provided under this contract, and, a wall-mounted display monitor - independent of the use of the terminal capable of providing a video feed of hearing room activities. The building developer will install a speaker system with volume control in each conference rooms. Additionally an audio input will be provided in the AV room to this speaker system.

1.1.4 First Floor Information Technology Rooms

Space has been set aside in rooms 112 and 122 to centralize computer, telecommunications and audio visual equipment installation for the facility.

1.1.5 First Floor No Technology

The following rooms/areas do not require technology installation as part of this contract:

• Fire Riser	Undesignated room
• Building Manager Room	Room 102
• Foyer	Room 106
• Janitorial	Room 108
• Mechanical/Electrical	Room 125, 127
• Restrooms	Rooms 109, 110, 120, 121
• Stairwell	Rooms 128, 129
• Storage	Rooms 107, 126, 127

1.1.6 Exterior Security Systems

Security systems are being provided separately from this procurement. They will be installed in Rooms 101 and 202.

1.1.7 Second Floor Offices

Second floor offices are currently reserved for use by ASLBP legal and technical judges , administrative support staff and IT staff. The building developer will install a speaker system with volume control in each office. Additionally an audio input will be provided in the AV room to this speaker system. Rooms designated for this usage include rooms 201, 205, 206, 207, 208, 209, 210, 211, 218, 219, 220, 221 and 222. Other automation activities for these rooms will be provided separately from this procurement.

1.1.8 Second Floor Break Room/Fax/Copy Room

Room 217 on the second floor has been designated as a multipurpose room, to include a wall-mounted display monitor - independent of the use of any other computer terminals capable of providing a video feed of hearing room activities. The building developer will install a speaker system with volume control in each conference rooms. Additionally an audio input will be provided in the AV room to this speaker system. The offeror is responsible for cabling and installing the monitor, and connecting this equipment with DDMS equipment.

1.1.9 Second Floor IT/Communications Closet

Room 216 on the second floor has been designated for IT and communications wiring junctions. It sits immediately above the main IT/Communication Equipment room (room 122), a similarly dedicated room on the first floor.

1.1.10 Second Floor Future Office Expansion Spaces

The areas around three sides of the atrium area on the second floor are going to be left unfinished, at least initially. It is anticipated that conduit runs and termination/junction boxes will be placed in the unfinished space along the sides of the atrium so as to facilitate the placement of ceiling mount display monitors, speakers, cameras, etc., in the hearing room beneath this unfinished space but should not preclude future finishing of the space.

1.2 Government Furnished Digital Data Management System

A fully operational DDMS will be installed and operational in NRC's Rockville hearing room of the TWFN building. The database components of this system are fully available for expansion or integration with the database solutions needed to support hearing room operations in a Las Vegas, Nevada facility. DDMS application servers have been designed to support the installed audio, video, presentation systems, document databases, and case management features of the DDMS and are located on the third floor IT control room, located outside the hearing room, and in the fifth floor data center. The database environment of the existing DDMS system including document and video recording repositories and the case management components shall either be fully incorporated, integrated with, or expanded when Las Vegas hearing room components are installed and become operational. Proposals must address integration with the existing DDMS databases and including a plan of how to accomplish this with minimal disruption of the operational availability of the Rockville DDMS databases.

All documentation generated as part of the design and implementation activities for the Rockville DDMS is available to the successful bidder for their use. Documentation products developed for the Rockville hearing room may be used as the basis for developing design products for the Las Vegas DDMS by modification, incorporation, or adoption as-is, as determined by the Contracting Officer's Technical Representative. Proposals must address the approach to developing and delivering documentation required for the expanded DDMS system that will serve both locations, to what extent the offeror intends to reuse existing system documentation, or rationale for developing completely separate documentation.

A contract line item currently exists in the Rockville DDMS contract for hardware and software maintenance, and, for providing support services for system operations and maintenance activities. The support services provided under the current Headquarters DDMS contract are not available for operation and maintenance (O&M) support of the Las Vegas DDMS installation. Upon expiration of the O&M support services for the existing DDMS installation, on or about June 12, 2005, NRC will consolidate O&M support for both the Rockville and Las Vegas operations and maintenance of the entire DDMS system under this contract. Proposals must address a transition plan for integrating the Rockville DDMS operations and maintenance activities, including hardware and software maintenance, with those of the Las Vegas configurations that will comprise the expanded DDMS system serving both locations.

1.2.1 Rockville Operational DDMS Description

The DDMS architecture represents a web-based three-tiered approach providing a thin client access to a web portal server. The client interface is supported on standard user workstations through the use of standard Microsoft Internet Explorer Version 6.x browsers. The server side

of the DDMS architecture will operate in a Microsoft Windows 2000® environment using the Plumtree® Corporate Portal and Collaboration Server software and the Microsoft SQL Server 2000 Database Management System (DBMS) software. User/Administrator screens will be provided through the Plumtree® Portal interface. The DDMS will support off-line batch type interfaces via either secure File Transfer Protocol (FTP) transfer or file copy operations with HLW-EHD and ADAMS. System interfaces are described in the ***Digital Data Management System (DDMS) Production Design Document*** version 2.0 dated January 30, 2004, available in ADAMS (ML040330053).

The production system design is built around a core of products for meeting the diverse set of DDMS functional requirements. At the heart of the solution lie two major software products. Plumtree® Corporate Portal is a commercial off-the-shelf (COTS) product from Plumtree® Corporation providing the functionality needed to meet the document management and multimedia management, court case, and hearing management requirements of DDMS. It marries the document and object management features along with searchable video and audio through the use of well established Web environment technology.

The second component is the Plumtree® Collaboration Server, which allows DDMS users to collaborate on projects: setting schedules, sharing documents, and exchanging ideas. Designed to integrate with the Plumtree® Corporate Portal, the Collaboration Server combines a view of active projects with all the other resources integrated in the portal, including document and object management.

Other industry-accepted mainstream tools included as part of the DDMS design approach include:

- Adobe® Acrobat. This package, running on all hearing room workstations, will allow all parties to access previously stored documents. Acrobat provides a full range of image display and manipulation features including resizing, rotation, thumbnails, book marking, and annotation.

- SQL Server DBMS relational database management system. NRC's database management needs will be built around Microsoft's SQL Server 2000® relational database management system. SQL Server is a robust, scalable, and cost-effective industry standard.

- MediaEdge Video Indexing Software. This software synchronizes the video from the hearing room with the transcript from the court reporter. It also creates "key frames," allowing users to view selected video frames, select a particular scene and then begin streaming the video from that point.

- MediaEdge Video Application Server. The video application server contains the metadata about the video (i.e., time code, key frames, date, hearing, etc.), the time synchronized transcript, and synchronized links to all evidence submitted during the hearing. The video application server appears as a portlet (an application) within the Plumtree® portal. This provides a simple interface for users to easily query the multimedia court record.

- Advantage Software's Total Eclipse®. Total Eclipse® is the premier transcript management package among the world's leading litigators. It provides an interface enabling users to receive transcript text directly from a court reporter in real-time, whether in the hearing room or remotely via the internet/intranet, mark a line of the transcript with an issue, exchange data with other software packages, and tag key words and phrases automatically.

Certain equipment must be located within the hearing room, including all primary input and output devices, such as keyboards, the intelligent podium, video cameras and microphones, video production consoles, monitors, and the plasma displays with associated cabling. A control room was created adjacent to the hearing room, where all video production components and workstation computers are located.

1.2.2 DDMS Production Architecture Functionality

The DDMS production architecture consists of six primary functionalities:

A. Document/Object Management - The Web/Portal Server Cluster powers the primary DDMS user interface and the document and object management software. This facility ensures that any document or object stored in DDMS – including videos, audio files, and still images – can be quickly located and retrieved via the DDMS user interface. The servers are connected in a cluster configuration with each server acting as a backup to the other, with fail-over capability should either server fail. The Database Cluster stores the documents and objects managed by the web/portal server. The servers are implemented using the Microsoft SQL Server 2000 database management system. The cluster includes two redundant servers, using a shared disk array. A failure of either server or a disk in the array will be transparent to the user. The cluster provides an instant fail-over capability should either server fail. The load is also shared across the two servers. The DDMS document/object configuration installed in Rockville comprises the following:

Job Server Cluster
Two (2) Dell 2650 w/Windows Advanced 2000 (25 CALs)
One (1) Dell PowerVault 220s w/two (2) 36GB Drives in a Shared Disk Array
One (1) Microsoft IIS Web Server

Web/Portal Server Cluster
Two (2) Dell 2650 w/Windows Advanced 2000 (25 CALs)
One (1) Dell PowerVault 220s w/two (2) 36GB Drives in a Shared Disk Array
Plumtree Collaborative Server and Portal Server (with 50 additional users)

Database Cluster
Two (2) Dell 6650 w/Windows Advanced 2000 (25 CALs)
One (1) Dell Power Vault 220s w/seven (7) 36GB Drives in a Shared Disk Array
Microsoft SQL Server Enterprise (with 5 CAL& 3 yrs s/w assurance)

B. Multimedia Management - The Video Indexing/Capture Server indexes the video and creates an XML file representing the video metadata. The XML file consists of the real-

time transcript that has been inserted into line 21 of the video. A separate time code is generated for each line of the "closed-captioning," scene change/camera cut, and high-level metadata. The XML file is stored in a shared directory. This XML file contains the initial transcript, is synchronized with the digital video and is crawled and stored in the portal for viewing until the official transcript is available. The official transcript is converted to XML format. Required metadata is extracted from the initial transcript and added to the official XML transcript file. This 'official' XML transcript file is crawled by Plumtree® and replaces the initial XML transcript file. The Video Encoding Server receives the live feed from the camera(s) and encodes the video for display over the web. This is encoded in Microsoft media format and is encoded at multiple data rates to allow high and low bandwidth users to view the video. Each server is connected in a cluster configuration with a backup server, with failover capability should either server fail.

The Video Control Subsystem provides an interface for the Clerk of the Court to remotely control starting and stopping the Video Indexing as well as the video encoding.

The Microsoft Streaming Video Server included in Windows 2000® Server is used to house the on-demand hearing room videos. A separate content folder for each location is created to better segment the videos for each. Each server is connected in a cluster configuration with a backup server, with fail-over capability should either server fail. The Microsoft Streaming Video Server provides access to the live and on-demand video from the hearing room. The on-demand videos are stored in the content directory of the streaming server. The live video from the hearing is streamed directly from the Microsoft Video encoder and is available as 'live.wmv'. For streaming outside the hearing room, a Microsoft Video Caching Server will be located at the NRC webstream hosting remote site to handle external access. When an outside user makes a video request of the caching video server, a request is sent to the originating video server where one copy is streamed to the caching server where it is stored in the cache. Future user requests then view the cached version of the video file, thus minimizing bandwidth and user load on the originating server.

The DDMS document/object configuration installed in Rockville comprises the following:

Video Indexing/Capture Server
- 2 - Dell 6650 w/Windows Advanced 2000 (25 CALs)
- 1 - Dell PowerVault 220s w/two (2) 36GB and five (5) 146GB drives in a shared disk array
- 1 - Microsoft Windows 2000 Advanced Server (1 additional CAL)
- 1 - Media Edge Indexing Software-Production v. 2.1
- 1 - Media Edge Video Controller v. 2.1

Video Encoding - On Demand
- 1 - Viewcast Niagara 4112RW Video Encoder Server - On Demand
- 1 - Media Edge Video Management Software - Production v.2.1

Video Encoding Server Live
- 2 - Dell 6650 w/Windows Advanced 2000 (25 CALs)

1 - Dell PowerVault 220s w/two (2) 36GB Drives in a Shared Disk Array

C. Audio/Visual (A/V) Components - The A/V components of the DDMS include most of the input and output hardware devices for the system. These include, but are not limited to: cameras, an intelligent podium, plasma screens, LCD monitors, touch screen control panels, infrared devices and laptops. These are the primary devices used to interact with DDMS and will be located throughout the hearing room. The cameras, intelligent podiums, and touch screen control panels all provide both analog and digital input information for DDMS. The monitors, plasma screens, and laptops are output devices for DDMS users. In addition to the components arrayed throughout the well area of the hearing room, A/V control equipment is required. The AV control room configuration installed in Rockville comprises the following:

A/V Control Room Work Station

2 - 17" NEC LCD monitor
2 - Marshall/V-R53P preview monitors
1 - 19" CSI Speco VM-19 video monitor
1 - 10" AMX CA10 color touch screen control panel
2 - Dell Optiplex SX 260

A/V racks configured with the following equipment - Located in the control room

5 - VHS players
1 - Extron DVS 204 Video Scaler
1 - Extron MVP 104GX Multi Video Image Splitter
1 - videolink 1690 Video scan converter RGB Spectrum
1 - Kramer VP724DS Scaler Matrix Switcher
1 - Kramer VP1616RGBHV RGBHV Matrix Switcher
1 - Kramer VS-162V Composite Matrix Switcher
1 - Inline IN1124 VGA Distribution Amp (video over cat5)
1 - Inline IN3562R VGA Switch
4 - Inline IN1130-2 Video over cat 5 reciever
1 - Extron TP T BNC DA4 VGA Distribution Amp (video over cat5)
4 - Extron VTR001 (70-259-11) Video over cat 5 reciever
1 - Extron TP T 15HD A Video over cat 5 xmiter (from cart)
1 - Extron TP R 15HD Video over cat 5 receiver (from cart)
1 - Extron TP T 15HD AV Video over cat 5 xmiter (to cart)
1 - Extron TP R BNC AV Video over cat 5 receiver (to cart)
1 - Pointmaker PVI83 w/comm 8 option and RKMT
2 - Mid Atlantic PD-915R Rack Power Supply
2 - Mid Atlantic PD-1415C-NS Vertical Power Strips
13 - Altinex DA1916sx VGA 2x1 switch
1 - Blackbox ACU1006RA KVM switch hub over cat 5
13 - Blackbox ACUREM KVM switch cat5 reciever
1 - Aspi Vortex 2280 Audio Mixer /echo cancellor
1 - Aspi Vortex 2201 Audio Mixer /echo cancellor / phone hybrid
2 - Sabine GRQ-3102S Feedback control
1 - Amplifier QSC CX204V
3 - Atlas Soundolier AT-10A Remote Volume Control

3 - Atlas Soundolier AT-35A-RM Volume Control
1 - AMX NI4000 Control System Processor (Control Rm)
1 - AMX Accent3pro Control System Processor (Control Rm)
1 - AMX Accent3 Control System Processor (Cart)
1 - AMX AXB-232+ Control expansion
2 - AMX AXB-REL8 Control expansion
1 - Mid Atlantic PD-620C-NS Vertical Power Strips
2 - Mid Atlantic PD-915R 10 Horizontal Power Strips
1 - Ashly MX-206 Mic Mixer

D. Image Capture - Image capture is accomplished using a Windows XP Professional® workstation, with an attached scanner, running the Adobe Capture® software. Text documents are scanned utilizing the Adobe Capture® software and saved as PDF files with full text. This equipment is installed in the A/V control room.

E. Court Room Clients - The hearing room clients will utilize Windows XP Professional® workstations or laptops for access to the DDMS LAN. The client workstation will run Internet Explorer® 6.x, Microsoft Media Player® 9, Flash Player® 6, and Adobe Reader® 6.x.

F. Court Reporter - DDMS provides a configured workstation for the court reporter station. The court reporter will interface to the workstation through a COM port. By providing a preconfigured workstation, DDMS can maintain configuration control of both the system and critical software. Each court reporter will have a custom user account at the workstation, allowing each to customize settings and dictionaries as appropriate. The court reporter workstation will utilize Windows XP Professional® and the Advantage Software® suite including Eclipse®, Accucap®, and Televiewⓡ. The Court Reporter/Closed Captionist will be responsible for launching the Eclipse®, Accucap®, and Televiewⓡ applications.

G. Press Input - The rear area of the hearing room has audio and video outputs for the press.

In total, the workstation and monitor requirements for the judges' bench, presentation podium, four counsel tables, witness box, clerk of court booth, and court reporter include 17 PCs (typically Dell SX260 w/Windows XP Professional®) and flat panel or touch screen monitors (three judges' 18" LCD touch screen monitors; three EIZO 17" touch screen monitors for the podium and witness box; the balance being standard LCD monitors). Additionally, each workstation is equipped with a keyboard and mouse.

1.2.3 Rockville DDMS Servers

NRC believes that the DDMS database residing in Rockville can serve as the central DDMS database for the Las Vegas facility and remote sites since it has been implemented using two servers in a clustered configuration. In the event that one server fails, the remaining server will continue to support all database management functionality without the need for reconfiguring the system. This allows for uninterrupted operation. Each of these servers provides redundant power supplies, redundant Local Area Network (LAN) controller cards and a Redundant Array

of Independent Drive (RAID) storage configuration that transparently compensates for the failure of any one disk without the need for operator intervention. This capability has been implemented using a combination of Windows 2000® Enterprise Server Clustering and MS SQL Server Clustering features. Data remains up to date for each server since it is stored on an external RAID array that supports access from both servers simultaneously. As this storage array has been configured using RAID 5 features, it can continue to operate without operator intervention following the failure of any one of the deployed disk drives.

The remaining servers in the Document/Object Management subsystem, the Plumtree Job and Web/Portal servers each have a redundant server available for use. Each of these backup servers is fully configured and ready to run should the primary server fail, through the use of Windows 2000® Enterprise Server Clustering features. For the Multimedia Management Subsystem, one backup server is included for each primary server. Each primary/backup server pair is configured with software identical to that on the secondary server, and has been implemented using Windows 2000® Enterprise Server Clustering features.

System Platform Components, Servers - The production DDMS runs on a series of Intel-based servers: Dell PowerEdge 6650 servers. These systems contain either single or dual 1.9GHz to 2.4GHz P4 processors with 256 KB Cache. The systems include up to 4GB of RAM, and up to 73GB disk drives. The DDMS platform software configuration is based on a Microsoft Windows 2000® Enterprise Server operating system environment. In addition, the database server supports Microsoft SQL Server 2000® Database Management System (DBMS). The application software is currently configured as follows (The Portal and Database Servers have replicated backup servers with identical configurations):

Portal Server:
- Plumtree® Corporate Portal
- Plumtree® Collaboration Server software
- Microsoft IIS® (part of Windows Server 2000®)
- BEA Application Server® software (Included within Plumtree®)
- DDMS specific portlets

Database Server:
- Microsoft SQL Server 2000®

Video Indexing/Capture Server:
- MediaEdge Video Transcript Synchronization Software
- Microsoft Streaming Video Server (part of Windows Server 2000®)
- MediaEdge Video Indexing and Retrieval Software
- Microsoft IIS® - not needed
- Osprey® Card (VIDCAP)

Video Encoding Platform (for the official court record):
- Microsoft Video Encoder
- 1 Osprey® Card (VIDCAP)
- TIVO Box with its software

Video Encoding Platform (to stream live video to the hearing room):
- Microsoft Video Encoder

1 Osprey® Card (VIDCAP)

Transcription Platform:
Total Eclipse® Real-Time transcription software
Line 21 Encoder (EEG Model EN370 DT)

Client Components - The client workstations consist of a 2 GHz Pentium, with 256 MB of RAM, and a 30GB hard drive. Users will employ MS Internet Explorer® Version 6.0 browsers, Adobe® Version 6.x, Microsoft Media Player® Version 9 and Flash Player® Version 6, as minimums, to access DDMS. The judges utilize the same client configuration with the addition of a touch-sensitive monitor. The workstations are located in the A/V Control Room and access to the I/O devices is restricted.

Network Components - DDMS utilizes the NRC LAN, with the addition of Internet Explorer® Version 6.0, to connect authorized users to the server. No non-remote user-based DDMS traffic travels outside of the NRC LAN in Rockville. Only information requests to the NRC homepage, the LSN homepage, the EHD Uniform Resource Locator (URL), the Electronic Information Exchange (EIE) URL, and the IP addresses for Westlaw and Lexis legal research services on the Internet are routed outside of the NRC LAN. For remote user logins to DDMS, traffic enters the NRC network complex via the Internet.

DDMS LAN Architecture - The current DDMS design resides on a self-contained dedicated physical subnet. The DDMS LAN utilizes a Gigabit network switch and all DDMS servers utilize Gigabit network interface cards. This provides optimum transfer rates required for streaming video at the parties' desktops. All workstations located within the hearing room connect to the Gigabit network via Gigabit Ethernet network interface cards. Workstations provided by parties and located outside the hearing room environment have a minimum of a 10/100 Ethernet interface cards.

DDMS video servers are located in the ASLBP control room; all other servers are located in the 5th floor data center at the NRC.

1.2.4. Software

1.2.4.1 System Software

The server platform for the DDMS is Microsoft Windows 2000® Server.

1.2.4.2 Application Software

Portal/Collaboration Server Software has been implemented using Plumtree® Portal Server and Plumtree® Collaboration Server.

1.2.4.2.1 Video Indexing Software

The video indexing software is implemented using MediaEdge's Video Indexing Solution.

1.2.4.2.2 Search & Retrieval Software

Search and retrieval is implemented using Plumtree Plumtree® Portal Server and Plumtree® Collaboration Server along with custom SQL Server code.

1.2.4.3 Database Management Software

Microsoft's SQL Server 2000 is used for the underlying database application.

1.2.4.3.1 Video Encoding Software

Video encoding is accomplished using Microsoft's Media Encoder.

1.2.4.3.2 Video Streaming Software

Video streaming is accomplished using Microsoft's Streaming Video Software.

1.2.4.3.3 Real-time Transcription Software

Real-time transcription is accomplished using Total Eclipse from Advantage Software. In addition, the closed-captioning text stream is created using AccuCapNT™. TeleView™ allows access to the Closed Caption text via a web browser.

1.2.4.4 System Hardware

The following sections detail the server hardware used for the Rockville Production System.

1.2.4.4.1 Hardware Description

The Job Server resides on a Dell PowerEdge 650, 2.4 GHz, 2.0 GB Ram, (5) 36GB HD, Raid 5, Dual Gigabit NIC, Redundant Power Supply. The Plumtree Portal Server is installed on a Dell PowerEdge 650, 2.4 GHz, 2.0 GB Ram, (5) 36GB HD, Raid 5, Dual Gigabit NIC, Redundant Power Supply. The Database Server resides on a Dell PowerEdge 6650, Dual 2.0 GHz, 4.0 GB Ram, 73GB HD, Dual Gigabit NIC. The Disk Array is a Dell PowerVault 220S External SCSI disk array, (7) 146GB HD. The Video Encoder Server (On-Demand), is installed on a Dell PowerEdge 6650, Dual 1.9 GHz, 4.0 GB Ram, (5) 36GB HD, Raid 5, Dual Gigabit NIC. The Video Encoder Server (Live) is installed on a Dell PowerEdge 6650, Dual 1.9 GHz, 4.0 GB Ram, (5) 36GB HD, Raid 5, Dual Gigabit NIC. The Video Indexing/ Capture Server is installed on a Dell PowerEdge 6650, Dual 1.9 GHz, 4.0 GB Ram, (5) 36GB HD, Raid 5, Dual Gigabit NIC Image Workstation Dell Optiplex GX260, 2.2 GHz, 256MB Ram, 40GB HD, with a 17" Monitor. The Court Reporters Workstation utilizes a Dell Optiplex GX260, 2.2 GHz, 256MB Ram, 40GB HD, with a 17" Monitor. To provide uninterruped power supply, there is a Dell 3000RM Rack Mount UPS. Tape Backup is provided via a Dell PowerVault 122T 40/80 GB Rack Mount Tape Drive. The KVM Switch is a Dell 180ES Console Switch, Rack Mount, the Rack Console is a Dell 1U Flat Panel Monitor Console, Rack Mount, and the Server Rack is a Dell PowerEdge Rack 4210, Server Rack.

Specific information on basic system sizing, storage capacities, throughput, bandwidth, and

their underlying assumptions, etc., for the basic DDMS production system in Rockville is provided in the DDMS Production Design Document of October 31, 2003 referenced earlier.

1.2.4.4.2 Multimedia Subsystem

The overall logical architecture includes audio and video components. The video subsystem includes six cameras used to capture video in the hearing room. These six inputs are fed to a voice-activated video switcher. The switched video output of the video switcher is input to a video splitter, which then feeds the video encoding system, as well as a TIVO digital recording system. The Video switcher has a single output that is fed into a video splitter. The video splitter provides multiple copies of the video stream to feed the encoding subsystem for ondemand/archived encoding as well as the Digital Video Recording subsystem, which, in turn, feeds the live encoding subsystem. The on-demand encoding subsystem converts the composite video feed to Microsoft video (wmv format at 384 Kbps at 400x300 pixels as well as 56kbs). The output of the video encoder is stored on the Microsoft Streaming Video Server.

A Tivo or Replay TV provides 40 hours (approximately five days of hearings) of high quality video storage. The output of the Digital Video Recording Subsystem feeds the live encoding subsystem, and is available for the Redaction system. When asked to replay a part of a testimony, the Clerk of the Court electronically rewinds the digital video recorder and replays the appropriate part of the video. The Live Encoding Subsystem encodes the hearing video in the same format as the On-demand Encoding Subsystem. The live video is then broadcasted throughout the hearing room and appears in conjunction with the real-time transcript. The live video and the transcript will appear in the same browser. The Video Redaction Subsystem is used to edit audio on the video if proprietary or classified information is inadvertently disclosed. The video for the session is identified in the Digital Video Recording Subsystem and captured in the Video Redaction Subsystem as Moving Picture Experts Group-2 (MPEG2). The Video Editor is used to edit the audio in question and then encode the video as specified for the On-demand Encoding Subsystem. The transcript for that particular session is also edited to remove the transcript portion that corresponds to the redacted video segment, using a word processing application. The video and the transcript are then resynchronized. The video is then moved to the streaming video server and replaces the suspect video file.

The Video Indexing/Capture Server indexes the video and creates an XML file representing the video metadata. The XML file consists of the real-time transcript inserted into line 21 of the video. A separate time code is generated for each line of the "closed captioning," scene change/camera cut, and high-level metadata. The XML file is stored in a shared directory. This XML file contains the initial transcript, is synchronized with the digital video and is crawled and stored in the portal for viewing until the official transcript is available. The official transcript is converted to XML format and required metadata is extracted from the initial transcript and added to the official XML transcript file. This 'official' XML transcript file is crawled by Plumtree® and replaces the initial XML transcript file.

The Microsoft Streaming Video Server included in Windows 2000®/2003 Server is used to house the on-demand hearing videos. A separate content folder for each hearing room is created to better segment the videos for each. During the Production System implementation, it may become necessary to further segment the hearing room videos by creating a separate folder for each board/issue. Video streaming over the Internet has also been incorporated.

The Transcript Capture subsystem performs the function of real-time translation of the output from the court reporter's steno machine. The real-time transcript is fed to web services running on the court reporter's workstation supporting web-access to a real-time transcription stream. The steno machine is used by the court reporter to produce output to the court reporter's workstation. The steno machine connects to the court reporter's workstation via a standard communications (COM) port and the court reporter's workstation will receive electronic steno machine output via the workstation's COM port. The shorthand transcript is then translated by the Total Eclipse™ software, encoded by the AccuCap™ software, and sent to the referenced URL for transmission.

During the session, the live transcript is added to line 21 of the video and fed to the video indexing subsystem. Line 21 is the industry-standard track of a video signal used by closed-captioning systems to embed the text onto the video signal. During the hearing the video indexing subsystem extracts the line 21 'transcript' at the end of the court session, and an XML file will be created that contains the initial, or live transcript. This contains the initial transcript as well as keyframes, which represent scene changes in the hearing room. This XML file is integrated with the video for that session and stored in a shared directory. A Plumtree® Job is run automatically (at a scheduled time) to ingest this XML file, index it and make it available in the transcripts folder for viewing. Once the official transcript has been delivered to the DDMS systems as a PDF and stored in the appropriate folder, the clerk of the court will use the sync transcript portlet in the portal. He will identify the XML version of the transcript (the official PDF is converted to XML during the resynchronization process), the XML metadata file generated via the Video Indexing Subsystem (the initial transcript file), and the appropriate video file stored in the streaming video server. The transcript will then be resynchronized with the video, indexed, and made available for searching and viewing using a process similar to the initial transcript process. The initial transcript will then be deleted to minimize confusion (two transcripts for the same court session). With respect to pre-filed testimony, the DDMS will insert the pre-filed testimony text directly into the synchronized transcript at the date/time the pre-filed testimony was accepted into the record. However, there will be no corresponding video for this text, and the video will remain synchronized to the original hearing video. Users may stop and start the video independently and scroll through the text as required.

The DDMS receives the official transcript as a PDF file in a manner similar to that of other exhibits. The transcript then follows the same process as other exhibits.

A court record (transcript/video) portlet is available for searching and viewing the transcript. A user selects the hearings/boards to search and then enter the words or text string to search on. The query is passed to the index and a query results set will be returned. This returned set includes the hearing room, board, day, and session (i.e., AM/PM) along with a link to play that part of the court record.

Clicking one of the links will return the appropriate XML file and a style sheet will be applied at the browser. Three windows are provided:

- The first contains the streaming video;
- The second includes the transcript and,
- The third window includes multiple embedded windows that contain:
  - key frames to allow a user to visually review the video;

- links to exhibits referenced in the official transcript; and
- a search function to search for individual words within the transcript.

Selecting a line of a transcript provides the capability to play corresponding video segment(s) indexed on the date and timestamp.

A shared directory is used to store exhibits added during the hearing. The system employs a common process for entering exhibits submitted during the hearing. Entering the Exhibit in the Portal, the Clerk of the Court selects the link to enter a new exhibit, presented as a portlet in the portal. The Clerk then selects the type of exhibit to be created and fills-out the corresponding form. A help screen is available to identify the tasks to be performed to add an ad hoc exhibit during the hearing. For example, the steps required to import a video submitted as an exhibit can be displayed. The Clerk can copy or store the exhibit, as applicable, in the shared folder designated for exhibits entered during the hearing. The Clerk can then select the "SAVE" feature, and the metadata is saved to the appropriate repository.

To process new exhibits, a software agent crawls the folder where the exhibits created during the hearing are stored. This crawler indexes the documents but does not automatically approve them for storage in the portal. The clerk of the court then reviews each exhibit at the end of the day, finishes completing the metadata and then approves the exhibit to go into the portal and the updated metadata is then stored in the repository.

For documents introduced in the hearing room for the first time to be used as an exhibit, using Adobe Capture, the document is scanned and converted to PDF format. The PDF document is then stored in a shared directory for that hearing. An initial set of metadata is created consisting of the Exhibit Number, filename, and date time stamp corresponding to the document status (i.e., identified, accepted, rejected, withdrawn, stricken). This is stored as an XML document in the same-shared folder. Similarly, when a videotape or video recording (VHS/DVD) is submitted as an exhibit, it is processed in a similar manner to the hearing video. At the time of identification during the hearing, a minimal amount of metadata is entered via a portlet and stored as an XML document in the same-shared folder. An "asx" file is also created containing a link to where the video cartridge is stored. The video is also processed or encoded and is placed in a VCR/DVD player. The hearing room cameras capture the output of the VCR/DVD player during the proceedings. The same general approach is also used for computer models, simulations or other data/database presentations when offered as an exhibit. When a model, simulation or presentation is submitted during the hearing, the hosting computer has a video-out connector: s-video or composite video. The video out is fed to the corresponding video inputs of the hearing room monitor. If the computer running the presentation does not have a video-out connector, a scan converter is used to convert the VGA video output of the computer (i.e., the connector that typically goes to a projector or external monitor). The output of the scan converter is then fed into the hearing monitor for presentation. At the time of identification during the hearing, a minimal set of metadata is entered to reflect the simulation model as an exhibit.

Evidence image capture is performed by a desktop scanner or document camera and the captured image is saved as a PDF or TIFF file, and saved in the shared directory. At the time of identification during the hearing, a minimal set of metadata is entered into an XML document in the same, shared folder.

Transaction processing activities performed by, or unique to, the clerk of the court require the use of a mouse to operate due to the complexity of the functions to be performed. All other software code segments ("portlets") are operated via a mouse or touch screen monitor. These portlets use a style sheet that provides a large enough font to be accessed via the touch screen monitor.

1.3 Other Government Furnished Components

1.3.1 *Desktop Office Automation*

The NRC will use other contractor resources, from its Headquarters seat management contract, to provide office automation resources to the ASLBP offices on the second floor.

1.3.2 Telecommunications Service

The NRC will provide other contractor resources to provide telecommunications voice and data services (lines) incoming to the facility in room 122. Voice communications devices (phonesets) and services will be provided at predesignated locations throughout the building including a limited number of phonesets in the hearing room and control room to facilitate communications between the judges, the clerk of the court, and the AV control room operators. Communications lines located in this room will be available to the DDMS contractor to provide internet connectivity essential to the DDMS application, and also provide wide area network connectivity for DDMS database operations.

1.3.3 Webstreaming Hosting

NRC will use other contractor services to provide webcasting of proceedings recorded in the DDMS facilities. The contractor will be responsible for coordinating the technical integration of the output of the DDMS system with the webstreaming contract standards and specifications to ensure total technical compatibility. See an example of a similar NRC webstreaming implementation at: www.nrc.gov/public-involve/public-meetings/webcast-live.html. Unlike webcasts of Commission meetings, there is no requirement for archiving previous webcasts and this feature will not be implemented by ASLBP.

2. OBJECTIVE

The objective of the contract awarded under this solicitation will be to install an operational Digital Data Management System in a GSA leased facility in Las Vegas Nevada. The installed system shall complement, be fully compatible with, and expand the existing system already installed at the NRC hearing room facility in Rockville, MD. It should be noted that the DDMS may share some infrastructure services with office automation and telecommunications resources used in staff offices and the conference rooms of the parties but for security reasons the operational deployment of the DDMS system access must be kept logically separate from network and system access intended for NRC staff-only access.

Once installed, the Las Vegas DDMS system shall be maintained and operated by the contractor, with O&M services to be provided under this contract initially for the LV facility but eventually transitioning O&M responsibility for the Rockville facility as well. The Las Vegas

facility will be available to the contractor on November 1, 2004 to commence installation of the DDMS components required in this solicitation, and must be operational by September 1, 2005.

3. SCOPE

The contractor shall provide all necessary personnel, materials, hardware, software, labor, supplies, equipment, travel, lodging and other costs necessary to perform the delivery, installation, testing and NRC acceptance of a fully operational DDMS environment for the Las Vegas facility integrated with the existing Rockville, Maryland system.

The contractor shall provide maintenance and operation services initially for the primary Las Vegas hearing facility, subsequently taking over responsibility for operations and maintenance for the Rockville DDMS installation through September 30, 2005.

3.1 Scope of Interaction with Concurrent Projects

NRC will provide telecommunication services between headquarters and the Las Vegas facility. The installed service will connect the NRC headquarters computer center with a termination point in room 122 of the Las Vegas facility.

NRC contractors will install workstations, local area network, and telephone service in all second floor offices of the Las Vegas facility.

NRC contractors will perform some wiring into the first floor conference rooms and to selected locations in the hearing room and AV control room to provide telephone (local) service.

The building contractor will not be providing any DDMS related cabling. It shall be the responsibility of the DDMS contractor to install and terminate all DDMS related cabling. The building contractor will install conduit from each identified location, to either the IT/Comm Room or the IT/AV Room, rooms 122 and 112 respectively, as shown on the construction drawings attached as APPENDIX III. The installed conduit size is based upon the cable matrix provided as APPENDIX II.

3.2 Infrastructure Considerations and Requirements for Operational Implementation

A complete set of architectural diagrams for the Las Vegas facility is provided as APPENDIX III to this SOW. Only very minor, limited adjustments to the structure will be considered in order to accommodate the installation of the DDMS equipment. Offerors are advised that Las Vegas construction codes have specific requirements for use of conduits to a terminal junction box for any wiring that carries high or low voltage current.

3.3 NRC's System Development Life Cycle Management Methodology (SDLCMM) Mandatory

Adherence to NRC's System Development Life Cycle Management Methodology (SDLCMM) is mandatory. Key deliverables applicable to development of a major system are applicable to the work to be delivered under this solicitation and can be found in the NRC's System Development and Life-Cycle Management (SDLCM) Methodology, Handbook, Version 2.2 dated December

31, 1999 and available via the agency's Publicly Available Records System (PARS) (ML013440199).

NRC's Management Directive 2.5 "Application Systems Life-Cycle Management," establishes the policies for developing and maintaining application systems. The ***SDLCM Methodology Handbook*** and its companion volume of procedures, standards, and forms implement Directive 2.5 by providing life-cycle structure and guidance for all NRC Projects. Use of the ***SDLCM Methodology Handbook***, Version 2.2, is mandatory. This handbook (1) defines the life cycle of an application system; (2) describes the structure of the methodology and each of the seven components; and (3) describes the processes for developing, enhancing, and maintaining systems. The handbook clearly discusses what activities a project team must perform within each of the seven components and what products a project must produce. The companion volume, ***SDLCM Methodology Procedures, Standards, and Forms***, Version 1.2, contains the procedures that document various activities and the standards and forms that facilitate the preparation of all products.

Copies of these volumes are included in APPENDIX IV. The contractor shall follow a Package-Based Life-Cycle Model, as described in Section 3.4 of the ***SDLCM Methodology Handbook***. Key products include but are not limited to a ***Project Definition and Analysis Document (PDAD)*** to demonstrate its understanding of the functional, data, and user interface/operational requirements. This deliverable shall address alternative design approaches considered, identify the development environment, and present the nature of problems to be addressed in integrating with the Rockville hearing room DDMS system. The contractor shall develop and document a final overall system operations concept to be included with this document. Once the contractor has demonstrated an understanding of the system design objectives, the contractor shall develop a ***Project Action Plan (PAP)*** for NRC review and acceptance. This document shall address both an overall project management plan, and a software development plan. The project management plan shall expand upon the basic plan submitted in the contractor's written portion of the proposal, and any changes or deviations from the proposal shall be clearly marked and identified. Upon NRC review and acceptance, the contractor shall compile a detailed design based on the functional requirements and shall deliver both a formal ***Logical Design Document (LDD)***, and a ***Physical Design Document (PDD)***. Products to be developed during the course of the design phase shall include, if and as appropriate to a Package-Based Life-Cycle Model, the following elements: Data Model; Process Model; Context Diagram; Data Flow Diagram; Data Dictionary; User Interface Designs; and External Systems Interface Diagrams (with Processes, External Agents, External Interfaces, etc.). These elements may be developed as separate products or as sections of the LDD and the PDD, depending on the contractor's proposed implementation schedule. However, each of these final documentary products shall be an update to the PDAD and included as a tabbed section in the PDAD. Each of these documents shall, as needed, be updated throughout the design and implementation phases.

The contractor shall utilize the information contained in the physical and logical design documents to develop an overall deployment plan entitled the ***Tactical Integration Plan (TIP)***. The contractor shall address how it intends to manage transition between phases of the project to minimize disruptions in work or impacting operations of the Rockville DDMS, retain key staff, address potential technical or schedule issues, and ensure overall program continuity. Additionally, this deliverable shall present an overall deployment plan including roles and

responsibilities, schedules, and risk mitigation for products and for integration difficulties.

4 STATEMENT OF WORK

Offerers are required to submit a comprehensive technical proposal to deliver an operational DDMS environment in the NRC's Las Vegas hearing room facility located at the northwest corner of Pepper Lane and Sagebrush Street, Las Vegas, NV 89120. Offerors must propose specific configurations based on their expertise in establishing similar hearing room facilities.

The Offerers may request, at the Offerers expense, to tour the Las Vegas, NV hearing facility before submitting their final proposal. The NRC will make available to the Offerers the DDMS project manager, and other NRC personnel as necessary, to facilitate the tour of the Las Vegas hearing facility.

4.1 Design of the Las Vegas DDMS Production System

The contractor shall complete the design for DDMS, fulfilling all the requirements identified in this SOW and in APPENDIX V for the full system capability. The contractor shall replicate, as close as possible, the Rockville, Maryland DDMS system, which includes database and A/V subsystems, in the Las Vegas, Nevada hearing facility with the functionality components listed in sections 4.1.2.1 through 4.1.2.16. Additionally the contractor shall furnish a system based on the items listed in section 4.1.3 thru 4.1.9.

4.1.1 Detailed Design Basis

The following documents are available from the NRC's publicly accessible Agency wide Documents Access and Management System (ADAMS) and may be used as a reference in defining the detail design of the Las Vegas DDMS Production System.

Document		ADAMS Accession Number
Project Definition and Analysis Document	-	ML033010348
Project Action Plan	-	ML033010354
Tactical Integration Plan	-	ML040420100
Production Design Document	-	ML040330053
Hearing Room Audio/Visual Design Guide	-	ML041240078
Audio Visual Subsystem Users Guide	-	ML041240082
Interface Control Document	-	ML040430152

4.1.2 Description of Core System Components

To ensure compatibility with other agency systems and processes such as ADAMS, EHD and the DPC, and to minimize the amount of separate training on diverse components, the contractor shall deliver a Las Vegas DDMS production system that includes as nearly as

possible the same functional Rockville core system components. The Rockville DDMS system has the following core components:

4.1.2.1 Document Management Component

The DDMS system has central database that houses all DDMS hearing indexing information and permits the electronic documents and exhibits to be distributed on document servers that are maintained near the actual hearing locations. The design ensures that electronic information can be quickly transferred to users in the hearing rooms. The centralized index database is currently maintained in Rockville and is available for incorporation into the Las Vegas production system.

4.1.2.2 Videoconferencing

The Rockville system implements multi-point videoconferencing equipment that allows other locations to participate in the proceedings, along with the sharing of any video, audio, or data sources, via Integrated Services Digital Network (ISDN), T1, or fiber optic connections in the hearing rooms. This capability is fully integrated with the overall hearing room which allows judges and others to participate fully in hearings from different locations.

4.1.2.3 Real-time Transcription

The system has the capability and infrastructure (e.g., network connections) in the hearing room necessary to support a court reporter supplying real-time transcription services. A court reporting service has not yet been selected to support the Yucca Mountain repository licensing proceedings.

4.1.2.4 Video Capture/Playback

The system has the capability for video cameras to capture and broadcast the proceedings to the public.. The design provides for a voice-activated camera switching system. When someone talks, the system instantly selects the corresponding camera. The selected camera image along with audio from all microphones and other sources is then recorded and/or distributed as needed. The hearing room pan-tilt-zoom cameras are strategically mounted for wide-angle coverage of the hearing room.

4.1.2.5 Video Cassette Recorder (VCR)

The system provides devices to capture the video images recorded by the various video cameras operating throughout the hearing room. It is designed so that several video cassette recorders (VCRs) can be operated simultaneously during a hearing. The system provides for devices that record VHS format tapes and can signal the designated operator when the tape is about to become full during a recording session. The government requires using both digital video recording and analog video recording technologies: analog to perform initial capture and archiving of the proceedings, and digital to support the subsequent management, distribution, and searching of video information.

4.1.2.6 Evidence and Argument Presentation

A. The hearing room has a capability that provides the multiple components necessary to present evidence and argument in the hearing room. These components include the ability to connect laptop devices into the hearing room system, display units, computer terminal monitors, projection devices, projection screens, digital presentation devices, and video markers.

B. The hearing room design incorporates large wall-mounted and ceiling-mounted flat panel display monitors for use in the gallery and well areas.

C. The hearing room design includes flat panel monitors for presentation of electronic evidence or exhibits to the judges, litigants, clerks, witnesses, audience gallery, conference rooms and second floor break room. The participants in the hearing room that need individual access to a computer screen or need to view audiovisual presentations are provided a flat panel display unit on the tabletop in front of them. At this juncture, the Government does not anticipate the use of any custom-designed millwork for tables to house computer screens or other IT equipment.

D. The hearing room incorporates a digital projector unit providing projection capabilities.

E. The hearing room provides for digital presentation devices (DPD) to present paper or physical exhibits not yet in electronic format.

F. The hearing room provides for annotation of displayed evidence by allowing presenters to draw or point on video images as easily as if they were using a pen or pointer. The system connects to the video source and the monitors active in the hearing room. The system allows a user to perform circling, underscoring, and other highlighting as well as to write or type notes on top of the video image using keyboards and touch screen technologies.

4.1.2.7 Audio Translation

The system has the capability that allows for the ability to integrate various technologies that may be used by skilled translators/interpreters in delivering simultaneous and consecutive interpreting to groups and individuals using telephone communications equipment. The interface capabilities allow interpreters the ability to listen and respond via the courtroom integrated telephone audio system.

4.1.2.8 Audio Support

The system provides for microphones capable of being manually- (override) or voice-activated.

4.1.2.9 Audio/Video System Control

A. The A/V system has a state-of-the-art control system that manages and controls the capture devices during the hearing. This control system enables the judge or clerk to

enable the capture devices to function as required. The system is capable of controlling the system, VCRs, projectors, monitors, sound systems, and other future electronic additions to the room. The control panel design includes both matrix and touch screen control panels.

1. Matrix switchers are provided for audio and video components necessary to accept all video, audio, and computer outputs, and to control which sources are sent to which devices. Controls are provided to allow any video, computer, or audio source to be sent to any or all the connected devices, anywhere, at any time, including media feeds for press.

2. Touch screen control panels are provided to control the system and all other room media systems. These panels are custom programmed for the specific hearing room installation, using powerful one-touch macros to set the rooms up into various operational modes. Remote control panels are available at the judges bench, the clerk of court workstation, in the A/V control room, in the judge's conference room and at the evidence cart and are required to support the hearing. .

B. The system has audio speakers throughout the hearing room for the purposes of broadcasting the proceedings. In addition to speaker support for people with normal hearing, the system includes the capability to support the needs of translation services and assistive listening via infrared headphones and separate voice channels.

4.1.2.10 Hearing Management Component

The DDMS system delivers comprehensive hearing management capabilities needed to ensure that the administrative and logistic staff has supporting information available to assist the judges in conducting the hearing. Some of the hearing management information is managed by the document management components that also contain bibliographic or profile linkages from documents to exhibits, witness lists, etc.

4.1.2.11 Hearing Management Reporting Component

A. The system contains a document management component that has the flexibility to provide customizable standard reports and ad hoc reports in both print and display media that can be used by the judges, clerks, authorized users and other ASLBP administrative personnel in the administration of the hearing. The reports include information such as:

1. Witnesses scheduled to testify at a specific date;
2. Lists of exhibits related to witnesses scheduled for a specific date;
3. Lists of exhibits used in a specific hearing.

B. Some of the required reports are predefined; however, ad hoc reporting capability is also available to support all fields of information contained in the document management system and the databases used to track witnesses, exhibits, calendars, etc. Open Database Connectivity (ODBC) compatible report generating tools shall

provide a graphical user interface for designing and producing both predefined and ad hoc reports required to support the hearing.

4.1.2.12 Hearing Management Research Support Component

The DDMS environment accommodates access to research databases simultaneously with having access to the case record contained in the DDMS to support performing legal research. The capability is structured so as to ensure that the access to legal research tools is at the user's expense (e.g., not hard-wired to a single customer account). Research databases that are accessible include Westlaw™, Lexis/Nexis™, Premise™, and other research databases designated by the judges and attorneys. In addition to those online case law databases, there are rules and other policy documents (e.g., 10 C.F.R. Parts 2 and 63, the Atomic Energy Act of 1954, and the Nuclear Waste Policy Act of 1982) that are available in electronic form from various websites, subscription services, etc., that are accessible via the DDMS system or stored on the DDMS server. However, access to external URL's must limited to those approved by NRC.

4.1.2.13 Hearing Management Integrated Case Management System

The DDMS system has an integrated case management system that integrates the document management, the multimedia management, and the administrative tools required to support the hearing. Unlike the general purpose document management system, the case management system is a specialized solution required to provide specific support to the requirements for a trial or hearing environment. The system provides a case management capability that maintains the docket materials in active use in the hearing room, and manages the interfaces between lawyers, issues, schedule, witnesses, and the court calendar. Because many of these elements are not document-centric, they conceptually do not fall within the capabilities of the electronic document management system component.

4.1.2.14 Multimedia Management Component for Transcript Handling

The system architecture provides support for court transcription service vendors who will provide real-time transcription services at the hearing room sites. Real time transcription is used to support requirements to provide Americans with Disabilities Act (ADA) required trial information to hearing-impaired individuals. The system provides for connecting with court-reporter-provided equipment and devices used for computer-aided transcription or voice recognition-based Stenomasks to capture and distribute real-time testimony.

4.1.2.15 Multimedia Management Component for Video Handling

The system is designed to automatically create an index for video recordings generated during the hearing. This capability is integrated with real-time transcription technologies to provide a video that is synchronized with the output of the computerized real-time court reporting component. The resulting product of this integration is stenographic text of the proceedings taken down by the court reporter and translated by real-time transcription software, and integrated with a simultaneously created videotape so that the text of the testimony appears on the screen (in closed caption format) with the video record of hearing room events. This capability contains an internal clock in the video camera or VCR components that can be

synchronized with the court reporter's computer to ensure that the video and text records of trial proceedings match. This capability results in an overall system approach that allows a specific portion of the video record to be found by searching the text record, rather than relying on a video-only search.

4.1.2.16 Data Storage Component Digital Versatile Disk (DVD)

The system provides a DVD-Random Access Memory (RAM) capability to support offline/near-line storage.

4.1.3 Communications Component: Telecommunications

A. The system contractor shall provide design, specification and application-end-integration with the existing NRC wide area network infrastructure to ensure the ability to connect distant, remote locations using NRC wide area network resources. For the DDMS, telecommunications components shall be integrated to ensure that information can be transmitted between the Las Vegas, Nevada hearing room facility and the DDMS production servers at NRC headquarters located in Rockville, Maryland. Information regarding data capacity can be found in section 4.1.5 of this SOW. The information to be transmitted includes:

1. Documents pre-filed in the NRC's EHD via ADAMS that may be required at a remote hearing;
2. Remotely captured hearing documents to be added to the EHD docket record;
3. Transcripts from remote hearings to be added to the EHD docket record;
4. Bibliographic updates to pre-filed exhibits.
5. DDMS database replication.
6. DDMS video file replication.
7. DDMS document replication.

B. The telecommunications capabilities shall also support video conferencing transmissions and Internet access to support research on selected databases as discussed. The communications capabilities shall utilize existing NRC telecommunications infrastructure and would piggyback on existing agreements and pricing structures; however, the design shall anticipate that the implementation contractor will provide all equipment components required at the DDMS server or control panel terminal of the communications channel. The contractor shall anticipate at least a T1 dedicated digital circuit (private line) that would support transmissions at speeds up to 1.54 Mbps.

4.1.4 Detailed Design for Communications Component: Local Area Networking

A. The contractor shall provide design, specification, and application-end-integration for an isolated LAN node capability to support the hearing room environment, in consultation with NRC's Office of the Chief Information Officer (OCIO)/Information Technology Infrastructure Division (ITID). For the Las Vegas-area location, the contractor selected to implement the Las Vegas facility shall provide for the installation, integration and testing of the required configuration in addition to the design and specification. The

required LAN configurations shall support the following DDMS requirements:

1. Transmit/share pre-filed documents and exhibits stored on a server to the hearing participants;
2. Connect multiple workstations, display devices, printers, and input devices that support the hearing;
3. Allow authorized hearing participants to load new electronic documents and exhibits to the server.

B. The design shall anticipate that the Las Vegas facility will utilize Category 6 cabling (Cat 6) that support transfers up to 1000 Mbps.

4.1.5 Detailed Design for Data Storage Components

A. The contractor shall design a capability that provides disk storage for the management of electronic information used by the DDMS during the hearings. The design shall anticipate the projected volumes of data for the Yucca Mountain HLW Repository proceeding and additional case proceedings for which the resource may be used. It should compliment the disk storage strategy implemented in Rockville.

B. It currently is anticipated that the hearings for the Yucca Mountain license application will encompass at least 185 hearing days. Assuming twelve (12) hours of hearings per day, this would result in 2200 hours of recorded video information. If video-streaming support is required, this data shall be compressed and stored or forwarded to accommodate various types of Internet users. The compound effect of managing video could result in the storage of video in multiple formats/resolutions (Real Video, Windows Media, and Quick Time). Based on the projected dominance and availability of the Windows Media, a Windows-based format for storing digital multimedia information shall be anticipated. The government estimates the following storage requirements for just the Yucca Mountain Case:

1. 79 GB for electronic documents;
2. 4 GB for information profiles;
3. 8 GB for full-text indices;
4. 1.2 TB for video recording storage (assume 1.5 Mbps recording rate using an MPEG format).

C. The NRC anticipates that the electronic documents, profile descriptions, and full-text indices will be stored online to support the performance requirements of the DDMS. These items combined will require a total of approximately 91 GB of online disk storage. It is not necessary to store all 185 hearing days of video information online on disk drives, but at a minimum, NRC requires storage of the last seven days of video information . The video storage requirement for a single day is approximately 6 GB or 12 GB for two days (the required storage time frame for video). A total of approximately 103 GB of online storage is therefore required for the DDMS. Offline or near-line storage devices like tapes and Compact Disk (CD)/Digital Versatile Disk (DVD) devices can be used to provide a more cost-effective media for managing the large volume of hearing video. This requires hierarchical storage management (HSM) of data, i.e.,

software that moves and tracks data across multiple storage media.

D. For estimating purposes, the contractor shall assume that the document and page totals of all other cases in aggregate are equal to those outlined for the Yucca Mountain Case. Therefore, total document volume sizing for the DDMS should annually be double those of just the Yucca Mountain Case, which are described in detail in section 4.2.3

4.1.6 Detailed Design for World Wide Web Access Videostreaming Component

The contractor shall design a system that is able to implement a videostreaming capability. The contractor shall design an approach that minimizes the used bandwidth between Rockville and Las Vegas, yet maximizes remote viewer's connection capabilities. Currently, NRC has an interagency agreement with the National Institutes of Health to provide NRC the support of a webcast infrastructure system with capacity to accommodate NRC-originated "live" programming webcasts and store "archived" webcasts for later access by viewers via a Web Page on an "on-demand" basis, 24-hours-a-day, seven days-a-week. The contractor shall assume that NRC will not modify this interagency agreement by the time of the Las Vegas DDMS implementation. Therefore, the contractor shall propose a design that utilizes the NRC's videostreaming capability. The NRC may request a contract modification for a design proposal based on the new videostreaming capability configuration. A total of 1.2 terabytes (TB) of video information will be created during the hearings for the Yucca Mountain license application during a 185 hearing day period. It is expected that the videostreaming solution will support access to a two-day time period, the previous and the current day's hearings information. In addition, during the proceeding, portions of the hearings will be involved in proprietary or sensitive information that will not be streamed to the public. This means that the output from the cameras used to record the entire proceeding cannot be automatically distributed to the public and the data stream shall be controllable by the judges (via a preview monitor) to ensure that secure information is not accidentally or unintentionally distributed.

4.1.7 Detailed Design for World Wide Web Access Remote Access Component

Working in conjunction with NRC's OCIO/ITID, the contractor shall develop a design that provides a mechanism whereby the NRC judges and other staff, and the other participants' attorneys can access the DDMS hearing information (including the text, image and video of exhibits, transcripts, and other textual information as well as case management information such as schedules, witnesses, etc.) from a remote location such as a hotel room or law offices. To ensure that the DDMS database is not subjected to malicious destruction, the contractor shall architect the web access capability so that the enterprise DDMS system has the appropriate security controls in place to protect the DDMS data's confidentiality, integrity and accessibility. The contractor is responsible for all hardware, software, and security components necessary to implement a secure web access capability at NIST Level 5 or per specific guidance from the OCIO security manager, as directed by the DDMS Project Manager. The enterprise DDMS system shall be accessible/available via the Internet only to authorized users, and not the general Internet public, and access shall be controlled by passwords issued and controlled by the DDMS administrator. The solution shall provide a capability to ensure that only publicly available (i.e., non-classified, non-safeguards) DDMS information is available.

4.1 8 Enhanced Audio Visual Design

As part of the design activities for the Las Vegas facility, the developer's architect/engineering firm commissioned a study on a technology solution for providing microphones, speakers, cameras and display monitors for the entire facility. The developer used the resulting configuration to determine the conduit sizing, placement of junction boxes for associated A/V components, placement of electrical connections and locations for flat panel display monitors.

Although the study proposed a possible technical solution, it remains the NRC's desire to implement equipment configurations compatible with the Rockville hearing room to minimize system maintenance, maintenance contracts, and staff training on diverse equipment. The NRC recognizes that the Las Vegas hearing room represents different configuration challenges that could warrant use of different technology solutions, especially in the audio-visual components and found two other similar systems: the ConferenceONE Discussion Systems by Shure and the Conferencing System by Sennheiser[2]. Since all three systems employ a different cabling configuration, the proposed conduit sizing requirements were amended in the hearing room to accommodate the maximum required wiring for the considered solutions. Consequently the conduit capacity and wiring layouts may, or may not, impose design constraints based on specific equipment being proposed and should be carefully studied, along with the construction drawings and the cable matrix provided in APPENDIX II, in preparing lists of proposed equipment.

The technical solution must identify conduit and wiring changes that would be required to support the technical equipment being proposed, fully address how conduit or other technical/installation variations will be accomplished under this contract, and identify the overall cost/benefit tradeoff of any proposed conduit and wiring changes versus the existing configuration.

The proposal shall address in detail the offeror's approach to delivering and installing the following products tailored to the hearing room physical configuration as outlined in APPENDIX III:

A. A/V equipment and software components for presentation of evidentiary materials comprising digital documents residing in the DDMS database and items presented in the hearing room for the first time. The primary location for this capability shall be a movable multi-functional podium centered in front of the judges bench.

B. A/V equipment and software components for the presentation of evidentiary materials including presentation and display of physical things, videotapes, posters, charts, graphics, and various physical items such as rock/core samples, metallic objects, etc. The primary location for this capability shall be a movable multi-functional podium centered in front of the judges bench.

C. A/V equipment and software components for the capture and recording of documentary and non-document evidentiary materials presented in the hearing room for the first time. The primary location for capturing images of documentary items shall be from a

[2]The detailed specifications for these systems are not included as part of APPENDIX I.

government furnished scanning solution located in the AV control room on the first floor.

D. A/V equipment and software components for capture and recording of dialog and testimony occurring in hearing room. Using the camera and microphone locations as identified on the construction drawings attached as APPENDIX III, the contractor is to propose an optimized design for voice-activated cameras and microphones sufficient to cover each area of the well area in the hearing room and capable of providing pre-set camera shots of key locations such as the podium, the bench, the witness box and the litigant tables. A real time transcription will be generated by the court reporting services provided under separate contract. The court reporter workstation must provide a feed for the output of the real-time transcription to be overlaid on all video display monitors throughout the facility presenting the activities in the hearing room.

E. Audio components such as Lavalier and free-standing microphones that may be used by audience/gallery speakers as per the locations identified on the construction drawings, attached as APPENDIX III.

F. Audio speakers to allow participants in the well area, audience seated in the gallery area, specified first floor rooms, specified second floor offices to hear the proceedings. Speakers shall be installed in the hearing room per the locations identified on the construction drawings, attached as APPENDIX III, so as to avoid feedback to microphones and to prevent voice activated cameras from responding to background sounds. Speakers, with independent volume control shall also be installed in the specified first and second floor rooms by the building developer.

G. Video components for the display of evidence and hearing room activities:

1. To each participant seating location in the well area, the court reporter workstation, the judges bench, the witness table, and the clerk of court, as per the locations identified on the construction drawings, attached as APPENDIX III;
2. To four locations in the hearing room ;
3. To Rooms 100, 101, 103, 104, 105, 113, 114, 115, 116, 117, 118, 119, 123,124, 202 and 217.

   Flat panel plasma or LCD monitors used for providing these displays should be configured so as to allow the display of what is transpiring in the hearing room (as fed by the voice activated cameras) together with the real time court reporter output transcription on the lower portion of the monitor so as to provide captioning for the hearing impaired.

H. An A/V control room to allow the control of all lighting, microphone, speaker, camera, display equipment, and intelligent podium device feeds to and from the components noted above.

I. Controls at the bench and the clerk of the court workstation that provide full control of the A/V systems as well as a hearing room system over-ride so as to allow a "kill switch" feature that will suppress microphones, public address speakers, and video displays.

The bench, clerk of court, A/V control room and the security offices will have direct communication through the use of a telephone/intercom system provided and installed by the government.

J. Court Interpreter connections to allow interpretation of the court proceeding through the use of infra-red headsets or similar technology. The infra-red headsets are also used as assisted listen devices for the hearing impaired.

K. White noise generation during bench conferences.

L. A wireless control panel for use by litigants that has limited A/V system control. This wireless control panel will be primarily used at the movable multi-functional podium, but it must also allow for system control from each litigant table.

M. Special microphone/speaker combination systems may be needed to provide ample coverage to participant counsel tables, the bench area and witness area.

4.1.9 Additional Detailed Design Attributes

A. In addition to the capabilities listed in sections 4.1.2 thru 4.1.7, if components other than those used in the existing DDMS production system are offered, the system shall address the following attributes:

A. **Meet Americans With Disabilities Act (ADA) Section 508 requirements.** All components that provide user interface capabilities shall be Section 508 compliant or address acceptable alternatives as described in the ADA. (See: http://www.section508.gov/)

B. **Provide mechanisms to easily develop and add custom components to extend the system.** The architecture shall be such that modular, COTS products can be added to its core functionality to address deficiencies identified by the users during testing.

C. **Accommodate third-party component providers by adhering to open system standards.** The architecture shall be such that new software components can be integrated into the system without seriously impacting other hardware or software components. The DDMS system shall consist of products that are standards-compliant. Image Format Standards are Tag Image File Format (TIFF) Version 6.0 (multi-page) or Section 508-compliant Portable Document Format (PDF) [e.g., rendered with Adobe 5.0 or higher in order to meet Section 508 requirements]. Current industry standards for compression shall be used. For documents, Consultative Committee International Telephone and Telegraph (CCITT) Group 3 and 4 compression shall be supported. For pictures (color images), the Joint Photographics Expert Group (JPEG) shall be supported at a JPEG glossy quality level at or above 75 on the scale of 1 to 100. For video, Moving Pictures Experts Group (MPEG) MPEG -1 and MPEG-2 shall be supported. Remote access shall use Transmission Control Protocol/ Internet Protocol (TCP/IP) as the communications protocol. Data Base software shall be

ODBC compliant. ODBC compliant applications can use products such as, but not limited to, ORACLE™, SYBASE ™, INFORMIX™, and SQL Server™ databases interchangeably. Database software shall be Structured Query Language (SQL) compliant. The desktop user interface shall be Windows XP Graphical User Interface (GUI) based. The system shall host its database in an ODBC compliant relational database management system (DBMS) to ensure a standard method for accessing relational (structured) data, which is how the bibliographic data (headers) is characterized. A second core capability is implicit with the requirement for an ODBC compliant DBMS: the DDMS's database software shall provide access to documentary material through SQL-based structured index searching (on bibliographic fields). This will allow the DDMS to provide full text, image and bibliographic search and retrieval capabilities in a single search interface screen (although there may be a "single screen" each for simple vs. complex searches); to do so without requiring complex navigation or differing protocols; and to move between and among full text, images, and bibliographic entries without having to interactively open and close different applications packages. These underlying standards are what will allow users to simultaneously search for key words and terms against both bibliographic databases and full text files.

D. **Allow the use of authoring tools for developing additional custom components.** The architecture shall provide a capability to allow server-resident application software customization after initial installation, by use of extensions (or other techniques) that do not invalidate core software licenses.

E. **Be capable of adding additional nodes to address high user demand.** The system shall be scalable. The DDMS shall be designed using modular design techniques for both its hardware and software, and have well-documented software interfaces. To meet this requirement, the Operating System (OS) software shall be a mature, robust operating system and be interoperable, capable of working on multiple platforms. Server platforms shall also be scalable. Server hardware shall be high-speed, high-performance and support or be upgradable to multi-processors (dual, quad, or eight-way, depending on the application resident on the server.

F. **Allow for performing routine administrative and maintenance activities from a remote console, workstation, or terminal.** This core capability details the specific capabilities needed by DDMS database administrators: the ability to perform database administration (start up, shut down, file maintenance, tuning, etc.), monitor session activity and system usage, administer user accounts, backup/restore, and otherwise monitor system performance. The DDMS shall provide access to the servers and all of their services, via both local (Las Vegas) and remote (Rockville) access for NRC staff, who are authorized to perform various activities (e.g., search and retrieve, upload transcripts, and generate reports). The DDMS shall provide the necessary tools to ensure availability and the integrity of the DDMS database. These capabilities include such basic functions as the capability to initialize the software and hardware necessary to operate the DDMS, and the capability for the orderly shut down of the software

and hardware components of the DDMS. To accomplish file maintenance, the DDMS shall provide authorized users with the capability to perform changes to the database structure (adding, deleting, modifying fields). This would include database administration features which include having an editable table of valid field values for the DDMS bibliographic header and any other header information in the system. The DDMS shall provide authorized users the capability to adjust database performance parameters or to restrict or disable database features in order to optimize system performance.

G. **Be capable of application upgrades.** This core capability is required to address system currency, maintainability, and scalability requirements. This capability implies that the system to be developed will not rely on extensive customization which could prevent the system from being routinely upgraded with new vendor releases. Customization engenders regression testing against new releases of software and, if extensive, could be cost prohibitive. Therefore, the client and server software shall be a COTS product that can be installed with only minimal customization (field definition, screen design, etc.) insofar as possible while still meeting functional requirements.

H. **Be fully featured for storage, search, retrieval, and reporting.** The DDMS shall be designed using products that are capable of creating bibliographic headers for transcripts and associated exhibit materials. It shall allow for downloading existing digital images from the EHD, and supporting creating a digital image of each page of text material introduced in the proceeding. It shall maintain file structures and structured data management capabilities to provide navigational linkages between pleadings, depositions, and transcripts and their associated/attached exhibits. *The implementation of this functionality shall not use hyperlinks (which introduce records retirement issues) and shall be accomplished in a single environment that is easily understandable and quick to learn.* The software environment shall preserve transcript formats including page and line numbers in the image format for uniformity in reference. The software environment shall provide the ability to link exhibit document records in the EDMS file with their point-of-reference in the full text transcript where they are introduced. It also shall include the ability to display limited access warnings. Additionally, the software shall provide a means to generate various reports by category (e.g., witness names, exhibits, issues), including custom reports (e.g., generate an electronic list of all exhibits that indicates where in the record they were introduced).

I. **Provide on-line documentation.** This core capability provides on-line documentation as part of an on-line help capability. This is a critical capability because of the diversity in the level of sophistication of the users. To support users, the DDMS shall provide help screens to assist user interaction with the (OS, RDBMS) system processes and to respond to system messages, and help screens to assist user interaction with the application software and to respond to application software messages. The online help features of the DDMS shall be field-sensitive and shall include narrative, not just a cryptic, system-jargon, numbered E-message. For example, the DDMS shall provide interactive

capabilities to assist the user in retrieving documents when the field values that uniquely define the documents are not known to the user.

J. **Anti-Virus Software.** The servers and workstations that are part of the DDMS shall be protected by deploying an anti-virus software configuration that updates virus definitions automatically. The anti-virus software configuration shall also notify the system administrator when virus definitions are applied or when a virus is detected.

B. The above noted capabilities are required for both general case information and for information that might be included in a protective order file. Protective order information is that information to which a judge provides access only on showing of need, pursuant to conditions, and to named individuals. The DDMS shall provide a restricted access capability for a repository of Protective Order File materials to which only certain parties in the proceeding have access for the purpose of utilization/display during the proceeding, as required by the Rules of Practice, 10 C.F.R. Part 2.1013(d), that shall be controllable at an individual document level for either individual users or groups as designated by a Presiding Officer.

4.1.10 Detailed Design Controls

A. During the detailed design phase of the project, the contractor will adhere to the NRC's SDLCM.

B. The government believes that compatibility with the existing Rockville Production System, which, in turn is a COTS implementation, offers a significant opportunity for lowering costs, decreasing risks, and minimizing the attendant schedule delays that frequently accompany projects with a large amount of customization required.

C. The contractor shall establish a requirements map (traceability matrix) to the proposed solution for use in the design review process. This requirements map shall address all four modules or phases of the DDMS project even though the technological implementation may fall in a later task. The mapping will identify the instances of each requirement and the way the operation is implemented for each instance, as appropriate. The purpose of this mapping is to ensure that all requirements are met and that the mechanisms to meet those requirements are identified either as products that are "as is," or as tailored or customized solutions. The contractor may propose development management tools (such as those from Rational Software Corporation, for example) where appropriate.

D. The contractor shall establish a configuration management capability (e.g., software/procedures) compatible with the configuration management plan that will be provided by the government. The configuration management plan is based on Chapter 5, "Configuration Management" of the SDLCM. Any system changes to satisfy the requirements will be entered into the configuration management system.

4.1.11 Detailed Design Constraints

The following detailed design constraints have been identified and proposed solutions to address these constraints shall be covered by the contractor in its proposal responding to this SOW:

A. Space and workstations are available in the Las Vegas facility for the location of a limited number of developers, as detailed in Section 6, Place of Performance.

B. The NRC Computer Test Facility (CTF) (second floor of TWFN complex) will house a replica of the production system application.

C. The Las Vegas DDMS shall utilize the Rockville DDMS capability to access data formatted for storage in EHD which is implemented with FileNet EDMS software, shall be able to query that database routinely for any updated data; shall be able to export DDMS records for entry back into the EHD via updates to ADAMS; and be compatible with DDMS release 1.0. The contractor is required to address its approach to maintaining technology conformance with the evolving NRC infrastructure during the course of the effort to complete the DDMS.

D. Hearing room LAN configuration shall ensure the isolation of the nodes being used to support the DDMS.

E. Subscriptions to legal research services will be made separately by each of the parties involved in the Yucca Mountain HLW proceedings. For purposes of design and piloting efforts, existing NRC subscriptions are available for access by NRC users. Customization and integration of subscription software and databases shall not be presumed in the design of the DDMS gateway to those services.

F. All architecture components proposed shall be either those already implemented in the Rockville DDMS or conform to current NRC standards outlined in Section 4.2.4; items not currently in the NRC inventory of hardware and software, including products that may be used during the software development process, shall be granted a waiver for use during the development phase, and it is the contractor's responsibility to generate documentation for a request that the proposed components be added to the NRC baseline prior to their being introduced to the operational phase. The NRC Project Manager will submit the request to the Chief Information Officer, who must approve the request before it can be implemented.

G. The agency standard is Windows XP, and NRC currently supports two SQL databases as its standard, SQL 7.0 and Sybase™ 12.

H. The contractor shall utilize the same brand servers as used for the Rockville DDMS.

I. The NRC technical infrastructure (detailed in Section 4.2.4) is constantly evolving but the contractor shall anticipate there will be long lead times and that the current infrastructure, with just routine upgrades, is what will be used.

J. The offeror shall provide a solution that allows for full database administration from either Rockville or Las Vegas.

K. The contractor shall propose a system architecture that provides flexibility and backup capabilities that will allow for partial operational capabilities or for one hour (1 hr.) recovery capabilities assuming continued internet connectivity. The partial capability can include access to EHD via the Internet.

L. The contractor shall anticipate that the Rockville hearing room will be actively used during the Las Vegas implementation.

M. The contractor is responsible for identifying in its proposal the complete suite of hardware and software needed and will be responsible for ordering, installing, and configuring a baseline configuration in NRC space working in conjunction with NRC infrastructure contractors.

N. Installation of equipment and infrastructure items, such as cables, in the Las Vegas hearing room must be respectful of the NRC's desire to maintain the current decorum of the hearing room and cannot include drilling holes or other actions that would alter the physical appearance of the room without prior coordination with NRC's Office of Administration, which will be done through the DDMS Project Manager.

O. The contractor must be responsive to data and system security requirements that are imposed upon the DDMS per NRC FISMA compliance program as identified by NRC's OCIO.

4.1.12 Detailed Design Review: Acceptance Criteria for Design Activities

A. The contractor is required to complete a detailed design for the entire Las Vegas installation by addressing how the operational system will accomplish the stated functional requirements, and successfully deliver key design documents -- PDAD, LDD, PDD, and TIP -- that conform to NRC's SDLCM guidelines. The TIP shall specifically map out the Rockville and Las Vegas integration. All designs shall be finalized prior to the commencement of development work. Upon timely completion of NRC's review and approval, the contractor will be formally notified by the DDMS Project Manager to commence the engineering phase and to install components.

B. A design review, or walk through, shall be scheduled so as to represent the completion of the design effort and delivery to the NRC of final drafts of the ***Physical Design Document***, the ***Logical Design Document***, and the ***Tactical Integration Plan***. A Requirements Traceability Matrix is required to be identified with the key documents used at the formal design session. The contractor shall prepare a design review program and present the results of all activities, findings, and products developed during the design phase of the Las Vegas DDMS effort. A general outline and agenda covering the topics for the session shall be provided to the government at least one week prior to the start of the design review.

C. The design walk-through shall identify any variations in budget projections for tools,

technologies, communications, network, personnel and other resources required for the DDMS development.

D. The contractor shall incorporate the results of NRC's reviews of deliverables and issue final versions of those documents per guidance provided by the DDMS Project Manager.

4.2 Performance Standards

4.2.1 System Availability

The contractor shall deliver a system that will be available to users during the scheduled hours of availability, which are: 22 hours a day from 6:00 a.m. through 4:00 a.m. of the following day, (Eastern), seven days a week, 365 days a year. The system must be available 98% of the scheduled time during any calendar month. In addition, in no event may the system be unavailable for more than four access hours of any scheduled availability day, excluding the 2 hours available for daily maintenance activities, as such an event would force the NRC would forfeit the entire hearing day, according to the rules governing the proceeding. System maintenance can be scheduled during non-critical periods for extended hours, such as non-working days, with appropriate advanced notice to the user community.

4.2.2 System Performance Requirements

The system shall perform rapidly enough so as not to impede the flow of hearing room proceedings. Therefore, the contractor shall propose a plan for ensuring that the system can measure and perform the following:

A. Provide server response to a search request for structured data **(ex: witness_name=Jones* AND hearing_date≥20030101)** within 10 seconds and provide a user with some system response or activity response with no more than a seven second delay after this response parameter;

B. Provide server response to a search request for unstructured data **(ex: title CONTAINS 'groundwater flow')** within 30 seconds and provide a user with some system response or activity response with no more than a seven second delay after this response parameter;

C. Deliver for display the text of a document associated with an already retrieved bibliographic structured data record **(ex: response to a double click on an icon for the text file that corresponds to the retrieved bibliographic item)** within 10 seconds for the first page of text and within six seconds for each successive page of text and provide a user with some system response or activity response with no more than a seven second delay after these response parameters;

D. Deliver for display the image version of a document associated with an already retrieved bibliographic structured data record **(ex: response to a double click on an icon for the TIFF or PDF that corresponds to the retrieved bibliographic item)** within 30 seconds for the first image and within nine seconds for each successive image and provide a user with some system response or activity response with no more than a

seven second delay after these response parameters;

E. Deliver, from the server, for playback an audio or video file of a document associated with an already retrieved bibliographic structured data record within 45 seconds and provide a user with some system response or activity **(ex: response to a double click on an icon for the mpeg that corresponds to the retrieved bibliographic item)** response with no more than a seven second delay after this response parameter;

F. Process raw text to index (or otherwise searchable structure) in less than 20 seconds for a document of 10 pages of full text, to an index file containing indices for 645,000 pages of textual material;

G. Support a maximum of 150 concurrent logged-in users; and

H. Use not more than 30% of processor capacity for any application software server at peak user capacity conducting individual searches consisting of a query against both structured (non-key) and non-structured data elements in a single search statement.

The contractor shall propose a plan for measuring each of these elements, which will become part of the Quality Assurance (QA) Plan, as required by the NRC's SDLCM.

4.2.3 System Scalability

A. The contractor shall deliver a system with software, that working in tandem with the Rockville configuration, is scalable to accommodate the projected volume of data for the Yucca Mountain HLW repository proceedings and additional proceedings for which the resource may be used. The Yucca Mountain proceeding document estimates are:

1. FY 2004: 1428 documents consisting of 28,560 pages; no transcripts. This is the pre-Application phase which may last from June 2004 to May 2005.

2. FY 2005: 12,515 documents consisting of 250,300 pages; 30 transcripts consisting of 8,550 pages for a total of 12,545 documents and 258,850 pages. The transcript calculations are based on the ASLBP formula for the first pre-hearing conference which is 2 weeks x 3 Licensing Boards[3] x 5 days a week x 285 pages per day of hearings;

3. FY 2006: 22,657 documents consisting of 453,140 pages; 225 transcripts consisting of 64,125 pages for a total of 22,882 documents and 517,265 pages;

4. FY 2007: 12,410 documents consisting of 248,200 pages; 225 transcripts consisting of 64,125 pages for a total of 12,635 documents and 312,325 pages; and

[3]A Licensing Board is a panel of judges; multiple Licensing Boards are expected to be established for the HLW proceedings.

5. FY 2008: 60 documents consisting of 2,400 pages; no transcripts.

B. Volume projections are not available for additional cases for which the system may be used, although for system scalability planning purposes, assume two times the Yucca Mountain proceeding document estimates, which is consistent with the direction provided in Section 4.1.5 Detailed Design for Data Storage Components.

4.2.4 Existing Infrastructure Parameters

The DDMS shall be accessible in the hearing room and remote locations to both NRC and non-NRC authorized users. To ensure accessibility for all users, the contractor shall deliver a software capability compatible with NRC's existing desktop infrastructure, the laptop environment, and a non-NRC-desktop user environment as base lined in the CTF environment.

A. Specifically, the DDMS shall operate on NRC's existing client desktop computers using Internet Explorer™ 6.0. The current standard NRC desktop hardware configuration is an IBM-compatible workstation running Microsoft Windows XP™ with an Intel Pentium III processor or higher (500 MHz or greater). The standard workstations have 128mb RAM, 10G hard drives, and an Intel Pro100b LAN card. The architecture supports PCI and AGP video.

B. For NRC remote users, the current standard NRC laptop hardware configuration is an IBM-compatible laptop running Microsoft Windows XP™ and Internet Explorer™ 6.0 with an Intel Pentium processor or higher. The laptops have 96mb RAM and 6G hard drives.

C. For non-NRC-desktop users, the contractor shall assume the use of standard Microsoft Windows™ operating systems and applications software and Internet Explorer™ 6.x, Netscape™ 4.x, Lynx™2-8-4, and Opera Internet browsers.

D. NRC standard desktop applications are:

1. Microsoft Windows XP™ SP1a;
2. ADAMS 4.2 Build 12/08/03;
3 ADAMS PIP;
4. Adobe Acrobat Reader 5.05 (version 9/24/2001);Agency Wide Apps Page Link;
5. Corel Office 2002 (10.0.0.785) Service Pack 3, Hotpatch 4;
6. Employee Express Link;
7. Executive Software Diskeeper 8.0.459.0;
8. Federal Travel Directory;
9. FileNet Hotfix 4;
10 FileNet IDM Desktop 3.2a;
11. GroupWise 6;
12. HQ ADM Services;
13. Informs 4.3;
14. Inso Outside-In Viewer 7.0;
15. Internet Explorer 6 (6.0.2800.1106.xpsp2.030422.1633);
16. LanDesk 7.0;

17. Macromedia Flash Player 6.0.79.0;
18. MicroShield V.5;
19. Microsoft DAO 3.5;
20. Microsoft Media Player 9.00.00.3008;
21. Microsoft Viewers: Word, Excel, and Power Point;
22. Norton AntiVirus 8.0.1.466;
23. Novell 4.9.0.0 Client;
24. NRCPHONE;
25. OnNet32;
26. PB5;
27. QuickTime 6.3;
28. SQL 6.5;
29. Starfire (HRMS);
30. Sun Java 1.3.1_06;
31. Sybase 12.1;
32. Wang Imaging;
33. Watermark 3.1.1.2;
34. WinZIP 8.1 SR-1 - NRC Licensed version

E. NRC's ADAMS system is the agency record repository and is the initial intake capability for documents associated with any case docket. The Las Vegas DDMS shall provide a mechanism to mirror a copy of the docket contents imported from the EHD and propagate to the ADAMS record repository as implemented in the current Rockville DDMS.

4.2.5 NRC Enterprise Server Environment

The DDMS shall use server technology that is identical with that used for the Rockville DDMS including but not limited to hardware vendor, machine type, and operating systems. The system servers shall provide the ability to multitask more than one application.

4.2.6 Security and Recovery

The contractor shall deliver a reliable and comprehensive suite of technology to ensure easy and rapid recovery of the DDMS functionality in the event of component failure. The server environment shall include comprehensive backup and recovery capabilities, including remote data stores/replication data stores used to enhance response time for the Las Vegas hearing room. Database transaction failure or incompleteness shall be recovered in such a way as to leave the database intact and operational during the recovery. All database errors, data replication inaccuracies, synchronization flaws and other system events shall be logged. Any approach involving synchronization shall ensure that databases are synchronized at a minimum of once every 24 hours and optimally during the scheduled maintenance period. The system shall be recoverable rapidly enough so as not to impede the flow of hearing room activities as per the availability requirements noted above.

The contractor shall incorporate comprehensive system security and administrative controls over data and user access. The system shall provide multi-level (individual controls as well as group controls) user-based security, including network, operating system, database, database

administration, file, and document controls as necessary to provide open access in the hearing room, identified access via the internet, and user access from remote locations, yet prevent unauthorized access to protective order materials. To meet these objectives, the system shall:

A. Provide access to non-NRC staff in such a way as to prevent non-NRC users from accessing internal data, databases, data processing resources, NRC LAN and WAN, or IT assets not specifically allocated to the DDMS;

B. Restrict access to DDMS for all non-pre-identified individuals (e.g., anyone who is not a "party") from either hearing room or remote access environments (regardless of whether by internet access or dial-in connection);

C. Restrict all users, except the designated database administrator, from deleting information stored in the DDMS;

D. Allow only authorized users, like the Court Clerk, to update or modify information stored in the DDMS system; and

E. Allow only authorized users, such as the designated database administrator, from invoking data migration into or out of any files.

The NRC Management Directive 12.5 provides specific guidance for ensuring that system security controls are included for a system such as DDMS, which is classified as a "Major Application." Consistent with this guidance, the contractor shall develop/update a Risk Assessment, develop/update a System Security Plan (SSP), develop/update a Contingency Plan and update/develop a Backup and Recovery Plan. The contractor shall conduct the Risk Assessment using the risk-based approach outlined in Directive 12.5, before completing the detailed design for the Las Vegas DDMS. For the System Security Plan, the contractor may propose adding other key elements to this Plan, based on the contractor's experience with other systems, but at a minimum, the contractor shall develop and deliver a comprehensive security plan in accordance with Directive 12.5, that addresses in detail system backup and recovery, security administration, security CONOPS, security features, and security test plans. For the Contingency Plan, the contractor shall develop a Plan which guarantees that the system is operational for the required 22-hours each day, 365 days-a-week, and no hearing time is lost due to system unavailability. Continency Plan, Security Plan and Backup and Recovery Plan testing will be performed by the DDMS IV & V contractor.

4.2.7 System Administration Capabilities and Documentation

The system shall provide comprehensive software tools and products for all facets of administration for all servers, operating systems, database packages, text retrieval packages, applications (either COTS or developed), utilities or other tools required to establish the Las Vegas DDMS utilizing those already developed for the Rockville DDMS. The delivered system shall include the software needed to install the system, to make the Las Vegas DDMS operate on a routine basis, to upgrade the system, to perform emergency maintenance or recovery on the system, and to decommission/retire that component of the overall enterprise DDMS system. The contractor shall provide comprehensive documentation (both in paper-based and electronic format) for all security and administration functions noted above.

4.3 Engineering the Las Vegas DDMS Production System

The contractor shall implement the Las Vegas DDMS production system approved by the NRC project officer at the completion of the design phase.

The contractor shall:

A. Perform software and system engineering and deliver a production release version of the DDMS software for the Las Vegas, NV facility which includes but is not limited to document management, case management, multi-media management, an A/V Subsystem and is compatible with the Rockville, MD DDMS production system;

B. Provide all hardware required to meet the functional requirements noted in APPENDIX V and each operational capability detailed in Section 4.1 of this SOW;

C. Provide all cabling for DDMS related connections; and

D. Support an Independent Verification & Validation (IV&V) contractor in its assessment of product testing and evaluation, Contingency Plan testing, Security Plan testing and Backup and Recovery Plan testing;

4.3.1 Engineering the Solution

A. During software engineering, the contractor shall refine and continuously update and maintain the previously-developed ***Software Development Plan (SDP)*** that is included in the ***Project Action Plan***. The ***Software Development Plan*** will detail the activities and schedules for designing, coding, integrating, and testing the COTS and developed software modules to provide the full functionality of the software for the project if identified and as designated by the DDMS Project Manager. All updates or changes require NRC approval, and the contractor shall address impacts to the system, in terms of changes to the schedule or design.

B. Based on the updated PDAD, updated design documents, and the results of the walk through sessions, the contractor shall develop the system engineering solution that integrates the operational capabilities. The preferable engineering solution will be a system architecture that emphasizes the use of the off-the-shelf solutions used for the Rockville DDMS and that can be modified and installed with minimal changes to custom coding.

C. During this phase, the contractor shall adhere to its chosen software development methodology for managing the creation of software units, modules, and subsystem components. Throughout the process of code development, the contractor shall maintain ongoing documentation in the form of a ***Software Engineering Notebook (SEN)*** (equivalent to systems documentation file) which will become part of the overall system documentation. As a logical check, during the performance of this activity, the contractor shall revisit the data models, physical models, logical models and entity-

relationship diagrams (ERD) to ensure that any variances that occur during code development are identified, resolved, or documented as needed.

D. In creating all core and support processes, the contractor shall perform software development and integration. The software shall meet the functional and performance specifications definitized at the end of the Design Phase.

E. The outputs of this task will be solution modules and subsystem components which are ready for testing, and the deliverable will be a thorough and complete ***Software Engineering Notebook*** which will be added to the system documentation library developed and maintained by the contractor. The government will require delivery of the system documentation library at the close of the contract effort.

4.3.2 Development

A. Using the design materials noted above, the contractor shall establish the Las Vegas DDMS Production System that integrated with the existing Rockville DDMS system to produce an enterprise DDMS system. The contractor shall develop a suite of hardware and software, in accordance with the NRC's SDLCM, in a configuration-controlled environment for (1) the primary court document database management, (2) case management, marking and tracking capabilities (3) database information upload and download, and (4) real-time court transcription intake. The developed system shall integrate and include a hearing room-accessible environment, in an Internet-accessible environment.

B. The contractor will be responsible for all activities associated with system development including, but not limited to, building the database structure, associated tables, validation routines, and data dictionaries needed for fully functional search and retrieval for both hearing rooms and remote access. The contractor shall develop additional program code, as necessary to meet functional and performance requirements, with the understanding that customization of underlying database and application packages shall be minimized. The contractor shall be responsible for all integration activities including, but not limited to, the integration of software units into software modules, integrating modules into subsystems and systems, and integrating those systems.

C. Subsequent release versions may be necessary during later optional phases, until such time as deployment is complete and the system transitioned for routine maintenance and operations. Product releases shall be maintained under a configuration management system.

4.3.3 Code and Integration Testing

The contractor shall implement a methodology for performing unit, module, and system testing during the course of development. Testing shall be performed by the contractor following an established software quality assurance methodology of the contractor's choosing, contingent on NRC's approval of the recommended methodology. The government may audit tests as part of its own Test and Acceptance Program.

4.3.4 Requirements Testing

A. The contractor shall create a ***DDMS Test Plan*** per guidance provided in the SDLCM to use prior to delivering the system to the NRC. Each requirement will be tested in the product suite prior to delivery to NRC for government acceptance testing. The government will audit these tests as part of its own test and acceptance program. The process flows and concept of operations reflected in the design documentation will be used to define test scenarios to ensure that the requirements can be satisfied in the normal progress of work. The ***DDMS Test Plan*** shall address testing of the backup and recovery capabilities under at least two scenarios: a partial recovery and a complete rebuild/recovery. Contractor testing shall commence within 10 days of government acceptance of the DDMS Test Plan. Testing should be iterative with scheduled Pre-final and Final Testing. The purpose of these two separate test periods is to allow time for the contractor to make corrections identified during the Pre-final Test and incorporate all necessary changes prior to completing the Final Testing.

B. The NRC will subject the completed system to its own System Test and Acceptance Methodology prior to accepting delivery of the product. All hardware and software components will be tested against the defined functional requirements. The government will implement detailed code review against newly developed code, scripts, CGIs, etc. not included in the Rockville DDMS. Detailed code review will not be routinely performed against the "out-of-the-box" functionality of packaged software (operating system, RDBMS, application software) unless additional customization (previously identified by the contractor and approved by the government at the design review) is performed by the contractor on the software packages.

C. After NRC Pre-final acceptance testing has been completed and required changes have been addressed by the contractor and sufficiently tested in the Final Test, the contractor shall conduct a readiness review session with NRC and present the results of all activities, findings, and products developed during the engineering phase. The Readiness Review Demonstration shall be scheduled immediately upon completion of the Engineering phase. The Readiness Review Demonstration shall group topics as logically as possible to facilitate comprehensive yet succinct issue coverage. Based on a successful review, NRC will issue a go/no go decision on deployment of the Las Vegas DDMS Production System.

4.3.4.1 Contractor's Test Report

A. The contractor shall develop and deliver an overall test report document to cover code testing, unit, module, and subsystem testing, and, overall system integration testing. Actual testing reports may be generated at any of the levels addressed (e.g., Test Report chapters 1, 2 & 3 for the results of unit, module, and subsystem testing, chapters 4 & 5 for the results of system testing and final acceptance testing), but the contractor shall document the comprehensive findings in a single document. The results of the tests and analysis performed under them, remediation, work-arounds, unresolved issues, and enhancements recommended for future releases shall all be documented in a report entitled ***DDMS Comprehensive Software & System Test Results***.

B. The output products of this task are fully tested software modules and subsystems which are stored in the software configuration library and the deliverable is the ***DDMS Comprehensive Software & System Test Results***.

4.3.5 Acceptance Standards for the Las Vegas DDMS Production System Deliverable

A. The deliverable product for this task is an installed software suite and the functional hardware, fulfilling the functional requirements noted in APPENDIX V and each operational capability detailed in Section 4.1 of this SOW. The test environment for validating that the criteria have been met is outlined in Section 4.3.5.1, below.

B. The standard for determining acceptability of contractor testing is: Any indication that verifications were not performed as planned, not performed objectively, or not properly documented by the contractor will constitute a failure of the testing process.

C. The standard for ensuring that the delivered system complies with agency and federal information processing standards is: mandatory, all requirements mandated by law or regulation shall be 100% compliant.

D. The standard for determining acceptability that will be applied for government test and acceptance activities is: System testing and successful problem resolution shall be completed before the system can be deployed to users. Each government test will be marked as PASS or FAIL. All tests that receive a failed performance shall be evaluated by the DDMS project manager and ASLBP business manager to determine the impact on the system deployment. A failed test could result in a "no-go" decision, and must be addressed.

E. The standard for determining contractual acceptance of the product is: all functional requirements as definitized at the end of the design phase shall be met.

F. The standard for documentation deliverable is 100% conformance with content, format, and completeness as detailed in the SDLCM. All documentation delivered shall be spell-checked.

G. The standard for delivery of the system on schedule is: less than 5% variance in schedule against the contractor's baseline delivered with the Project Action Plan.

4.3.5.1 Quality Assurance (QA) Plan for Las Vegas DDMS Production System

A. NRC will utilize a formal System Test and Acceptance Methodology Plan (STAMP) which applies Section 5 of the SDLCM model to the development and deployment of the DDMS. The STAMP documents the measures that will be employed to ensure the quality of the incremental and final products. This document describes how all of the components are to be considered together to form the logical whole of NRC's testing and acceptance process for the DDMS.

B. The DDMS project utilizes the SDLCM as an integral part of the development process. The goal of the STAMP is to assure the quality of the DDMS product by establishing

controls and checkpoints throughout the development process that provide visibility into the quality of the evolving system. The attainment of quality will depend on discipline throughout the life cycle and will not be ensured solely by evaluation of the end product. The plan will emphasize periodic reviews and feedback on product status and quality from peers and users throughout the engineering and deployment phases.

C. Documentation Reviews: For documentation, NRC staff will thoroughly review the task deliverables as one component of overall system acceptance. Deliverables must be in WordPerfect, Lotus 1-2-3, Microsoft Word, Microsoft Excel, Microsoft Project or PDF format and must be reviewed and approved by a Technical Editor, as well as the contractor's Project Manager. All deliverables must conform to SDLCM requirements in terms of content and structure. The government encourages the submission of draft versions which the government will review and comment upon without deduction, but all documents will be subjected to spell checking and documents with typographical errors will be rejected.

D. Contractor Code Reviews and Tests: The contractor will conduct requirements tests and the witnesses of the test will include federal staff in an audit role as identified by the DDMS project manager. Each requirement that is to be satisfied by the capabilities provided in a given release will be analyzed with respect to the test outputs against baseline requirements. Problems or discrepancies noted during the execution of the test will be documented and resolved by the contractor.

E. Government Audit: The NRC will audit the requirements testing being performed by the contractor as detailed above. The objective of performing this audit is to verify that requirements testing has been performed. As an audit function, government staff will routinely visit the development facility to observe functional requirements testing. NRC staff will document the findings of each audit session on a functional requirements testing form and submit those reports for inclusion in the government test and acceptance report and project files. NRC staff audit reports, documenting that the functional requirements testing was objective, will be used as one component of overall system acceptance. Should the audit find that these verifications are not being objectively tested, the government will order the entire suite of functionality testing and verification be performed in the presence of federal staff.

F. Government Testing: The objective of the NRC testing is to permit the "shake out" of latent system errors, identify functional requirements that are not working properly, facilitate familiarization with and review of the system by users, and evaluate the status of the product and the readiness of the system for general deployment. These reviews will be segmented into three types of activities:1) stress and performance testing using a product such as Empirix™, 2) compliance with the stated applicable government and/or industry standards, and 3) operational usability. Operational usability test users may make subjective observations such as about "ease of use" but these observations could not cause a test failure; such observations may be recorded and submitted for tailoring or customization of the application in a later release of the DDMS.

G. NRC staff will conduct these tests as outlined in a formal System Test and Acceptance Methodology Procedures (STAMP) document. Each requirement that is to be satisfied

by the capabilities provided in a given release will be analyzed with respect to the test outputs pursuant to the ***NRC System Development Life Cycle Methodology*** Procedures P-2501 and P-2502. Problems or discrepancies noted during the execution of the test are documented and resolved prior to the demonstration. A written report of the testing performed by each of the participants will be forwarded for inclusion in the government test and acceptance report and project files.

H. ASLBP staff along with staff from other organizations within NRC will be involved in helping execute the government testing. The majority of the testing will be performed at user workstations in NRC facilities located in Rockville, MD and Las Vegas, NV. Other test environments will include home computer and NRC contractor locations.

I. The test data will be provided by NRC. Documents should be set up to represent the different scenarios found in the operational capabilities and functional requirements. Other staged test scenarios will be set up to check error testing as well as performance based testing.

4.3.5.2 Demonstration

A. The delivered capability shall demonstrate, subject to independent verification and validation, each functional requirement noted in APPENDIX V and each operational capability identified in Section 4.1 of this SOW.

B. The demonstration suites will be structured so as to address the following:

1. Accessing docket contents via DDMS for both general docket collection materials and protective order file materials;

2. Selecting docket content documents based on user selectable profile conditions, and performing processes necessary to make bibliographic, text, image accessible from DDMS;

3. Populating both a hearing room-accessible and remote location accessible DDMS document repository maintaining links between the bibliographic, text and image objects, and placing them appropriately in the general access DDMS or the protective order section of the DDMS;

4. Routine unattended review of the docket staging server for new candidates to be made available via DDMS and migration into DDMS databases;

5. Perform structured and full text search and retrieval from both the hearing room-accessible and remote location accessible environments against all collections and file types in the DDMS;

6. Perform structured and object file search and retrieval for audio and video files from both the hearing room-accessible and remote location accessible environments against media collections and file types in the DDMS;

7. Case management for witness management, deposition management, exhibit management, issue management, and protective order file management. Stage all data for use in daily proceedings;

8. Administrative management of the entire enterprise DDMS system from either Rockville or Las Vegas facilities, including: calendaring, scheduling, access to report generators, authoring tools, etc.;

9. Connect to IP addresses for NRC domain external www, and legal research tools as designated by the DDMS project manager;

10. Demonstrate remote access into DDMS for judges and attorneys;

11. Demonstrate canned and custom report generation;

12. Scan documents;

13. Provide document cataloging/indexing input capability to manage documents introduced in court by use of scanning devices or presented to the clerk of court in electronic format;

14. Mark up and store images of documents as new items;

15. Intake realtime court reporting files and store them;

16. Identify text transcripts with introduced exhibits and audio/video;

17. Imprint markings on all types of file formats;

18. Capture information about court room use, numbering, etc. in the database;

19. Compile daily case record incorporating text, image, voice, video, and structured data;

20. Provide user with ability to review the components of the daily record (text, image, voice, video, and structured data) seamlessly using a single interface;

21. Output stored files to courtroom and facility display media;

22. Output stored files to recording/archiving media;

23. Output stored files for webstreaming;

24. Migrate stored files to the DPC for addition to ADAMS from hearing rooms in both Rockville and Las Vegas;

25. Create cached copies of realtime videos from each hearing facility in its counterpart video caching server supporting the other hearing facility.

26. Access realtime video from Rockville, MD;

27. Access Las Vegas realtime video from Rockville, MD.

28. Replicate data from Rockville, MD to Las Vegas, NV.

4.3.5.3 Assessment

In addition to determining whether the delivered production DDMS for Las Vegas product meets functional requirements, and addresses issues identified by Vulnerability Assessments performed, the NRC will have the IV&V contractor assist in assessing the Las Vegas DDMS production system for operational implementation including backup and recovery and security testing needed for system certification. The contractor shall support the assessment that will be conducted by the DDMS IV&V contractor by ensuring that the delivered suite continues to be operational throughout the assessment effort, and by responding to requests for clarification or explanation that are submitted by the IV&V contractor, as directed by the government's technical representative.

4.3.5.4 Recommended Revisions for Implementation

The contractor shall provide a report containing its recommendations for changes to be made to the hardware and software designs developed during the detailed design phase and testing of this task. The recommendations will respond to all items identified throughout the development of the Las Vegas DDMS Production System, including but not limited to the IV&V contractor's assessment; feedback from the ASLBP judges and/or staff for changes and enhancements that improve the system's usability; "Lessons Learned" from the assessment; and Security enhancements suggested by independent evaluators or the NRC IT Security Managers. In addition, the DDMS contractor shall identify changes required, if any, to each of the delivered products from the detailed design phase. The contractor shall incorporate those revisions which the government approves from the Contractor's Recommended Revisions for Implementation Report during the Operation & Maintenance portion of this contract. Therefore, the report shall include an estimate of the delta hardware, software, and labor effort required to implement the revisions and a proposed schedule for incorporating those changes in the Las Vegas DDMS Production System suite during the Operation & Maintenance portion of this contract.

4.3.6 Las Vegas DDMS Production System Deliverables

The NRC uses a structured approach, to designing, developing, deploying, maintaining, and decommissioning information systems. Within this framework, the SDLCM, there are specific requirements for activities, products, tools and techniques. In addition, there are other factors that must be considered in determining the sequence for each deliverable, such as contractual requirements and agency checkpoints. After considering all of these factors, the government has determined the applicable deliverables and due dates. These are shown in the table below.

Las Vegas DDMS Production System Deliverables	Estimated Date Due
1. Documentation: Project Definition and Analysis Document (PDAD)	**Project Start (PS) + 21 workdays**
2. Documentation: Project Action Plan (PAP)	**PS + 21 workdays**
3. Documentation: Audio Visual Design	**PS + 27 workdays**
4. Documentation: Cable Plan	**PS + 27 workdays**
5. Update Documentation: Risk Assessment	**PS + 37-workdays**
6. Update Documentation: Logical Design Document (LDD)	**PS + 66 workdays**
7. Update Documentation: Physical Design Document (PDD)	**PS + 66 workdays**
8. Detailed Design Review	**PS + 71 workdays**
9. Update Documentation: System Security Plan (SSP)	**PS + 73 workdays**
10. Documentation: Tactical Integration Plan (TIP)	**PS + 73 workdays**
11. Hardware Required for Engineering the Solution: Server Workstations A/V Components Scanner	**PS + 108 workdays**
12. Update Documentation: DDMS Test Plan	**PS + 148 workdays**
13. Documentation: Software Engineering Notebook	**PS + 157 workdays**
14. Documentation: Contingency Plan	**PS + 168 workdays**
15. Documentation: Backup and Recovery Plan	**PS + 168 workdays**
16. IT Software: Engineered Solution	**PS + 200 workdays**
17. Test of Requirements: Pre-final and Final	**PS + 203 workdays**
18. Update Documentation: Logical Design Document (LDD)	**PS + 218 workdays**
19. Update Documentation: Physical Design Document (PDD)	**PS + 218 workdays**
20. Documentation: DDMS Comprehensive Software & System Test Results	**PS + 219 workdays**

The criteria for acceptance by the government for each deliverable, whether documentation or IT services, hardware or software, is specified in the applicable section of this Task description. If the product meets or exceeds the appropriate specifications, it will be deemed acceptable; if it does not meet the acceptable standard, then the government shall deduct according to the

schedule contained in APPENDIX VI.

4.4 Operations and Maintenance

4.4.1 Objective

The objective of this requirement is to provide for skilled personnel to maintain, upgrade and enhance the high availability DDMS system. DDMS must remain operational to support the highly visible and contentious HLW proceeding. The contractor shall provide operational and maintenance support for both the Rockville, MD hearing room and the Las Vegas, NV facility.

4.4.2 Scope

The contractor shall, from the direction of the DDMS Project Manager and the adhering to the NRC's SDLCMM, provide all necessary personnel, materials, hardware, software, labor, supplies, equipment, travel, and other direct costs necessary to maintain, upgrade, and enhance the fully operational enterprise DDMS environment.

The contractor shall be responsible for all of the components installed as part of this contract as well as those components installed and utilized in the original DDMS Contract, contract number NRC-33-01-183, when the O&M is transferred to this contract. The O&M portion of the original DDMS contract is expected to expire on or about June 12, 2005.

4.4.3 Maintenance Support

A. The Contractor, following configuration management procedures, shall be responsible for making necessary changes to ensure that corrective, adaptive and perfective requirements are implemented accurately and in the shortest amount of time possible.

B. The contractor shall be responsible for providing and maintaining software licenses on a current basis and ensuring no loss in software maintenance coverage for each server, resident COTS package, including application software, database software, OS software and security/virus detection software including digital signatures software.

C. The contractor shall maintain a supply of hardware components in both Rockville and Las Vegas locations for emergency replacement of key server components that are not fully redundant or fault tolerant.

4.4.3.1 Definition

Application maintenance is defined as modification, correction or installing updates of code and/or data following DDMS configuration management procedures as appropriate which are part of an application system in order to make the application system perform as intended in support of a business process/area for which it was written. These modifications/corrections shall include but not be limited to modification of programs, portlets, table structures, data, and documentation. Maintenance also includes, but is not limited to, analysis of conditions and outputs in order to identify root causes of problems and define methods for correction, troubleshooting, and establishment and execution of project-level configuration management,

backups, restores, archives, housekeeping, etc.; the installation of vendor supplied software patches and maintenance releases in conformance with the appropriate software licenses; and coordination with software and hardware vendors to identify and track open "tickets" for resolving and closing technical issues.

The Contractor shall be responsible for deployment of patches, fixes, etc. and all testing, including regression testing, that may be required per the configuration control procedures. The Contractor shall also provide post-deployment support as part of the maintenance process.

Operating environment maintenance is defined as servers, their operating systems and associated software and all software components not embedded in the application software. The contractor shall be responsible for ongoing maintenance of all DDMS operating environment hardware and software components.

4.4.3.2 Initiation of Work

Each work request may be submitted by an e-mail or other written correspondence from the NRC DDMS Project Manager to the contractor responsible for the maintenance of the application. The Contractor shall determine the magnitude of the effort and notify the DDMS Project Manager by e-mail or other written communication within one week of the request. The level of detail required of the contractor will vary depending on the level of effort.

Application system failures or other critical problems that necessitate emergency maintenance action DDMS Project shall immediately be corrected and brought to the attention of the DDMS Project Manager if directly viewed during monitoring efforts conducted by the Contractor in its role of providing operational and production support or otherwise through e-mail direction from the DDMS Project Manager.

4.4.3.3 Independent Action

A. The Contractor shall have authority to take necessary maintenance actions not requiring configuration control board (CCB) authorization to evaluate application system problems, correct the problem and appropriately document the problem and actions taken in the Software Engineering Notebook (SEN), test corrections and prepare the corrected/new component of the system for deployment. The Contractor shall notify the DDMS Project Manager when the corrected system is ready for deployment (i.e., testing completed, ready for deployment) and follow e-mail directions of NRC's DDMS Project Manager to support deployment efforts.

B. The contractor shall perform available server, operating system and application software diagnostics at least once every week. The contractor shall deliver to the DDMS Project Manager a report detailing the results of the diagnostic tests.

C. The contractor shall not commit to any actions with a software or hardware vendor that will incur expenses not already covered in existing vendor maintenance agreements.

4.4.3.4 Work Actions Requiring Pre-approval

Within one week of the request, the Contractor shall develop and deliver via e-mail, to NRC's DDMS Project Manager, work estimates, schedules and plans for any actions requiring more than 24 hours of effort to complete or which requires CCB approval. NRC's DDMS Project Manager will review the Contractor's assessment and will provide an e-mail authorization within two work days of receipt. The Contractor shall not commence code or data changes for efforts covered by a work estimate that exceeds 24 hours of labor effort without an e-mail authorization from NRC's DDMS Project Manager. Authorized actions shall be performed by the Contractor within five (5) workdays of authorization, unless a longer time is approved by NRC's DDMS Project Manager.

4.4.3.5 Standard Work Approach

Maintenance requests for the DDMS system will routinely revolve around software releases of the COTS products that make up the DDMS system. The Contractor shall inform the DDMS Project Manager when releases to underlying COTS products are available. The Contractor shall propose a technical integration and testing plan for those releases. Technical system documentation and User Guides will be reviewed and understood by the Contractor to minimize redundant analysis. The Contractor shall allow 5 working days for NRC acceptance testing of each maintenance release and shall schedule sufficient time for corrections.

Changes to application system source code shall be made utilizing only those vendor products defined in the application system baseline, unless authorization has been received in writing from NRC's DDMS Project Manager. It is the responsibility of both NRC's DDMS Project Manager and the Contractor to ensure that introduction of any new product to the application system is consistent with the authorized list of vendor products (aka., toolkit) approved by NRC's Environmental Change Control Board.

The Contractor shall maintain a current copy of the DDMS Production system in the NRC's Consolidated Test Facility (CTF). The Contractor shall test and add to the test bed baseline, subsequent to acceptance by the government, all major software upgrades in the CTF prior to installing the upgrades on the production systems to ensure continued compatibility with existing NRC applications.

4.4.3.6 Specialized Maintenance Support Services

The contractor shall provide access to vendor systems specialists to support key software and hardware components as needed to troubleshoot unique or atypical technical situations. It is estimated that each of these products may experience one problem per year requiring 60 hours of specialized expertise to work in conjunction with regular O&M staff.

4.4.4 Operational Support

4.4.4.1 Definition

The Contractor shall provide operational support that may take various forms, including data support, report generation and production support.

Data support shall include, but not be limited to, data interpretation, discrepancy resolution and verification.

Report generation shall include producing reports in various outputs including hard copy and electronic format (WordPerfect, ASCII, Excel, PDF, etc.), from DDMS either on a scheduled or ad-hoc basis of (a) standard reports or (b) quick query or (c) new reports using newly defined criteria. This includes the development of additional "canned" queries and reports as identified by the DDMS Project Manager to be included in the scheduled deliverable reports.

Production support shall include, but not be limited to, initiating program sequences on a prescribed schedule, QA reviews and data transfers between systems either through kick-off of electronic processes (programs) or inputs of tapes or other physical media, system monitoring, troubleshooting, and applying immediate corrective measures to agency production application systems (in some cases, on a 24-hour on-call basis). The Contractor shall also provide operational support on the A/V subsystem to the clerk of court and to parties involved in proceedings utilizing the DDMS system. APPENDIX VII depicts a theoretical time-line of DDMS enterprise activities.

4.4.4.2 Independent Action

The Contractor shall have authority to take necessary actions for up to the number of hours specified below to perform each instance of the following types of operational support. The Contractor shall inform the DDMS Project Manager immediately if the work effort cannot be performed in the allocated time frame or if work falls outside any of the categories listed below. Should this occur, the DDMS Project Manager may authorize additional hours. The Contractor shall notify the DDMS Project Manager upon completion of each activity. Notification shall include identification of any issues and/or problems encountered and a brief summary of the resolution.

A. On a daily basis, ensure that any documents entered into DDMS as exhibits have migrated to ADAMS and that DDMS has received updated information from ADAMS/EHD (two hours per week per DDMS installation).

B. On a daily basis, for all databases in the Enterprise DDMS environment, ensure that they are fully synchronized subsequent to updates received from ADAMS/EHD (two hours per week per DDMS installation).

C. On a daily basis ensure that all of the A/V subsystem components are functioning prior to the start of the day's first session (one hour per day per hearing day per location per hearing day).

D. On a daily basis, ensure that the transcripts from the preceding day have been processed (two hours per hearing day)

E. On a daily basis, support the conversion process performed by NRC support staff to covert paper copy exhibits to electronic documents (one hour per hearing day).

F. On request, produce ad-hoc reports and queries from any of the DDMS application component systems (10 hours per month).

G. Respond to questions pertaining to use and technical aspects of the various application systems (four hours per month).

H. Maintain tables used by the DDMS system (five hours per month).

I. Support proceedings by providing A/V support to the clerk of court and the judges (six hours per day per hearing day per board).

J. Power up systems at the start of hearings in any cases where the system was sitting idle and fully check out the system prior to the commencement of hearings and resolve all issues needed to make the system operational (two hours per hearing day - as needed).

K. Perform database recovery, reinstall and system reboots as needed to resolve system problems encountered during hearing days (five hours per month).

L. Support other situations as appropriate for operational support not specifically listed above as directed by the DDMS Project Manager or designee.

4.4.5 Work Effort Ceiling Notification

An e-mail notification to the DDMS Project Manager shall be made by the Contractor when less than 40 hours remain available for either maintenance or operational support.

4.4.6 Work Effort Reporting

The Contractor and the NRC DDMS Project Manager shall attend, as required, occasional (approximately 2 per month) meetings at the NRC's Rockville, Maryland office or contractor site to discuss maintenance and operational requests, issues, and progress.

The Contractor shall inform the NRC DDMS Project Manager via e-mail upon completion of each maintenance and operational support activity. The e-mail will define the action taken and identify any subsequent actions that may be necessary.

The Contractor shall record all modifications made to the application systems, update the CTF configuration and shall appropriately update system documentation, including the SEN, as maintenance requests are completed.

For operational support activities, no other unique reporting, except as indicated above, is required that exceeds that which would be presented in the Weekly Status Report and at the O&M status meetings noted above.

4.4.7 Place of Performance

Most efforts under this task will be performed at the Las Vegas, Nevada facility, the Rockville, MD HQ or at the contractor site. Access to the NRC facilities shall be provided by the NRC, as required.

4.4.8 Schedule of Deliverables

Individual deliverables and specific due dates shall be negotiated with each planned maintenance release and when directed by the NRC CLIN Manager. All new and updated documentation deliverables associated with each maintenance or operational support activity shall be delivered by the Contractor in both draft and final versions, via e-mail, to the NRC's DDMS Project Manager. Drafts shall be delivered as created for NRC review and shall allow sufficient time (3 to 5 working days) of review time by the NRC. Final versions shall be delivered incorporating comments and/or changes provided by the DDMS Project Manager or designated alternate.

Deliverable Name	Delivery Schedule
Test and verify functionality of the A/V subsystem prior to the start of each days' hearing	Daily system check report
Run available server, operating system and application software diagnostics.	Weekly
Verify database, document and video file replication prior to the start of each days' hearing	Daily
Verify data backups	Daily
Verify any and all data discrepancies	Daily
Verify remote site connectivity	Daily
Ad hoc reporting	Within three days of request
Weekly Briefing	Weekly
Updated Software Engineering Notebook	As needed
Updated CTF Baseline	As needed
Emergency maintenance	As needed
Problem resolution	As needed
Operational support	As needed
Updated Project Management or Action Plans	As revisions are necessary

Updated Tactical Implementation Plans	As revisions are necessary
New/Updated Software Development Plans	As revisions are necessary
Updated User Guides	As revisions are necessary
Updated System Test Plans	As revisions are necessary
Other SDLCMM documents	At frequency directed

4.4.9 Performance Measures

Performance Requirement	Performance Standard	Method of Monitoring
1) Agreed-upon delivery dates and milestones will be met.	95% of deliverables, including software deployments, are provided and milestones met in accordance with the schedule.	100 percent inspection
2) All software is appropriately licensed to maintain adequate coverage	All software licenses are up to date and covered under O&M activities.	Periodic review
3) CTF and documentation are kept current	As upgrades, patches and fixes are implemented, appropriate documentation and the CTF configuration is updated.	Periodic review
4) All software patches and upgrades are kept current	Notifications from COTS vendors are reviewed on a regular basis.	Periodic review
5) System is available not less than 98% of its scheduled uptime per calendar week	System is available for access from within the hearing room, within the NRC LAN and from the Internet.	System logs
6) Documentation deliverables shall conform to Agency standards, match application processes and operational procedures and will have been reviewed for quality assurance.	90% of documents will require only one iteration of revision.	100 percent inspection
7) Software deployments shall not require a correction release.	Application system updates will remain operational in the production environment without error for two or more quarterly cycles.	User input
8) Application processes will match business processes and/or operational procedures.	95% of newly deployed releases will function in accordance with specifications.	User input

9) Application performance in the production environment will remain stable and satisfactory.	Newly deployed releases will not adversely impact system or environment performance.	User input
10) Negative impacts shall be identified and addressed prior to implementing new and/or changed functionality.	Previously required functionality will not be impacted by new releases.	User input
11) Proposed output will be validated by comparing old to new.	Unit and system testing will be sufficient to identify errors.	Periodic inspection
12) Interfaces will remain compatible in the operational environment.	New releases will not adversely affect existing interfaces.	User input

5.0 List of Government Furnished Equipment/Facilities for DDMS Production System for Las Vegas Hearing Facility

Government furnished components available for use in fulfillment of the contract to implement a DDMS Production System for the Las Vegas, NV Hearing Facility are detailed in the statement of work as noted below:

Facility - A two story, new construction, building located at the northwest corner of Pepper Lane and Sagebrush St., Las Vegas, NV 89120. Detailed descriptions of the facility are provided on pages 2-5 of the Statement of Work.

Operational Rockville DDMS database and video archives - An operational DDMS is expected to be completed for the Rockville Hearing Room located in NRC's Two White Flint North (TWFN) complex. This system is available for full integration with the comparable components developed for the Las Vegas, NV facility. Detailed descriptions of the Rockville DDMS are provided on pages 5-18 of the Statement of Work.

Desktop Office Automation - Target desktop workstation configurations that will be used to access the application are described on page 18 of the Statement of Work. Actual workstation locations and equipment in staff offices will be provided by other NRC contracts, as noted in this SOW.

Telecommunications Service - Telecommunication services (phone lines with tone) will be provided by other NRC contracts, as noted on page 18 of the Statement of Work.

Webstreaming Hosting Service - Webstreaming hosting services (does not include local equipment) will be provided by other NRC contracts, as noted on page 18 of the Statement of Work.

All design documents, operational manuals, security design and assessment products, and the Software Engineering Library for the DDMS Production System for the Rockville Hearing Room are available for use. Design documents may be found in the NRC's ADAMS publicly available records system; security products and the software engineering library will be provided as directed by the contracting officer.

ORDER TERMS, CONDITIONS, AND REQUIREMENTS

6. PERFORMANCE REQUIREMENTS

The deliverables required under this order must conform to the standards contained, or referenced, in the SOW. The Performance Requirements Summary (APPENDIX VI) outlines the performance requirements, deliverables, acceptable standards, surveillance method, and incentives and deductions applicable to this order.

7. PLACE OF PERFORMANCE

Place of performance shall be: at contractor site, the NRC Headquarters offices in Rockville, MD and the Las Vegas, NV facility during the Las Vegas DDMS production system phase ; and, at the Las Vegas, NV facility for the optional second floor Las Vegas hearing room. The government will provide on-site office space for two employees in an office within the secure ASLBP office suites of the Las Vegas Facility. Government-furnished equipment shall include a desktop configuration for each on-site employee, as required for general office use, but this equipment is not part of the DDMS configuration. Access to the development suite housed in the technical center on the second floor will be provided during project performance.

8. KEY PERSONNEL

The following individuals are considered key to this effort:

A.
B.
C.
D.
E.
F.

All personnel designated as "Key" are subject to the following Key Personnel Clause.

NRCAR 2052.215-70 KEY PERSONNEL

The contractor agrees that key personnel may not be removed from the contract work or replaced without compliance with paragraphs (1) and (2) of this section.

1. If one or more of the key personnel, for whatever reason, becomes, or is expected to become, unavailable for work under this contract for a continuous period exceeding 30 work days, or is expected to devote substantially less effort to the work than indicated in the proposal or initially anticipated, the Contractor shall immediately notify the

contracting officer and shall, subject to the concurrence of the contracting officer, promptly replace the personnel with personnel of at least substantially equal ability and qualifications.

2. Each request for approval of substitutions must be in writing and contain a detailed explanation of the circumstances necessitating the proposed substitutions. The request must also contain a complete resume for the proposed substitute and other information requested or needed by the contracting officer to evaluate the proposed substitution. The contracting officer and the project officer shall evaluate the contractor's request and the contracting officer shall promptly notify the contractor of his or her decision in writing.

3. If the contracting officer determines that suitable and timely replacement of key personnel who have been reassigned, terminated, or have otherwise become available for the contract work is not reasonably forthcoming, or that the resultant reduction of productive effort would be so substantial as to impair the successful completion of the contract or the service order, the contract may be terminated by the contracting officer for default or for the convenience of the Government, as appropriate. If the contracting officer finds the contractor at fault for the condition, the contract price or fixed fee may be equitably adjusted downward to compensate the Government for any resultant delay, loss, or damage.

(End of Clause)

9. TRAVEL

All travel is subject to the Federal Travel Regulations which can be found at the following website: GSA.GOV.

10. REPORTING REQUIREMENTS

10.1 Weekly Reports and Meetings

The contractor shall provide weekly Activity Reports to include any exceptions or changes from the existing plans. The weekly report will be delivered by Tuesday COB for review prior to a regular Wednesday Project Meeting. The weekly will include a proposed agenda for the meeting to cover management issues and any technical issues that would impact schedule, cost, or technical risk.

10.2 Project Management Plan

The contractor shall submit a detailed **Project Management Plan** to cover tasks under each of the above noted Tasks. The plan will show tasking and subtasking, milestones, labor categories and/or staff assigned and the projected number of hours estimated to complete each task/subtask by staff member. This plan will be maintained in Microsoft Project® 4.0 format. This plan will be progressed at the above level of detail on a monthly basis for the duration of the task. The **Project Management Plan** will also include dollars by labor category/assigned

personnel which will support the contractor's estimate for each task executed under this contract.

10.3 Monthly Reports

The contractor shall provide a Monthly Status Report to the NRC Project Officer and the Contracting Officer by the 15th of each month. Each monthly report will include updates to the **Project Management Plan** (Work Breakdown Schedule) listing the reasons for changes, proposed adjustments and justification, cost and schedule impacts. The **Project Management Plan** will be progressed with the latest hours/costs and submitted as part of the monthly report. If at any time the project deviates from 5% in cost or schedule from the project management plan, the contractor shall schedule an update with the NRC task manager. The report shall also contain the BPA number, order number, and task; the period covered by the report; a summary of work performed during the reporting period for each task, including appropriate statistics and plans for the next reporting period; a discussion of project plans, hardware problems, current operational problems, and the proposed corrective action, and analysis of the impact on other tasks within the scope of the SOW; and a status of expenditures under the order for the reporting period, cumulative expenditures to date, funds obligated to date, and balance of funds required to complete the order.

11. SECURITY

A. Contract Security and/or Classification Requirements (NRC Form 187 - APPENDIX IIX). The policies, procedures, and criteria of the NRC Security Program, NRC Management Directive (MD) 12 (including MD12.1, "NRC Facility Security Program;" MD 12.2, "NRC Classified Information Security Program;" MD 12.3, "NRC Personnel Security Program;" MD 12.4, "NRC Telecommunications Systems Security Program;" MD 12.5, "NRC Automated Information Systems Security Program;" and MD 12.6, "NRC Sensitive Unclassified Information Security Program"), apply to performance of this contract, subcontract or other activity. This MD is incorporated into this contract by reference as though fully set forth herein. The attached NRC Form 187 (APPENDIX IIX) furnishes the basis for providing security and classification requirements to prime contractors, subcontractors, or others (e.g., bidders) who have or may have an NRC contractual relationship that requires access to classified Restricted Data or National Security Information or matter, access to sensitive unclassified information (Safeguards, Official Use Only, and Proprietary information) access to sensitive Information Technology (IT) systems or data, unescorted access to NRC controlled buildings/space, or unescorted access to protected and vital areas of nuclear power plants.

B. It is the contractor's duty to protect National Security Information, Restricted Data, and Formerly Restricted Data. The contractor shall, in accordance with the Commission's security regulations and requirements, be responsible for protecting National Security Information, Restricted Data, and Formerly Restricted Data, and for protecting against sabotage, espionage, loss, and theft, the classified documents and material in the contractor's possession in connection with the performance of work under this contract. Except as otherwise expressly provided in this contract, the contractor shall, upon completion or termination of this contract, transmit to the Commission any

classified matter in the possession of the contractor or any person under the contractor's control in connection with performance of this contract. If retention by the contractor of any classified matter is required after the completion or termination of the contract and the retention is approved by the contracting officer, the contractor shall complete a certificate of possession to be furnished to the Commission specifying the classified matter to be retained. The certification must identify the items and types or categories of matter retained, the conditions governing the retention of the matter and their period of retention, if known. If the retention is approved by the contracting officer, the security provisions of the contract continue to be applicable to the matter retained.

C. In connection with the performance of the work under this contract, the contractor may be furnished, or may develop or acquire, safeguards information, proprietary data (trade secrets) or confidential or privileged technical, business, or financial information, including Commission plans, policies, reports, financial plans, other (Official Use Only) internal data protected by the Privacy Act of 1974 (Pub. L. 93-579), or other information which has not been released to the public or has been determined by the Commission to be otherwise exempt from disclosure to the public. The contractor shall ensure that information protected from public disclosure is maintained as required by NRC regulations and policies, as cited in this contract or as otherwise provided by the NRC. The contractor will not directly or indirectly duplicate, disseminate, or disclose the information in whole or in part to any other person or organization except as may be necessary to perform the work under this contract. The contractor agrees to return the information to the Commission or otherwise dispose of it at the direction of the contracting officer. Failure to comply with this clause is grounds for termination of this contract.

D. Regulations. The contractor agrees to conform to all security regulations and requirements of the Commission which are subject to change as directed by the NRC Division of Facilities and Security (DFS) and the Contracting Officer. These changes will be under the authority of the FAR Changes clause referenced in this document.

The contractor agrees to comply with the security requirements set forth in NRC Management Directive 12.1, NRC Facility Security Program which is incorporated into this contract by reference as though fully set forth herein. Attention is directed specifically to the section titled "Infractions and Violations," including "Administrative Actions" and "Reporting Infractions."

E. Definition of National Security Information. The term National Security Information, as used in this clause, means information that has been determined pursuant to Executive Order 12958 or any predecessor order to require protection against unauthorized disclosure and that is so designated.

F. Definition of Restricted Data. The term Restricted Data, as used in this clause, means all data concerning design, manufacture, or utilization of atomic weapons; the production of special nuclear material; or the use of special nuclear material in the production of energy, but does not include data declassified or removed from the

Restricted Data category pursuant to Section 142 of the Atomic Energy Act of 1954, as amended.

G. Definition of Formerly Restricted Data. The term Formerly Restricted Data, as used in this clause, means all data removed from the Restricted Data category under Section 142-d of the Atomic Energy Act of 1954, as amended.

H. Definition of Safeguards Information. Sensitive unclassified information that specifically identifies the detailed security measures of a licensee or an applicant for the physical protection of special nuclear material; or security measures for the physical protection and location of certain plant equipment vital to the safety of production of utilization facilities. Protection of this information is required pursuant to Section 147 of the Atomic Energy Act of 1954, as amended.

I. Security Clearance. The contractor may not permit any individual to have access to Restricted Data, Formerly Restricted Data, or other classified information, except in accordance with the Atomic Energy Act of 1954, as amended, and the Commission's regulations or requirements applicable to the particular type or category of classified information to which access is required. The contractor shall also execute a Standard Form 312, Classified Information Nondisclosure Agreement, when access to classified information is required.

J. Criminal Liabilities. It is understood that disclosure of National Security Information, Restricted Data, and Formerly Restricted Data relating to the work or services ordered hereunder to any person not entitled to receive it, or failure to safeguard any Restricted Data, Formerly Restricted Data, or any other classified matter that may come to the contractor or any person under the contractor's control in connection with work under this contract, may subject the contractor, its agents, employees, or subcontractors to criminal liability under the laws of the United States. (See the Atomic Energy Act of 1954, as amended, 42 U.S.C. 2011 et seq.; 18 U.S.C. 793 and 794; and Executive Order 12958.)

K. Subcontracts and Purchase Orders. Except as otherwise authorized in writing by the contracting officer, the contractor shall insert provisions similar to the foregoing in all subcontracts and purchase orders under this contract.

L. In performing the contract work, the contractor shall classify all documents, material, and equipment originated or generated by the contractor in accordance with guidance issued by the Commission. Every subcontract and purchase order issued hereunder involving the origination or generation of classified documents, material, and equipment must provide that the subcontractor or supplier assign classification to all documents, material, and equipment in accordance with guidance furnished by the contractor.

M. Badge Requirements for Unescorted Building Access to NRC Facilities: During the life of this contract, the rights of ingress and egress for contractor personnel must be made available, as required, provided that the individual has been approved for unescorted access after a favorable adjudication from the Security Branch, Division of

Facilities and Security (SB/DFS). In this regard, all contractor personnel whose duties under this contract require their presence on-site shall be clearly identifiable by a distinctive badge furnished by the NRC. The Project Officer shall assist the contractor in obtaining badges for the contractor personnel. It is the sole responsibility of the contractor to ensure that each employee has a proper NRC-issued identification/badge at all times. All photo-identification badges must be immediately (no later than three days) delivered to SB/DFS for cancellation or disposition upon the termination of employment of any contractor personnel. Contractor personnel must display any NRC issued badge in clear view at all times during on-site performance under this contract. It is the contractor's duty to assure that contractor personnel enter only those work areas necessary for performance of contract work, and to assure the protection of any Government records or data that contractor personnel may come into contact with."

N. Security Requirements for Building Access Approval: The contractor shall ensure that all its employees, including any subcontractor employees and any subsequent new employees who are assigned to perform the work herein, are approved by the Government for building access. Timely receipt of properly completed security applications is a contract requirement. Failure of the contractor to comply with this condition within the ten work-day period may be a basis to void the notice of selection. In that event, the Government may select another firm for award.

A contractor employee shall not have access to NRC facilities until he/she is approved by Security Branch, Division of Facilities and Security (SB/DFS). Temporary access may be approved based on a favorable adjudication of their security forms. Final access will be approved based on favorably adjudicated background checks by General Services Administration in accordance with the procedures found in NRC Management Directive 12.3, Part I. However, temporary access authorization approval will be revoked and the employee may subsequently be removed from the contract in the event the employee's investigation cannot be favorably adjudicated. Such employee will not be authorized to work under any NRC contract without the approval of SB/DFS. When an individual receives final access, the individual will be subject to a reinvestigation every five years.

The Government shall have and exercise full and complete control over granting, denying, withholding, or terminating building access approvals for individuals performing work under this contract. Individuals performing work under this contract shall be required to complete and submit to the contractor representative an acceptable GSA Form 176 (Statement of Personal History), and two FD-258 (Fingerprint Charts). Non-U.S. citizens must provide official documentation to the DFS/SB, as proof of their legal residency. This documentation can be a Permanent Resident Card, Temporary Work Visa, Employment Authorization Card, or other official documentation issued by the U. S. Citizenship and Immigration Services. Any applicant with less than two years residency in the U. S. will not be approved for building access. The contractor representative will submit the documents to the Project Officer who will give them to the SB/DFS. SB/DFS may, among other things, grant or deny temporary unescorted building access approval to an individual based upon its review of the information contained in the GSA Form 176. Also, in the

exercise of its authority, GSA may, among other things, grant or deny permanent building access approval based on the results of its investigation and adjudication guidelines. This submittal requirement also applies to the officers of the firm who, for any reason, may visit the work sites for an extended period of time during the term of the contract. In the event that SB/DFS and GSA are unable to grant a temporary or permanent building access approval, to any individual performing work under this contract, the contractor is responsible for assigning another individual to perform the necessary function without any delay in the contract's performance schedule, or without adverse impact to any other terms or conditions of the contract. The contractor is responsible for informing those affected by this procedure of the required building access approval process (i.e., temporary and permanent determinations), and the possibility that individuals may be required to wait until permanent building access approvals are granted before beginning work in NRC's buildings.

The contractor will immediately notify the Project Officer when a contractor employee terminates. The Project Officer will immediately notify SB/DFS (via e-mail) when a contractor employee no longer requires building access and return any NRC issued badges to the SB/DFS within three days after their termination.

O. Security Requirements for Information Technology Access Approval: The proposer/contractor must identify all individuals and propose the level of Information Technology (IT) approval for each, using the following guidance. The NRC sponsoring office shall make the final determination of the level, if any, of IT approval required for all individuals working under this contract.

The Government shall have and exercise full and complete control over granting, denying, withholding, or terminating building access approvals for individuals performing work under this contract.

Security Requirements for Level I: Performance under this contract will involve prime contractor personnel, subcontractors or others who perform services requiring direct access to or operate agency sensitive information technology systems or data (IT Level I).

The IT Level I involves responsibility for the planning, direction, and implementation of a computer security program; major responsibility for the direction, planning, and design of a computer system, including hardware and software; or the capability to access a computer system during its operation or maintenance in such a way that could cause or that has a relatively high risk of causing grave damage; or the capability to realize a significant personal gain from computer access. Such contractor personnel shall be subject to the NRC contractor personnel security requirements of NRC Management Directive (MD) 12.3, Part I and will require a favorably adjudicated Limited Background Investigation (LBI).

A contractor employee shall not have access to sensitive information technology systems or data until he/she is approved by Security Branch, Division of Facilities and Security (SB/DFS). Temporary access may be approved based on a favorable adjudication of their security forms and checks. Final access will be approved based

on a favorably adjudicated LBI in accordance with the procedures found in NRC MD 12.3, Part I. However, temporary access authorization approval will be revoked and the employee may subsequently be removed from the contract in the event the employee's investigation cannot be favorably adjudicated. Such employee will not be authorized to work under any NRC contract without the approval of SB/DFS. Timely receipt of properly completed security applications is a contract requirement. Failure of the contractor to comply with this condition within the ten work-day period may be a basis to void the notice of selection. In that event, the Government may select another firm for award. When an individual receives final access, the individual will be subject to a reinvestigation every 10 years.

The contractor shall submit a completed security forms packet, including the SF-86, "Questionnaire for National Security Positions," and fingerprint charts, through the Project Officer to SB/ DFS for review and favorable adjudication, prior to the individual performing work under this contract. The contractor shall assure that all forms are accurate, complete, and legible (except for Part 2 of the questionnaire, which is required to be completed in private and submitted by the individual to the contractor in a sealed envelope), as set forth in MD 12.3 which is incorporated into this contract by reference as though fully set forth herein. Based on SB review of the applicant's security forms and/or the receipt of adverse information by NRC, the individual may be denied access to NRC facilities, sensitive information technology systems or data until a final determination is made of his/her eligibility under the provisions of MD 12.3. Any questions regarding the individual's eligibility for IT Level I approval will be resolved in accordance with the due process procedures set forth in MD 12.3 and E. O. 12968.

In accordance with NRCAR 2052.204-70 "Security," IT Level I contractors shall be subject to the attached NRC Form 187 (APPENDIX IIX) which furnishes the basis for providing security requirements to prime contractors, subcontractors or others (e.g., bidders) who have or may have an NRC contractual relationship which requires access to or operation of agency sensitive information technology systems or remote development and/or analysis of sensitive information technology systems or data or other access to such systems and data; access on a continuing basis (in excess of 30 days) to NRC Headquarters controlled buildings; or otherwise requires issuance of an NRC badge.

Security Requirements for Level II: Performance under this contract will involve contractor personnel that develop and/or analyze sensitive information technology systems or data or otherwise have access to such systems or data (IT Level II).

The IT Level II involves responsibility for the planning, design, operation, or maintenance of a computer system and all other computer or IT positions. Such contractor personnel shall be subject to the NRC contractor personnel requirements of MD 12.3, Part I, which is hereby incorporated by reference and made a part of this contract as though fully set forth herein, and will require a favorably adjudicated Access National Agency Check with Inquiries (ANACI).

A contractor employee shall not have access to sensitive information technology systems or data until he/she is approved by SB/DFS. Temporary access may be

approved based on a favorable review of their security forms and checks. Final access will be approved based on a favorably adjudicated ANACI in accordance with the procedures found in MD 12.3, Part I. However, temporary access authorization approval will be revoked and the employee may subsequently be removed from the contract in the event the employee's investigation cannot be favorably adjudicated. Such employee will not be authorized to work under any NRC contract without the approval of SB/DFS. Timely receipt of properly completed security applications is a contract requirement. Failure of the contractor to comply with this condition within the ten work-day period may be a basis to void the notice of selection. In that event, the Government may select another firm for award. When an individual receives final access, the individual will be subject to a reinvestigation every 10 years.

The contractor shall submit a completed security forms packet, including the SF-86, "Questionnaire for National Security Positions," and fingerprint charts, through the Project Officer to the NRC SB/DFS for review and favorable adjudication, prior to the individual performing work under this contract. The contractor shall assure that all forms are accurate, complete, and legible (except for Part 2 of the questionnaire, which is required to be completed in private and submitted by the individual to the contractor in a sealed envelope), as set forth in MD 12.3. Based on SB review of the applicant's security forms and/or the receipt of adverse information by NRC, the individual may be denied access to NRC facilities, sensitive information technology systems or data until a final determination is made of his/her eligibility under the provisions of MD 12.3. Any questions regarding the individual's eligibility for IT Level II approval will be resolved in accordance with the due process procedures set forth in MD 12.3 and E.O. 12968.

In accordance with NRCAR 2052.204-70 "Security," IT Level II contractors shall be subject to the attached NRC Form 187 (APPENDIX IIX) which furnishes the basis for providing security requirements to prime contractors, subcontractors or others (e.g. bidders) who have or may have an NRC contractual relationship which requires access to or operation of agency sensitive information technology systems or remote development and/or analysis of sensitive information technology systems or data or other access to such systems or data; access on a continuing basis (in excess of 30 days) to NRC Headquarters controlled buildings; or otherwise requires issuance of an NRC badge.

P. Cancellation or Termination of it Access/Request: When a request for investigation is to be withdrawn or canceled, the contractor shall immediately notify the Project Officer by telephone in order that he/she will immediately contact the SB/DFS so that the investigation may be promptly discontinued. The notification shall contain the full name of the individual, and the date of the request. Telephone notifications must be promptly confirmed in writing to the Project Officer who will forward the confirmation via email to the SB/DFS. Additionally, SB/DFS must be immediately notified when an individual no longer requires access to NRC sensitive automated information technology systems or data, including the voluntary or involuntary separation of employment of an individual who has been approved for or is being processed for access under the NRC "Personnel Security Program."

12. BILLING INSTRUCTIONS

General: The contractor shall prepare vouchers or invoices as prescribed herein. FAILURE TO SUBMIT VOUCHERS/INVOICES IN ACCORDANCE WITH THESE INSTRUCTIONS WILL RESULT IN REJECTION OF THE VOUCHER/INVOICES AS IMPROPER.

Form: Claims shall be submitted on the payee's letterhead, voucher/invoices, or on the Government's Standard Form 1034, "Public Voucher for Purchases and Services Other than Personal," and Standard Form 1035, "Public Voucher for Purchases Other than Personal--Continuation Sheet." These forms are available from the U.S. Government Printing Office, 710 North Capitol Street, Washington, DC 20401.

Number of Copies: An original and three copies shall be submitted. Failure to submit all the required copies will result in rejection of the voucher/invoice as improper.

Designated Agency Billing Office: Vouchers/Invoices shall be submitted to the following address:

U.S. Nuclear Regulatory Commission
Division of Contracts and Property Management
Mail Stop T-7 I2
Washington, DC 20555-0001

A copy of any invoice which includes a purchase of property valued at the time of purchase at $5,000 or more, shall additionally be sent to:

Chief, Property Management Branch
Division of Facilities and Property Management
Mail Stop T-7 D27
Washington, DC 20555-0001

HAND-DELIVERY OF VOUCHERS/INVOICES IS DISCOURAGED AND WILL NOT EXPEDITE PROCESSING BY THE NRC. However, should you choose to deliver vouchers/invoices by hand, including delivery by any express mail service or special delivery service which uses a courier or other person to deliver the vouchers/invoices in person to the NRC, such vouchers/invoices must be addressed to the above Designated Agency Billing Office and will only be accepted at the following location:

U.S. Nuclear Regulatory Commission
One White Flint North - Mail Room
11555 Rockville, MD, MD Pike
Rockville, MD, MD, MD 20852

HAND-CARRIED SUBMISSIONS WILL NOT BE ACCEPTED AT OTHER THAN THE ABOVE ADDRESS

Note that the official receipt date for hand-delivered vouchers/invoices will be the date it is received by the official agency billing office in the Division of Contracts.

Agency Payment Office:

U.S. Nuclear Regulatory Commission
Division of Accounting and Finance GOV/COMM
Mail Stop T-9 H4
Washington, DC 20555

Frequency: The contractor shall submit a voucher or invoice monthly only after the NRC's acceptance of services rendered or products delivered in performance of the delivery order unless otherwise specified in the contract.

Preparation and Itemization of the Voucher/Invoice: To be considered a proper voucher/invoice, all of the following elements must be included:

A. BPA/Contract number and delivery order number.

B. Sequential voucher/invoice number.

C. Date of voucher/invoice.

D. Payee's name and address. (Show the name of the contractor and its correct address. In addition, when an assignment of funds has been made by the contractor, or a different payee has been designated, include the name and address of the payee). Indicate the name and telephone number of the individual responsible for answering questions which the NRC may have regarding the voucher/invoice.

E. Description of articles or services, quantity, unit price, total amount, and cumulative amount.

F. For labor-hour delivery orders with a ceiling, provide a breakdown by task of labor hours by labor category, hours, fixed rate, current period dollars, and cumulative hours and dollars billed to date as authorized under the delivery order. For example:

Category	Current Hours	Fixed Rate	Current Billed	Cumulative	
				Hours	Total Billed
Sr. Scientist	100	35.00	$3,500.00	500	$ 17,500.00
Engineer	100	25.00	$2,500.00	100	$ 2,500.00
Totals:			$6,000.00		$ 20,000.00

Invoices for the order shall be broken down by task. You must also provide a consolidated summary (cover sheet) of the total amount billed inclusive of all tasks. The summary must contain the cumulative amount invoiced to date.

G. For contractor acquired property list each item purchased costing $50,000 or more and having a life expectancy of more than 1 year and provide: (1) an item description,

(2) manufacturer, (3) model number, (4) serial number, (5) acquisition cost, (6) date of purchase, and (7) a copy of the purchasing document.

H. Weight and zone of shipment, if shipped by parcel post.

I. Charges for freight or express shipments. Attach prepaid bill if shipped by freight or express.

J. Instructions to consignee to notify the Contracting Officer of receipt of shipment.

K. Travel Reimbursement (if applicable)

The contractor shall submit claims for travel reimbursement as a separate item on its fixed-price invoice/voucher in accordance with the following:

Travel reimbursement. Total costs associated with each trip must be shown in the following format:

Start Date	Destination	Costs
From:	From:	
To:	To:	$

Provide supporting documentation (receipts) for travel expenditures in excess of $75.00 in an attachment to the invoice/voucher.

Billing of Cost After Expiration of Order: If costs are incurred during the delivery order period and claimed after the order has expired, the period during which these costs were incurred must be cited. To be considered a proper expiration voucher/invoice, the contractor shall clearly mark it "EXPIRATION VOUCHER" or "EXPIRATION INVOICE."

Currency: Billings may be expressed in the currency normally used by the contractor in maintaining his accounting records and payments will be made in that currency. However, the U.S. dollar equivalent for all vouchers/invoices paid under the order may not exceed the total U.S. dollars authorized under the order.

Supersession: These instructions supersede any previous billing instructions.

13. PROJECT OFFICER

The Contracting Officer's authorized technical representative hereinafter referred to as the project officer for this order is:

Name: Andrew Welkie

Address: U.S. Nuclear Regulatory Commission
Washington, DC 20555

Telephone Number: (301)415-6541

A. Performance of the work under this order is subject to the technical direction of the NRC project officer. The term "technical direction" is defined to include the following:

A. Technical direction to the contractor which shifts work emphasis between areas of work or tasks, authorizes travel which was unanticipated in the Schedule (i.e., travel not contemplated in the SOW or changes to specific travel identified in the SOW), fills in details, or otherwise serves to accomplish the contractual SOW.

B. Provide advice and guidance to the contractor in the preparation of drawings, specifications, or technical portions of the work description.

C. Review and, where required by the order, approval of technical reports, drawings, specifications, and technical information to be delivered by the contractor to the Government under the order.

B. Technical direction must be within the general SOW stated in the order. The project officer does not have the authority to and may not issue any technical direction which:

A. Constitutes an assignment of work outside the general scope of the order or associated BPA.

B. Constitutes a change as defined in the "Changes" clause of the GSA contract.

C. In any way causes an increase or decrease in the total fixed price or the time required for performance of any orders.

D. Changes any of the expressed terms, conditions, or specifications of the order or associated BPA.

E. Terminates the order, settles any claim or dispute arising under the order, or issues any unilateral directive whatever.

C. All technical directions must be issued in writing by the project officer or must be confirmed by the project officer in writing within ten (10) working days after verbal issuance. A copy of the written direction must be furnished to the CO. A copy of NRC Form 445, Request for Approval of Official Foreign Travel, which has received final approval from the NRC must be furnished to the CO.

D. The contractor shall proceed promptly with the performance of technical directions duly issued by the project officer in the manner prescribed by this clause and within the project officer's authority under the provisions of this clause.

E. If, in the opinion of the contractor, any instruction or direction issued by the project officer is within one of the categories as defined in paragraph (c) of this section, the contractor may not proceed but shall notify the CO in writing within five (5) working days after the receipt of any instruction or direction and shall request the CO to modify the order or associated BPA accordingly. Upon receiving the notification from the contractor, the CO shall issue an appropriate modification or advise the contractor in

writing that, in the CO's opinion, the technical direction is within the scope of this article and does not constitute a change under the "Changes" clause.

F. Any unauthorized commitment or direction issued by the project officer may result in an unnecessary delay in the contractor's performance and may even result in the contractor expending funds for unallowable costs under the order or associated BPA.

G. A failure of the parties to agree upon the nature of the instruction or direction or upon the contract action to be taken with respect thereto is subject to 52.233-1 - Disputes.

H. In addition to providing technical direction as defined in paragraph (b) of the section, the project officer shall:

A. Monitor the contractor's technical progress, including surveillance and assessment of performance, and recommend to the CO changes in requirements.

B. Assist the contractor in the resolution of technical problems encountered during performance.

C. Review all costs requested for reimbursement by the contractor and submit to the CO recommendations for approval, disapproval, or suspension of payment for supplies and services required under orders.

D. Assist the contractor in obtaining the badges for the contractor personnel.

E. Immediately notify the Personnel Security Branch, Division of Facilities and Security (PERSEC/DFS) (via e-mail) when a contractor employee no longer requires access authorization and return the individual's badge to PERSEC/DFS within three days after their termination.

14. PERIOD OF PERFORMANCE

This order shall be effective from the order award date of September 30, 2004 through September 30, 2005.

15. CONSIDERATION AND OBLIGATION--DELIVERY ORDERS (JUN 1988)

(a) The total estimated amount (ceiling) for the products/services ordered, delivered, and accepted under this BPA order is $2,393,960.40. The Contracting Officer may unilaterally increase this amount as necessary for orders to be placed with the contractor during the contract period provided such orders are within any maximum ordering limitation prescribed under this contract.

The amount presently obligated with respect to this order is $84,500.00. The Contracting Officer may increase this amount from time to time by unilateral modification to the order. The obligated amount shall, at no time, exceed the order ceiling. When and if the amount(s) paid and payable to the Contractor hereunder shall equal the obligated amount, the Contractor shall not be obligated to continue performance of the work unless and until the Contracting Officer

not be obligated to continue performance of the work unless and until the Contracting Officer shall increase the amount obligated. Any work undertaken by the Contractor in excess of the obligated amount specified above is done so at the Contractor's sole risk.

16. FAR 52.232-7, "PAYMENTS UNDER TIME-AND-MATERIAL AND LABOR-HOUR CONTRACTS"

FAR 52.232-7 is applicable and hereby incorporated into this order.

17. FAR 52.232-18 AVAILABILITY OF FUNDS (Apr 1984)

Funds are not presently available for this contract. The Government's obligation under this contract is contingent upon the availability of appropriated funds from which payment for contract purposes can be made. No legal liability on the part of the Government for any payment may arise until funds are made available to the Contracting Officer for this contract and until the Contractor receives notice of such availability, to be confirmed in writing by the Contracting Officer.

(End of clause)

APPENDIX I
Recommended Audio Visual Solution

The following describes the technical solution (including number of components required) suggested by the developer's architect/engineering firm. This study was used to identify audio visual issues unique to the hearing facility architectural design.

Philips Digital Congress Network (DCN) Conference System & Wired Language Distribution Subsystem

Link to Main Product Page
http://www.philipscsi.com/ItemPage.cfm?PrdctGroup_ID=188&cntry_ID=49&lang_ID=1

Link to Architect Specifications
http://www.philipscsi.com/html2/TheUnit/Congress/a&especs/PDF/DCN/EN/DCN%20AEspecEN.pdf

LBB3549/50 Extended Microphone 59
LBB3527/00 Table-Top Housing for Panels 118
LBB3535/00 Dual Audio Interface Unit 41
LBB3536/10 Hand-Held Mic. with Coiled Cable 6
LBB3537/10 Chairman Priority Control Panel 6
LBB3537/20 Microphone Control Panel 59
LBB3538/00 Loudspeaker Panel 59
LBB3524/10 Elec. Ch. Sel. Panel, LCD & Backlighting 59
LBB3525/00 Table-Top Housing for Channel Selector 29
LBB3443/00 Lightweight Stereo Headphones 63
LBB3500/15D Extended Central Control Unit CSA/UL 1

Philips DCN Software

LBB3570/00 Microphone Management SW 1
LBB3571/00 Synoptic Microphone Control SW 1
LBB3580/00 DCN Delegate Database SW 1
LBB3585/00 System Installation SW 1
LBB3587/00 DCN Open Interface SW 9.50 1
LBB3588/00 CAM Control SW PC-Control 1
LBB3590/00 DCN Start-Up Software 9.50 1

Installation Equipment & Miscellaneous Microphone Equipment

LBB4114/00 Trunksplitter 5
LBB4115/00 Tap-Off Unit 2
LBB4116/00 100M DCN Install Cable 2
LBB4116/05 Extension Cable Assy 5M 18
LBB4116/10 Extension Cable Assy 10M 4
LBB4117/00 Set of 25 Cable Locking Clamps 1
LBC1215/01 Quick Release Mic. Clamp 6

LBC1221/01 Microphone Floorstand 6

Integrus Digital Infra-Red
http://www.boschsecuritysystems.com/com/en/start/index.htm
LBB3423/20 Integrus DCN Interface Module 1
LBB4502/04 Digital 4 Channel Transmitter 1
LBB4512/00 Digital High Power Radiator 2
LBB3414/00 Mounting Bracket for LBB 4512 2
LBB4540/04 Digital 4 Channel Pocket Receiver 20
LBB3443/00 Lightweight Stereo Headphones 20

Simultaneous Interpretation Equipment

LBB3520/10 Interpreter Desk with Backlight LCD 3
LBB3015/04 High-Quality Dynamic Headphone 3
LBB3572/00 Simultaneous Interpretation Software 1

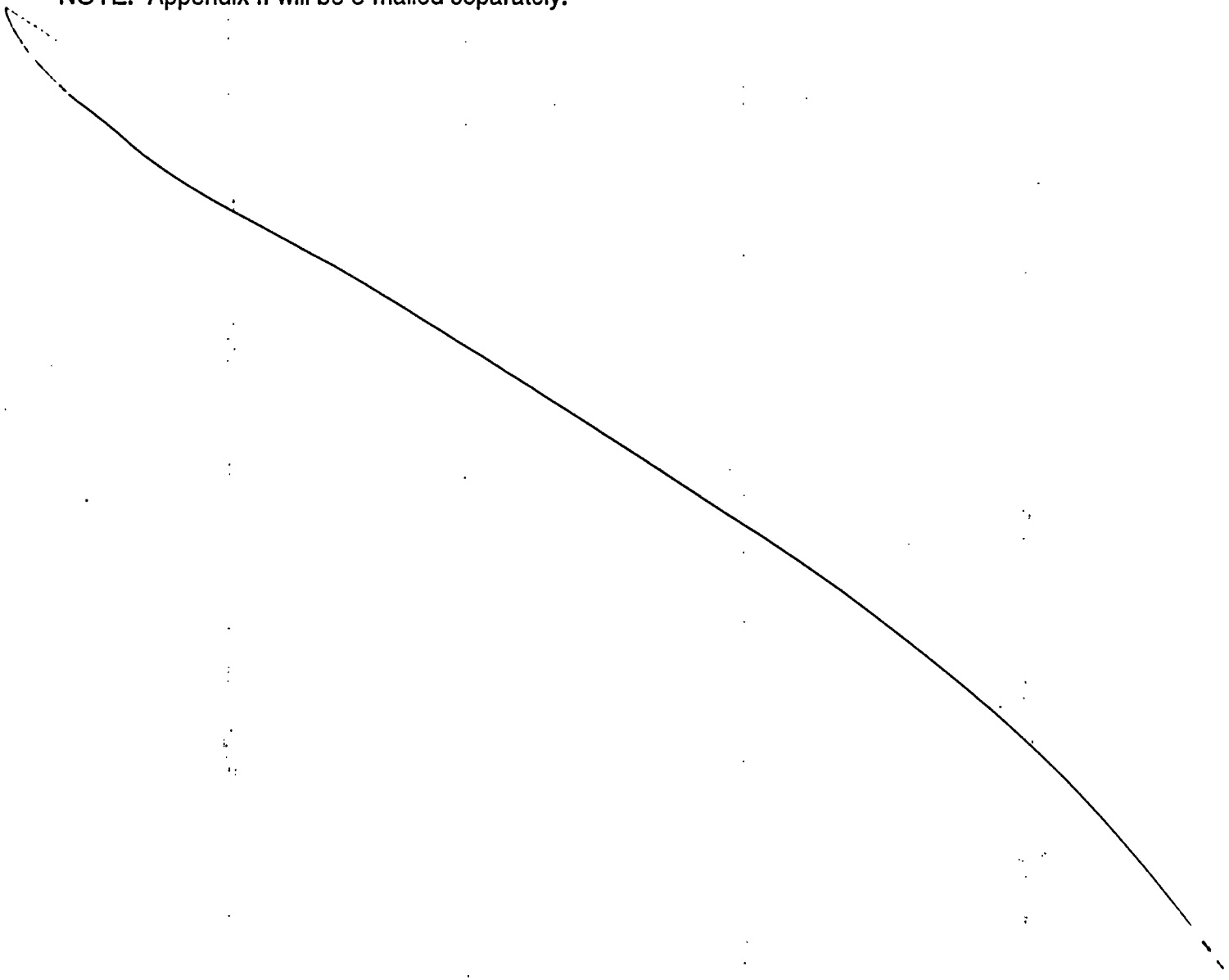
Interpretation Booth
http://www.multicase.ca/produits/whisper/whisper_anglais.htm
Multi-Caisses Enclosed Interpreter Booth, 2 Fans and Cases 2

Recording/Media Interface Equipment

LBB3508/00D Audio Media Interface 1

APPENDIX II
Cable Matrix

NOTE: Appendix II will be e-mailed separately.



APPENDIX IV
Software Development Life Cycle Management Methodology(SDLCMM)

The NRC's SDLCMM can be found in ADAMS, Accession Number ML013440472

APPENDIX V
Detailed Functional Requirements

Item Number	Requirement
1.	DDMS shall provide an interface based on industry standards that allows the professional user (e.g., judge, attorneys) to easily search, retrieve and display information. The DDMS shall provide for a seamless interface to allow the professional user to focus on the hearing and not the DDMS system.
2.	The DDMS have ensure that all time stamps are based upon an NRC authorized atomic clock.
3.	The DDMS record forwarded to SECY shall be retrievable from remote locations including but limited to: Users on the DDMS LAN, Users on the NRC LAN and users on the Internet.
4.	The DDMS shall accommodate input information needed to support the presiding officer in administering the hearing, including such items as: Rules, Procedures, Policies, Pleadings, Evidence, Parties, Witness Lists, Precedents, Schedule and Transcripts.
5.	The DDMS shall accommodate output information needed to assist with the capturing of all information presented and discussed during a hearing, including such items as: metadata, DVD/CD records, VHS records and Electronic Information.
6.	The DDMS shall accommodate output information needed to assist judges with developing and documenting decisions, including such items as: Issuances to be derived from Westlaw/Lexis.
7.	The DDMS shall accommodate the display of information needed to support the presiding officer in administering the hearing, including such items as: Instructions, Schedules, Computer generated reports, Process flows, Selected portions of transcripts and Public announcements.
8.	The DDMS shall accommodate the display of information needed to support evidence and argument presentation at pre-hearing conferences and hearings, including such items as: Screens or display units, Printers, Reports, Hearing record and Remote hearing site - video conference with little or no loss of resolution.
9.	The DDMS shall accommodate the receipt, recording and storing of information needed to support evidence and argument presentation at pre-hearing conferences and hearings, including such items as: Documents (images, text, paper, etc.) , Video Clips, Laptops/computer inputs, Computer Models, Physical Evidence, Oral presentation/report/testimony , Depositions, Video Conference, CD/DVD and Reference to Pre-filed court information
10.	The DDMS shall allow only authorized users or groups to delete, update or modify information stored in the DDMS system.
11.	The DDMS shall allow research participants to use the native search and retrieval capabilities to request information from the identified repositories at the participants expense.

Item Number	Requirement
12.	The DDMS shall at a minimum, per Management Directive 12.5, provide the following information for auditable events: Date and time of the event, User ID of the individual performing the auditable event, Type of event, Type of resource (if applicable) accessed, and Activity that occurred within the auditable event.
13.	The DDMS shall be available 7 days per week, with a minimum of 1 hour each day, to support ongoing or required maintenance activities.
14.	The DDMS shall be capable of supporting future hardware and software technology refreshes.
15.	The DDMS shall be capable of supporting multiple concurrent hearings conducted at multiple locations and in multiple time zones.
16.	The DDMS shall be capable of retrieving the DDMS record from: the Judge's Bench, Witness Locations, Litigant desk locations, Clerk of Court Location, Court Reporter Location, 1st floor Litigant support conference rooms, the Internet, the NRC LAN and other locations identified on the Las Vegas, NV Facility Floor Plan.
17.	The DDMS shall be scheduled to be available to support conducting the HLW repository hearing 22 hours per day, 7 days per week.
18.	The DDMS shall display a warning banner at user login in accordance with Management Directive 12.5.
19.	The DDMS shall have the capability to selectively store portions of video evidence, and to be able to uniquely mark / indicate each stored portion.
20.	The DDMS shall have the capability to support the display of multiple inputs to multiple outputs simultaneously.
21.	The DDMS shall have the capability to output information needed to support the presiding officer in administering the pre-hearing conferences and evidentiary hearings in various formats, including such items as: Displaying or Printing reports as well as the ability to produce ad hoc reports.
22.	The DDMS shall have the capability to provide for an electronic audit trail file for all data entered, updated, or deleted in the system databases and secure the access to those audit files in a manner that allows only authorized users to view them.
23.	The DDMS shall have the capability to support the capture of digital images of physical evidence.
24.	The DDMS shall have the capability to input and store information needed to support the transmission of DDMS data record information to SECY, including such items as: Record, Index and Proceeding Information
25.	The DDMS shall have the capability to support the creation of customized or ad hoc reports to assist the judges in reviewing the record captured during the hearing using a product such as Crystal Reports.
26.	The DDMS shall have the capability to highlight or annotate, through the use of an electronic whiteboard, and then optionally capture and store the annotated document in order to provide clarity or emphasis.

Item Number	Requirement
27.	The DDMS shall have the capability to receive, record and store information needed to assist with the creation of the hearing record, including, but not limited to, such items as: electronic and physical evidence, decisions, pre-filed testimony, pleadings and transcripts.
28.	The DDMS shall have the capability to output information needed to assist with the creation of the hearing record, including such items as: metadata, electronic reports, links, physical evidence and electronic data saved to CD, DVD or VHS format.
29.	The DDMS shall have the capability to provide searching of the DDMS record using one or more metadata fields.
30.	The DDMS shall have the capability to provide full-text index searching of the DDMS database.
31.	The DDMS shall have the capability to provide searching of the DDMS record using a combination of metadata and full-text searches.
32.	The DDMS shall have the capability to provide for the retrieval of the DDMS record from an internet based user using a web browser.
33.	The DDMS shall have the capability to output formatted information needed to support records management at pre-hearing conferences and hearings such as reports, addition of information, updating of information and indexing.
34.	The DDMS shall have the capability to export data to CD or DVD media.
35.	The DDMS shall have the capability to provide for voice-activated cameras to trigger the recording process, subject to over-ride by the clerk or presiding officer.
36.	The DDMS shall have the capability to receive, record, and store information needed to capture and retrieve transcribed testimony, including such items as: Audio tape, video tape, CD, DVD, oral argument, tele-conference or video conference.
37.	The DDMS shall have the capability to search and retrieve database information.
38.	The DDMS shall have the capability to support a real-time transcription of hearings.
39.	The DDMS shall have the capability to support the indexing of the transcribed record using metadata and full-text index searching.
40.	The DDMS shall have the capability to output information needed to assist judges with the generation and storage of notices, orders, directives, etc.
41.	The DDMS shall have the capability to provide for pre-defined search methods; tailored for the DDMS user to mitigate the need to enter many keystrokes when searching for information.
42.	The DDMS shall have the capability to support the casual, infrequent user that needs to search and retrieve information from the DDMS.
43.	The DDMS shall have the capability for advanced searching tools to find and manipulate information in theDDMS.
44.	The DDMS shall have the capability to manage the metadata information for each document.

Item Number	Requirement
45.	The DDMS shall have the capability to support the capture of documents.
46.	The DDMS shall have the capability to support the generation of a time-sequenced audio and/or video record of pre-hearing conferences and hearings.
47.	The DDMS shall have the capability to support various levels of user privileges to access or manageinformation in the DDMS.
48.	The DDMS shall have the capability to provide authorization based access to users and groups for specific information stored in the DDMS, e.g., a Protective Order File.
49.	The DDMS shall have the capability to support video capture for the judges, litigants, and individuals at the witness box.
50.	The DDMS shall have the capability to queue and present exhibits based on day or date range.
51.	The DDMS shall have the capability to receive, record and store information needed to assist with the capturing of all information presented and discussed during a hearing, including such items as: all forms of evidence, decisions, administrative management information, pleadings, and transcripts.
52.	The DDMS shall have the capability to utilize a robust calendar and scheduling system to schedule and track the following: Schedule sessions, for the duration of the hearing, by one witness, one exhibit, one issue (with related contentions), one contention, one party, one board, one judge, or any combination; Display and print schedule by session, by day, by week, by month, by year; Display, by sessions, the categories of witnesses, exhibits, boards, issues, contentions, parties, judges, and locations.
53.	The DDMS shall have the capability for a comprehensive central control unit which shall include the ability to control the display and presentation of information to specific monitor(s), microphones or any inputor output source.
54.	The DDMS shall have the capability to provide a proceeding recording, indexed and linked with relevant hearing transcripts.
55.	The DDMS shall have the capability to support the capture of the video and audio records of specific activities and information presented in the hearing.
56.	The DDMS shall have the capability to selectively retrieve new or updated data from EHD
57.	The DDMS shall have the capability to support the electronic document formats supported by the EHD which are currently PDF and TIFF and shall be consistent with E-Rules. Note: E-Rules 2.1011,(2)(iii):"following acceptable formats: ASCII, native word processing (Word, WordPerfect), PDF Normal, or HTML."
58.	The DDMS shall have the capability to support the generation of a full-text index for each pre-filed document where applicable.
59.	The DDMS shall have the capability to support the retrieval and display of pre-filed documents, with minimal loss of resolution.

Item Number	Requirement
60.	The DDMS shall have the capability to input and store information needed to support the presiding officer in administering the pre-hearing conferences and evidentiary hearings, including such items as: Motions, Briefs, Petitions , Electronic Records (e.g., LSN, EHD), Testimony, Witness Lists, Exhibits, References to Models, video, Responses, Contentions and other information.
61.	The DDMS shall have the capability to export metadata and DDMS record context to SECY via ADAMS. This transmission does not include video and audio content.
62.	The DDMS shall have the capability to allow authorized users the ability to display, insert or update information stored in the DDMS database e.g., mark evidence as accepted, rejected, or withdrawn.
63.	The DDMS shall have the capability to store documents issued by ASLBP in PDF or TIFF formats.
64.	The DDMS shall have the capability to receive, record and store records management information needed to support records management at pre-hearing conferences and hearings.
65.	The DDMS shall have the capability to support the packaging and export of records to be stored on the ADAMSsystems with SECY. The exported records shall include the electronic documents and related metadata required for indexing the records and referencing physical evidence.
66.	The DDMS shall have the capability to output information needed to capture and retrieve transcribed testimony. The transcribed testimony should be text searchable and include links to associated exhibits.
67.	The DDMS shall have the capability to "chat" with other authorized connected DDMS users.
68.	The DDMS shall have the capability to retrieve DDMS database information.
69.	The DDMS shall identify DDMS hearing records to be filed and transmitted with SECY on a daily basis.
70.	The DDMS shall identify DDMS records required to be filed with SECY at the end of the hearing, including any records of related hearings.
71.	The DDMS shall include all pleadings, orders, transcripts, pre-filed testimony, and exhibits as a part of the record.
72.	The DDMS shall integrate with the existing NRC enterprise infrastructure in coordination with the OCIO.
73.	The DDMS shall make optimal use of existing communications infrastructure including but not limited to the LANs, WAN and telecommunications.
74.	The DDMS shall provide a basic entry level manual and on-line help as a training and reference tool.
75.	The DDMS shall provide a capability to support the Americans with Disabilities Act requirements as applicable. This shall include a capability to provide enhancements for the hearing impaired and closed caption and assisted listening devices.

Item Number	Requirement
76.	The DDMS shall provide a capability to display evidence on each monitor or display in the hearing room, within 10 seconds of the request to display the document, for 90% of all requests.
77.	The DDMS shall provide a capability to electronically stamp a document with the official exhibit number and other document identifying information. Additionally the DDMS shall allow an authorized user the ability to place the stamp in different pre-defined locations on the document.
78.	The DDMS shall provide a capability to seal or unseal of any portion, or entire sections, of the official record.
79.	The DDMS shall provide a capacity to store video and other forms of multimedia data, based on the following criteria: Hearing proceedings will be digitized and compressed for storage and distribution via video streaming technologies, Hearing video will be retained online for the course of the hearing, and stored on removable media (near-line) for future retrieval, Analog video clips or recordings presented as exhibits in the hearing will be digitized and compressed for storage in a digital format. This digitized information will be stored online in the DDMS database. Video recordings are estimated to be stored in a Microsoft Media format at 56, 150, and 500 Kbps. For the total of 150 days, the total estimated recording requirement is 1215 GB.
80.	The DDMS shall provide a chronological listing of all Federal Register Notices, pleadings, and pre-filed information sortalbe by Docket Date that support the hearing.
81.	The DDMS shall provide a mechanism to have the new or updated version of pre-filed documents and metadata from SECY.
82.	The DDMS shall provide a simple means to provide an information (image, text, video) retrieval process that does not require entering of IT type search parameters such as the development of predefined queries or reports and utilizing touch screen technology monitors.
83.	The DDMS shall provide access to the EHD to support review of the current electronic docket.
84.	The DDMS shall provide access to electronically available copies of the rules, policies, and procedures that govern the hearing.
85.	The DDMS shall provide after the execution of a query, the results of the query along with the report criteria used to generate the report.
86.	The DDMS shall provide capacity to store 10% of the high-end estimates for HLW repository document storage in the LSN. The LSN is estimated to store a total of 20,000,000 pages by 2004, the expected time frame for the HLW repository proceeding. At 50 KB/page, this results in approximately 100 GB to store electronic images in the DDMS. Full text of the images (at 5 KB/page) requires an additional 10 GB of storage. tadata storage is estimated to require an additional 5 GB of storage based on an average of 10 pages/document and 2.5KB of metadata information/document.
87.	The DDMS shall provide for a password authentication mechanism in accordance with Management Directive 12.5.

Item Number	Requirement
88.	The DDMS shall provide for a restricted access capability to play back selected portions of the testimony presented. This shall include the audio, video, and any transcript created during the hearing.
89.	The DDMS shall provide for secure access of Judges electronic Notes.
90.	The DDMS shall provide for the recording of the following events and activities per Management Directive 12.5 which includes but is not limited to: Changes to the password file, User logons, both successful and unsuccessful, Unsuccessful or unauthorized attempts to access system resources, Unsuccessful or unauthorized attempts to perform functions denied by lack of assigned privilege, Successful or allowed access to security-critical objects (operating system files, data noted as sensitive), Changes to DDMS users' security privileges, Changes to DDMS users' profiles or groups, Changes to DDMS security configuration, Modification to DDMS databases and Changes to individual's password.
91.	The DDMS shall provide internet access to external databases and subscription services for the purpose of providing research support to the ASLBP.
92.	The DDMS shall provide limited web access to research tools to support litigant research.
93.	The DDMS shall provide system performance monitoring and system failure isolation.
94.	The DDMS shall provide the capability to link witnesses to appropriate exhibits.
95.	The DDMS shall provide the capability to receive, record, and store information needed to assist judges with developing and documenting decisions, including such items as: accessing NRC.gov and Westlaw/Lexis.
96.	The DDMS shall provide the capability to maintain an index that includes the unique LSN identifier, provided by EHD, for each entity (document, files, etc.) originally stored in the LSN.
97.	The DDMS shall provided the capability to create private secure electronic notes for authorized users or groups. The Notes shall be time stamped or otherwise linked to the transcript.
98.	The DDMS shall record evidence, presented in different electronic formats, during the hearing that is displayed on projectors or other monitors in the hearing room.
99.	The DDMS shall restrict all users, except authorized users and groups, from deleting information stored in the DDMS.
100.	The DDMS shall store all electronic documents or multimedia files to be included in the DDMS database.
101.	The DDMS shall support advanced search capabilities which include but are not limited to, natural language searches, literal searches, and text searches to assist judges in finding evidentiary information.
102.	The DDMS shall support capability to have the translation of languages to and from U.S. English for non-English speaking participants though the use of an interpreter. The translation should be transmitted through the hearing room audio system utilizing infrared hearing devices or similar devices.

Item Number	Requirement
103.	The DDMS shall support capturing multimedia electronic information.
104.	The DDMS shall support capturing of pre-filed documents from electronic and electronically scanned paper formats especially in cases where a signed document is required.
105.	The DDMS shall support independent or private retrieving and viewing of hearing or record information as determined by user access ID and assigned security access group.
106.	The DDMS shall support integration with Open Document Management Architecture (ODMA) compliant products such as Microsoft Word, Microsoft Excel, Adobe Acrobat and Corel WordPerfect. This integration is required to allow issuance documents to incorporate text information from the existing record without retyping the existing information.
107.	The DDMS shall support intercommunications with the EHD in Rockville, MD, MD, Maryland to obtain EHD updates and to transfer hearing record updates to the SECY organization. This interface shall be available 7 days per week, for a minimum of 1 hour each day.
108.	The DDMS shall support local and remote access to DDMS data for a scheduled 22 hours per day, 7 days per week.
109.	The DDMS shall support multiple location hearing rooms including a portable DDMS system ensuring that data is synchronized between all DDMS systems.
110.	The DDMS shall support playback of selected portions or time slots of the proceeding recording for user on the DDMS LAN, the NRC LAN or accessing DDMS from the Internet.
111.	The DDMS shall support storing references to non-electronic exhibits as descriptive profile information.
112.	The DDMS shall support the active synchronization of transcribed information with electronic information referenced by the transcript.
113.	The DDMS shall support the aggregation of information across multiple hearings, allowing search and retrieval across all hearing information with a single request for authorized users.
114.	The DDMS shall support the capability to selectively display information from all input sources in the hearing room, including computers, cameras, document cameras, DVD players, etc.
115.	The DDMS shall support the capability to update, modify or delete electronic information or references to exhibits previously stored in the record as authorized.
116.	The DDMS shall support the capability to display the presentation of physical evidence or exhibits to monitors or workstations inside and outside the hearing room. The system shall also support a variable zoom capability to selectively view specific details of the information being examined.
117.	The DDMS shall support the display of metadata or a profile for each entity stored in the DDMS record.

4. **Deliver updated key design documents**

Standard:

Delivery of updated key design documents to include the PDAD, LDD, PDD and TIP that conform to NRC's SDLCM guidelines within 14 days of the agreed upon delivery date.

QA Method:

A. 100% visual inspection.
B. IV & V Review

Additional Incentive/Deduction:

For each day key design documents are delivered late, beyond 14 days of the delivery date, $150.00 per document per day will be deducted from the Contractor's invoice

APPENDIX IX
Glossary

Acronym	Translation
A/V	Audio/Visual
ADA	Americans with Disability Act
AGP	Accelerated Graphics Port
ANACI	Access National Agency Check with Inquiries
ASCII	American Standard Code for Information Interchange
ASLBP	Atomic Safety and Licensing Board
BPA	Blanket Purchase Agreement
C.F.R	Code of Federal Regulations
CAL	Client Access License
CAT	Catagory
CCB	Configuration Control Board
CCITT	Consultative Committee International Telephone and Telegraph
CD	Compact Disc
CLIN	Contract Line Item
CO	Contracting Officer
COB	Close of Business
COM	Communications
COTS	Commercial Off the Shelf
CTF	Consolidated Test Facility
DBMS	DataBase Management System
DDMS	Digital Data Management System
DFS	Division of Facilities and Security
DOE	Department of Energy
DPC	Data Processing Center
DPD	Digital Presentation Devices
DVD	Digital Versatile Disk
EHD	Electronic Hearing Docket
EIE	Electronic Information Exchange
ERD	Entity-Relationship Diagrams

Acronym	Translation
FAR	Federal Acquisition Regulation
FTP	File Transfer Protocol
GB	Gigabyte
GHz	Gigahertz
GSA	General Services Administration
GUI	Graphical User Interface
HD	Harddrive
HLW	High Level Waste
IIS	Internet Information Server
IP	Internet Protocol
ISDN	Integrated Services Digital Network
IT	Information Technology
ITID	Information Technology Infrastructure Division
IV & V	Independent Verification & Validation
KVM	Keyboard, Video and Mouse
LAN	Local Area Network
LCD	Liquid Crystal Display
LDD	Logical Design Document
Mbps	Megabits per second
MD	Management Directive
MPEG	Moving Picture Experts Group
NIC	Network Interface Card
NRC	Nuclear Regulatory Commission
NRCAR	Nuclear Regulatory Commission Acquisition Regulations
NSA	National Security Agency
O&M	Operations and Maintenance
OCIO	Office of the Chief Information Officer
ODBC	Open Database Connectivity
OS	Operating System
PCI	Peripheral Component Interconnect
PC	Personal Computer

Acronym	Translation
PDAD	Production Design and Development
PDD	Physical Design Document
PDF	Portable Data Format
PDPS	Portable DDMS Production System
PERSEC	Personnel Security Branch
UPS	Uninterrupted Power Supply
QA	Quality Assurance
RAID	Redundant Array of Independent Drive
Ram	Random Access Memory
RDBMS	Relational Database Management System
SDLCM	System Development Life Cycle Management
SDLCMM	System Development Life Cycle Management Methodology
SDP	Software Development Plan
SEN	Software Engineering Notebook
SOW	Statement of Work
SQL	Structured Query Language
SSP	System Security Plan
STAMP	System Test and Acceptance Methodology Plan
TB	Terabyte
TIFF	Tag Image File Format
TIP	Tactical Integration Plan
TV	Television
TWFN	Two White Flint North
URL	Uniform Resource Locator
VCR	Video Cassette Recorder
VGA	Video Graphics Array
WAN	Wide Area Network
XML	Extensible Mark up Language

ATTACHMENT NO. 3

NRC FORM 187
(1-2000)
NRCMD 12

U.S. NUCLEAR REGULATORY COMMISSION

CONTRACT SECURITY AND/OR CLASSIFICATION REQUIREMENTS

AUTHORITY
The policies, procedures, and criteria of the NRC Security Program, NRCMD 12, apply to performance of this contract, subcontract or other activity.

COMPLETE CLASSIFIED ITEMS BY SEPARATE CORRESPONDENCE

1. CONTRACTOR NAME AND ADDRESS	A. CONTRACT NUMBER FOR COMMERCIAL CONTRACTS OR JOB CODE FOR DOE PROJECTS (Prime contract number must be shown for all subcontracts.)		2. TYPE OF SUBMISSION
To Be Competed			☑ A. ORIGINAL ☐ B. REVISED (Supersedes all previous submissions) ☐ C. OTHER (Specify)
	B. PROJECTED START DATE	C. PROJECTED COMPLETION DATE	
	09/01/2004	09/30/2005	

3. FOR FOLLOW-ON CONTRACT, ENTER PRECEDING CONTRACT NUMBER AND PROJECTED COMPLETION DATE

A. DOES NOT APPLY	B. CONTRACT NUMBER	DATE
☑		

4. PROJECT TITLE AND OTHER IDENTIFYING INFORMATION

DDMS Production System for Las Vegas Hearing Facility

5. PERFORMANCE WILL REQUIRE A. ACCESS TO CLASSIFIED MATTER OR CLASSIFIED INFORMATION ☐ YES (If "YES," answer 1-7 below) ☑ NO (If "NO," proceed to 5.C.)	NOT APPLICABLE	NATIONAL SECURITY		RESTRICTED DATA	
		SECRET	CONFIDENTIAL	SECRET	CONFIDENTIAL
1. ACCESS TO FOREIGN INTELLIGENCE INFORMATION	☐	☐	☐	☐	☐
2. RECEIPT, STORAGE, OR OTHER SAFEGUARDING OF CLASSIFIED MATTER. (See 5.B.)	☐	☐	☐	☐	☐
3. GENERATION OF CLASSIFIED MATTER.	☐	☐	☐	☐	☐
4. ACCESS TO CRYPTOGRAPHIC MATERIAL OR OTHER CLASSIFIED COMSEC INFORMATION.	☐	☐	☐	☐	☐
5. ACCESS TO CLASSIFIED MATTER OR CLASSIFIED INFORMATION PROCESSED BY ANOTHER AGENCY.	☐	☐	☐	☐	☐
6. CLASSIFIED USE OF AN INFORMATION TECHNOLOGY PROCESSING SYSTEM.	☐	☐	☐	☐	☐
7. OTHER (Specify)	☐	☐	☐	☐	☐

B. IS FACILITY CLEARANCE REQUIRED? ☐ YES ☐ NO

C. ☐ UNESCORTED ACCESS IS REQUIRED TO PROTECTED AND VITAL AREAS OF NUCLEAR POWER PLANTS.

D. ☐ ACCESS IS REQUIRED TO UNCLASSIFIED SAFEGUARDS INFORMATION.

E. ☑ ACCESS IS REQUIRED TO SENSITIVE IT SYSTEMS AND DATA.

F. ☑ UNESCORTED ACCESS TO NRC HEADQUARTERS BUILDING.

FOR PROCEDURES AND REQUIREMENTS ON PROVIDING TEMPORARY AND FINAL APPROVAL FOR UNESCORTED ACCESS, REFER TO NRCMD 12.

6. INFORMATION PERTAINING TO THESE REQUIREMENTS OR THIS PROJECT, EVEN THOUGH SUCH INFORMATION IS CONSIDERED UNCLASSIFIED, SHALL NOT BE RELEASED FOR DISSEMINATION EXCEPT AS APPROVED BY:

NAME AND TITLE	SIGNATURE	DATE
Carolyn A. Cooper, Contract Specialist	Carolyn A. Cooper	9/28/2004

7. CLASSIFICATION GUIDANCE

NATURE OF CLASSIFIED GUIDANCE IDENTIFICATION OF CLASSIFICATION GUIDES

8. CLASSIFIED REVIEW OF CONTRACTOR / SUBCONTRACTOR REPORT(S) AND OTHER DOCUMENTS WILL BE CONDUCTED BY:

- ☐ AUTHORIZED CLASSIFIER (Name and Title)
- ☑ DIVISION OF FACILITIES AND SECURITY

9. REQUIRED DISTRIBUTION OF NRC FORM 187 *Check appropriate box(es)*

- ☑ SPONSORING NRC OFFICE OR DIVISION (Item 10A)
- ☑ DIVISION OF CONTRACTS AND PROPERTY MANAGEMENT
- ☑ DIVISION OF FACILITIES AND SECURITY (Item 10B)
- ☑ CONTRACTOR (Item 1)
- ☑ SECURITY/CLASSIFICATION REQUIREMENTS FOR SUBCONTRACTS RESULTING FROM THIS CONTRACT WILL BE APPROVED BY THE OFFICIALS NAMED IN ITEMS 10B AND 10C BELOW.

10. APPROVALS

SECURITY/CLASSIFICATION REQUIREMENTS FOR SUBCONTRACTS RESULTING FROM THIS CONTRACT WILL BE APPROVED BY THE OFFICIALS NAMED IN ITEMS 10B AND 10C BELOW.

NAME (Print or type)	SIGNATURE	DATE
A. DIRECTOR, OFFICE OR DIVISION Jack G. Whetstine	SIGNATURE	DATE 5/03/04
B. DIRECTOR, DIVISION OF FACILITIES AND SECURITY ~~T.O.~~ T.O. MARTIN	SIGNATURE T.O. Martin	DATE 9/29/04
C. DIRECTOR, DIVISION OF CONTRACTS AND PROPERTY MANAGEMENT (Not applicable to DOE agreements)	SIGNATURE	DATE 9/30/04

REMARKS