King County

1200 King County Courthouse
516 Third Avenue
Seattle, WA 98104

KING COUNTY

Signature Report

September 10, 2013

Motion 13967

Proposed No. 2013-0307.2 **Sponsors** McDermott

A MOTION acknowledging receipt of a report detailing the methodology by which the King County television station will be upgraded to high-definition and full digital capabilities in compliance with the 2013 Budget Ordinance, Ordinance 17476, Section 63, Proviso P2.

WHEREAS, the 2013 Budget Ordinance, Ordinance 17476, Section 63, Proviso P2, requires the executive to file a motion and report by June 30, 2013, and

WHEREAS, the report details the method by which the King County television station will be upgraded to high-definition and full digital capabilities; and

WHEREAS, the King County civic television station manager will complete a benefit achievement plan for this project by October 1, 2013;

NOW, THEREFORE, BE IT MOVED by the Council of King County:

The report relating to the method by which the King County television station will be upgraded to high-definition and full digital capabilities in compliance with the 2013

Budget Ordinance, Ordinance 17476, Section 63, Proviso P2, which is Attachment A to this motion, is hereby acknowledged.

Motion 13967 was introduced on and passed by the Metropolitan King County Council on 9/9/2013, by the following vote:

Yes: 8 - Mr. Phillips, Mr. von Reichbauer, Ms. Hague, Ms. Patterson, Ms. Lambert, Mr. Dunn, Mr. McDermott and Mr. Dembowski
No: 0
Excused: 1 - Mr. Gossett

KING COUNTY COUNCIL
KING COUNTY, WASHINGTON

Larry Gossett, Chair

ATTEST:

Anne Noris, Clerk of the Council

Attachments: A. King County Television High-Definition Upgrade Project Charter, dated August 2013

13967

Attachment A

King County

King County Television High-Definition Upgrade

Project Charter

Version 3.1

August 2013

Revision History

Revision	Date	Change Description	Author
NA	NA	Background documentation provided by James Burns	burnsj
1.0	02.25.2013	Started charter document	fisherm
1.1	02.27.2013	Review of first draft	boudreauc
1.2	02.28.2013	Document updates	fisherm
1.3	03.04.2013	Incorporate meeting feedback	fisherm
1.4	03.11.2013	Updates to stakeholders/steering committee, add project number	fisherm
1.5	03.12.2013	Added draft schedule	fisherm
1.6	03.18.2013	Incorporate meeting feedback	fisherm
1.7	03.20.2013	Review updates	boudreauc
1.8	03.21.2013	Update PMO charges	fisherm
1.9	03.22.2013	Update schedule & add floor plan	fisherm
2.0	04.02.2013	Added KCIT management comments	boudreauc
2.1	04.03.2013	Formatted roles/responsibilities table, updated project number, added master control construction costs/schedule	fisherm
2.2	04.04.2013	Schedule updates	fisherm/boudreauc
2.3	04.12.2013	Streaming video additions	fisherm
2.4	04.15.2013	Added project number to proviso text, added playback system to scope and budget	fisherm
2.5	04.29.2013	Add P2 recorders, Apple RAID array, update streaming numbers	fisherm
2.6	05.03.2013	Incorporate feedback from Trever Esko, Michael Woywod, Michael Alvine, David Mendel, Anh Nguyen, Jennifer Giambattista, Christine Chou	fisherm
2.7	05.03.2013	Changed procurement methodology per recommendation from John Weist	fisherm
2.8	05.08.2013	Review	boudreauc
2.9	05.08.2013	Final review changes and proviso text addition	fisherm
3.0	05.15.2013	Changed document title, removed draft watermark	fisherm
3.1	08.20.2013	Add updated schedule and budget estimates, update roles & responsibilities and steering committee members	fisherm

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Signature below signifies sponsor approval of the King County TV HD Upgrade Project Charter.

Document Approval:	
Michael Woywod, Chief of Staff, King County Council	
Signature	*Date*

Project Charter Purpose

This project charter is intended to clearly explain the purpose for the project, state the project vision and goals, and formally authorize the project work to begin. The charter also includes scope, high-level timeframe, high-level budget, governance structure, resources, roles and responsibilities, key deliverables, and any other relevant information such as assumptions, dependencies, issues/risks, and success measures.

In addition, this project charter document will serve as the response to the County Council proviso below.

Project Description and Scope

Project Definition and Rationale

King County Civic Television was established by ordinance and began cablecasting in 1996. At that time, television and the associated production and cablecasting equipment available were based on analog signals and standard-definition (SD) video. As a result King County TV was built, and is still, primarily an analog/standard-definition operation.

In early 2013, Comcast switched all channels in the Seattle area to 100 percent digital signals, but to date they have not required a digital signal from their cablecast partners (known as Public, Education, and Government (PEG) programmers). If they do so before the high-definition (HD)/digital upgrade project is complete, station staff has put together a contingency plan.

To quickly comply with this change, King County TV would purchase an analog-to-digital converter. The signal sent by King County TV would be routed through the converter before being sent to Comcast. This temporary solution would allow King County TV to continue cablecasting on the Comcast network but a more robust and permanent solution needs to be implemented.

As the television industry has evolved to digital signals and high-definition video, King County TV has been replacing end-of-life equipment with digital and high-definition capable gear where possible given the current infrastructure. The following digital and/or high-definition equipment has been deployed:

- Pro-Bel Digital Video Router
- Chyron Graphics Generators
- Panasonic High-definition Field Cameras
- HD/SD TriCaster for the Mobile Production Unit
- Final Cut Pro with HD capability for the video editing platform

In spite of the upgrades that have been made in both digital and high-definition capabilities, King County TV equipment is still approximately 80 percent analog and standard-definition. Moving to digital will give King County TV a modern signal for cablecasting and streaming video and HD will provide a crisp and clear picture. The majority of the current station infrastructure has become obsolete, repair and maintenance are cost prohibitive, and a full station overhaul is needed.

In addition to the digital revolution, the television industry has also moved from standard to high-definition. King County and Comcast are currently in negotiations for a new cable franchise agreement and once in place, King County TV will have a high-definition channel on their systems. King County has a current agreement with Wave Broadband and will be able to cablecast in HD in their 1,700 subscriber area once the HD equipment is implemented.

To continue providing the highest level of service to the citizens of King County, the station needs to keep pace with these changes in the television industry. Due to the age of the current infrastructure now is an ideal time to pursue an upgrade to digital and high-definition technologies and equipment.

Proviso

The 2013 Adopted Budget Ordinance 17476, Section 63 included the following proviso regarding the King County Civic Television HD upgrade:

P2 PROVIDED FURTHER THAT:

Of the amount appropriated for CIP xxxxx. King County civic television upgrade, no funds shall be encumbered or expended for any purpose other than an upgrade to King County civic television equipment and facilities. These funds shall only be spent on implementation of a project described and recommended in a report by the department of information technology (KCIT) and the King County civic television station manager and approved by the council by motion. The motion shall reference the proviso's ordinance, ordinance section, proviso number and subject matter in both the title and body of the motion.

The executive must file the report and motion by June 30, 2013. in the form of a paper original and an electronic copy with the clerk of the council, who shall retain the original and provide an electronic copy to all council members, the council chief of staff and the lead staff for the budget and fiscal management committee or its successor.

Project Objectives

- Contract with an industry consultant to design the HD/digital system, and to develop the Statement of Work (SOW) and Request for Proposal (RFP) for the purchase/install of the system
- Perform a RFP process for the purchase and installation of a new HD/digital system
- Implement the new HD/digital King County TV system
- Improve ergonomic function of the operational and work spaces at the station

In Scope

- Contract with industry consultant for system design, and development of statement of work and RFP for purchase and installation
- Finalize and accept proposed design, statement of work and RFP documentation for purchase and installation of HD/digital system
- RFP and contract for new system
- Implementation of new system
- Equipment rack room upgrades
- Master control upgrades
- Studio control upgrades
- Council chamber upgrades
- LED lighting upgrades
- Master Control and Studio audio boards
- Studio microphones
- Uninterruptable Power Supply (UPS) upgrades
- Add an edit bay to the existing Master Control room
- Mac Pros for edit bays
- Improve streaming video capabilities of King County TV
- New automated playback system
- Reconfigure/upgrade work spaces (edit bays, control rooms) to modern ergonomic standards
- Possible expansion/upgrades to electrical system if vendor deems it necessary

Out of Scope

Items listed below are out of scope either because they have already been accomplished in the equipment replacement cycle or are up-to-date with modern technology standards.

- Any equipment recently purchased or replaced with HD/digital capabilities
- Construction changes to server room, racks, and networking. Unless changes are deemed necessary to prepare the existing space for HD and digital systems.
- Edit bay software
- Field audio equipment (boards, microphones)
- Any of the items assumed in-scope that are later deemed unnecessary by the initial vendor's analysis and design
- Purchase of software or tools to support ancillary operations

Primary Processes Involved

- Design consulting contract RFP
- Equipment procurement and installation RFP
- Facilities Management Division (FMD) construction process for Master Control Room edit bay addition
- FMD electricians for possible electrical system expansion
- Contract negotiations
- Project scheduling
- System implementation
- System testing
- Media announcement of HD cablecasting (through multiple venues: Office of Cable Communications, Executive Office's Public Information Officer, Council Communications Director, or via area cable providers)

Primary Systems and Interfaces Involved

- Day-to-day operations/cablecasting of King County TV
- King County TV high-definition channel on cable provider networks
- Council meetings
- Pre-recorded shows
- Remote meetings/recordings
- Streaming video

Assumptions

- A preliminary budget of $1,000,000 is currently appropriated for this project.
- If the consultant determines alterations to the current physical space are needed, additional funding will be requested and approved, and project schedule will be adjusted.
- Phase 1-C (Consulting RFP/SOW Development) contractor will be paid for out of existing King County TV operating funds.
- Project charter will be approved as proviso response in time to adhere to tentative schedule indicated in this document.
- RFP advertisement must take place after charter approval by Council.
- FMD will be able to get the Master Control room construction finalized and scheduled in a reasonable timeframe after the body of work is agreed to.
- LED lighting upgrades will yield savings on HVAC costs.
- Twenty-five percent of a King County Information Technology (KCIT) Senior Project Manager's time will be required for the project.
- Coaxial cable running to Council Chambers will not need to be replaced.
- Contract negotiations with Comcast for a King County HD channel are ongoing, the HD equipment will be capable of sending standard-definition signals so the Comcast channel will continue to function until the HD portion can be implemented upon contract completion.
- Contract negotiations with Wave Broadband have been completed for HD cablecasting.
- Per FMD, no competing or impacting FMD projects are scheduled during planned project timeline.
- Washington State Sales Tax is calculated at 9.5 percent and is assumed to remain at that level for the life of the project.

Risks and Concerns

- Vendor who wins contract will be unfamiliar with the current environment which may add time to the schedule and additional expense to the project
- Identifying opportunities for station downtime during installation, testing, and cut-over
- Possible electrical issues if HD/digital equipment requires more power/light

Key Dependencies and Success Factors

Key Dependencies:

- Installation schedule coincides with County Council recesses

Success Factors:

- King County TV is able to cablecast with an HD/digital signal in production
- Production workflow and process improved
- Video specialists working in ergonomically correct spaces
- Upgraded monitoring capability

Key Success Indicators

Metric Description	Target	Minimum Acceptable
Benefit Realization documentation and Contingency Plan	Deliver Benefit Realization documentation and Contingency Plans to stakeholders	Q3 2013
RFP Initiation – Design Consultant	SOW and RFP development	Q3 2013
Proviso Response & RFP	Proviso response approved/RFP advertisement	Q3 2013
Design Consultant RFP Complete	Vendor chosen	Q1 2014
System Design	Design new HD system	Q2 2014
RFP Initiation – Purchase & Install	SOW and RFP development	Q3 2014
Purchase & Install RFP Complete	Vendor chosen	Q3 2014
Digital capabilities	King County TV operating with full digital capabilities	Q1 2015
High-definition capabilities	King County TV operating with full high-definition capability	Q1 2015

Roles and Responsibilities

Role	Individual/Agency	Responsibilities
Project Sponsor	• Michael Woywod, Chief of Staff, King County Council	• Promote the acceptance and understanding of the project • Approve direction and policies for the project • Approve documents • Ensure stakeholders' needs are being met • Monitor progress against plan and budget; suggest course corrections • Set vision, define scope, and communicate priorities to the organization • Ultimate authority to changes in scope, schedule and budget • Ultimate arbitrator on high-level issues and risks • Formally authorize project and make decisions on behalf of Project Team • Approve and authorize project plan and budget • Final acceptance of the completed project • Attend sponsor and steering committee meetings as needed
Steering Committee	• Jason King, Director of Government Relations, King County Council • Belinda Rose, Customer Services Director, King County Information Technology	• Promote the acceptance and understanding of the project • Monitor progress against plan and budget; suggest course corrections • Assist in issue resolution • Attend Steering Committee meetings • Review key deliverables • Ensure commitment and participation of key user groups

Role	Individual/Agency	Responsibilities
		• Resolve inter-department issues
Council Project Lead	• James Burns, Station Manager, King County Council	• Assist in issue resolution • Attend appropriate meetings • Provide oversight of consultant deliverables • Monitor progress against plan and budget; suggest course corrections • Ensure project goals and action plan conform to overall goals and expected quality levels • Ensure commitment and participation of key groups • Encumber for project use the playback system budget of $221,000 • Review key deliverables / milestones
Project Manager	• Cheryl Boudreau, IT Project Manager, King County Information Technology	• Approve and authorize project plan • Sign-off on all project deliverables, ensure acceptance criteria has been met, approve consultant invoices • Resolve day-to-day issues that impede project progress • Broker relationship with stakeholders within and outside the project • Represent the project to governance • Maintain project SharePoint site • Monitor progress against plan and budget; suggest course corrections • Facilitate communication between Project Team • Ensure project goals and action plan conform to overall goals and expected quality levels • Ensure commitment and participation of key user groups • Coordinate final approval for deliverables • Support project coordination and communication

Role	Individual/Agency	Responsibilities
		• Manage project contract • Formally close the project • Manage the project budget, scope, schedule milestones, and deliverables
Stakeholders	• Frank Abe, Director of Communications, King County Executive • Michael Alvine, Sr. Legislative Analyst, King County Council • James Burns, Station Manager, King County Council • Larry Gossett, Councilmember, King County Council • Pat Hamacher, Sr. Principal Legislative Analyst, King County Council • Bill Kehoe, Chief Information Officer, King County Information Technology • David Mendel, Regional Communication Services Manager, King County Information Technology • Nick Smith, e-Government Manager, King County Information Technology	• Attend stakeholder meetings • Keep apprised of timelines, issues, and risks • Provide timely feedback and input throughout the life of the project • Promote the acceptance and understanding of the project to their department
Team Members	• Alan Coleman, Operations Specialist, King County Council • Mike Fisher, IT Project Manager, King County Information Technology • Kimberly Hill, Reporter/Producer, King County Council • Chris Jaramillo, Cable Communications Assistant, King County Information Technology • Brian Starr, Operations Specialist, King County Council	• Complete project tasks in accordance with schedule • Attend project team meetings • Notify Project Manager and Project Lead of any issues that may affect project schedule • Respond in a timely fashion to project requests

Related Dependent Projects

Any dependent projects are unknown at this time.

Decision Making Approach

Decision Component	Description
Process	Recommendations for major decisions will be documented by the project team and will be taken to steering committee for a decision. Steering committee members are responsible for collecting input from their constituency/teams when necessary. When a final decision is reached it will be recorded in a decision log and communicated to stakeholders. Stakeholders are responsible for communicating decisions back to their constituency/teams.
Venue	Day-to-day decisions will be made in project team meetings, major decisions will be made in organized steering committee meetings where a majority of impacted groups are present.
Timing	Recommendations will be shared at least one steering committee meeting in advance of finalizing the decision.
Documentation	Key decisions will be documented in the project decision log.
Communication	Key decisions will be communicated: • From the project team to stakeholders: in regular Stakeholder Status Reports which will be posted in the Innotas system and on the project SharePoint site • From stakeholders to their constituent groups: through the stakeholder's preferred method

Project Timeline and Budget

Major Phases and Deliverables

Task Name	Duration	Start	Finish
King County Television HD Upgrade	569 days	Mon 2/4/13	Tue 4/21/15
Phase 1: Project Initiation	135 days	Mon 2/4/13	Tue 8/13/13
Phase 1-A: Charter Document & Team Formation	135 days	Mon 2/4/13	Tue 8/13/13
Phase 1-B: Governance Documentation	20 days	Wed 5/15/13	Wed 6/12/13
Phase 1-C: Consulting RFP/SOW Development	10 days	Wed 5/15/13	Wed 5/29/13
Phase 2: Design Consultant RFP	166 days	Thu 5/30/13	Mon 1/27/14
Phase 2-A: Design Consultant RFP Process	121 days	Thu 5/30/13	Tue 11/19/13
Phase 2-B: Design Consultant Contract Process	45 days	Wed 11/20/13	Mon 1/27/14
Phase 3: Master Control Construction	45 days	Thu 9/26/13	Mon 12/2/13
Phase 4: System Design & Purchase/Install RFP	61 days	Tue 1/28/14	Tue 4/22/14
Phase 5: Purchase/Install RFP	155 days	Wed 4/23/14	Tue 11/25/14
Phase 5-A: Purchase/Install RFP Process	110 days	Wed 4/23/14	Tue 9/23/14
Phase 5-B: Contract	45 days	Wed 9/24/14	Tue 11/25/14
Phase 6: Implementation Process	80 days	Wed 11/26/14	Tue 3/17/15
Phase 6-A: Playback System Install	15 days	Wed 11/26/14	Tue 12/16/14
Phase 6-B: Council Chamber Upgrades	2 days	Thu 12/18/14	Sun 12/21/14
Phase 6-C: Equipment Rack Room/Master Control Upgrades	30 days	Wed 12/17/14	Tue 1/27/15
Phase 6-D: Studio Control Upgrades	20 days	Wed 1/28/15	Tue 2/24/15
Phase 6-F: Edit Bay Reconfigurations	15 days	Wed 2/25/15	Tue 3/17/15
Phase 7: Project Close-Out	25 days	Wed 3/18/15	Tue 4/21/15

Project Funding and Budget

King County Television HD Upgrade Funding Sources			
Source			**Total Funding**
Project 1119229 Funds			$1,000,000
Current King County TV Operating			$221,000
Total Funding			**$1,221,000**

King County Television HD Upgrade Cost Estimate			
Item	**Quantity**	**Item Cost**	**Total Cost**
Council Chambers			
HD Cameras	6	$18,000	$108,000
Microphone System Block	1	$4,000	$4,000
Camera 6 Telemetrics	1	$5,000	$5,000
Computer Scan Converter	1	$3,500	$3,500
Document Camera	1	$5,000	$5,000
LED Lighting	20	$2,000	$40,000
Control System	1	$20,000	$20,000
Overhead Projector	1	$15,000	$15,000
Council Chambers Total			**$200,500**
Main Equip/Rack Room			
Main Video Router	1	$80,000	$80,000
Test Equipment	1	$30,000	$30,000
Test Monitoring	1	$25,000	$25,000
Cable TV Feed Equipment	1	$12,000	$12,000
UPS System	1	$5,000	$5,000
A/V DA's	1	$17,000	$17,000
Video Patch Panels	1	$9,000	$9,000

Audio Patch Panels	1	$10,000	$10,000
Rack Room Total			**$188,000**
MCR			
Production Switcher	1	$40,000	$40,000
Audio Board	1	$2,000	$2,000
P2 Recorders	2	$5,000	$10,000
Character Generator	1	$10,000	$10,000
Intercom Station	1	$1,200	$1,200
Monitoring	1	$15,000	$15,000
MCR Total			**$78,200**
Studio			
Production Switcher/TriCaster	1	$25,000	$25,000
HD Studio Cameras	3	$18,000	$54,000
LED Lighting	20	$2,000	$40,000
Audio Board	1	$2,000	$2,000
Microphones	8	$500	$4,000
P2 Recorders	2	$5,000	$10,000
Monitoring	1	$25,000	$25,000
Studio Total			**$160,000**
Playback System			
Hardware	1	$120,000	$120,000
Miscellaneous	1	$10,000	$10,000
Playback System Total			**$130,000**
Existing Equipment Upgrades			
Pro-Bel Digital Router HD Cards	2	$10,000	$20,000
Mac Pros for Edit Bays	3	$3,675	$11,025
RAID Arrays for Edit Bays	3	$1,100	$3,300
Cable/Wiring Upgrades	1	$5,000	$5,000
SAN Capacity Upgrade	1	$30,000	$30,000

Existing Equipment Upgrades Total			**$69,325**
Streaming Video			
Laptop	1	$2,000	$2,000
Software	1	$2,000	$2,000
Air Card	1	$200	$200
Miscellaneous Equipment	1	$2,000	$2,000
Streaming Video Total			**$6,200**
Equipment Total			**$832,225**
Consulting			
Technical Consultant/Design	1	$100,000	$100,000
Training	1	$10,000	$10,000
Engineering/Installation (approx. 30%)	1	$249,668	$249,668
Consulting Total			**$359,668**
Sub-Total			**$1,191,893**
WSST (9.5%)			**$113,230**
Sub-Total			**$1,305,122**
King County Internal Costs			
Construction (Master Control/Edit Bay)			
FMD Project Estimate	1	$33,000	**$33,000**
Construction Total			**$33,000**
KCIT PMO Charges			
Senior Project Manager - 2013	9	$4,200	$37,800
Senior Project Manager - 2014	12	$4,425	$53,100
Senior Project Manager - 2015	4	$4,600	$18,400

KCIT PMO Total	**$109,300**
Sub-Total King County Internal Costs	**$142,300**
Total	**$1,447,422**
Contingency (15%)	**$195,768**
Grand Total w/Contingency	**$1,643,191**

Appendix A: Project Oversight Roles and Responsibilities

Project Component	Project Manager	Project Lead	Project Sponsor	Steering Committee	Project Team
Scope	R	C	A	I	C
Budget	R	I	A	I	C
Design	R	C	A	I	C
Approach	R	C	A	I	C
Schedule	R	C	A	I	C
Deliverables & Work Products	R	R	A	I	R
Detailed Design	R	C	A	I	R
Configuration	R	R	A	I	R
Testing	R	R	A	I	R
Launch	R	R	A	I	R
Support	R	R	A	I	R
Hand-Off	R	I	A	I	I

RACI Matrix Definition (http://en.wikipedia.org/wiki/Responsibility_assignment_matrix)

A RACI matrix describes the participation by various roles in completing tasks or deliverables for a project or business process. It is especially useful in clarifying roles and responsibilities in cross-functional/departmental projects and processes.

- **Responsible**
  Those who do the work to achieve the task – there is at least one role with a participation type of responsible, although others can be delegated to assist in the work required.
- **Accountable**
  The person ultimately answerable for the correct and thorough completion of the deliverable or task, and the one who delegates the work to those responsible – an *accountable* must sign off (approve) on work the *responsible* provides.
- **Consulted**
  Those whose opinions are sought, typically subject matter experts.
- **Informed**
  Those who are kept up-to-date on progress, often only on completion of a task or deliverable.

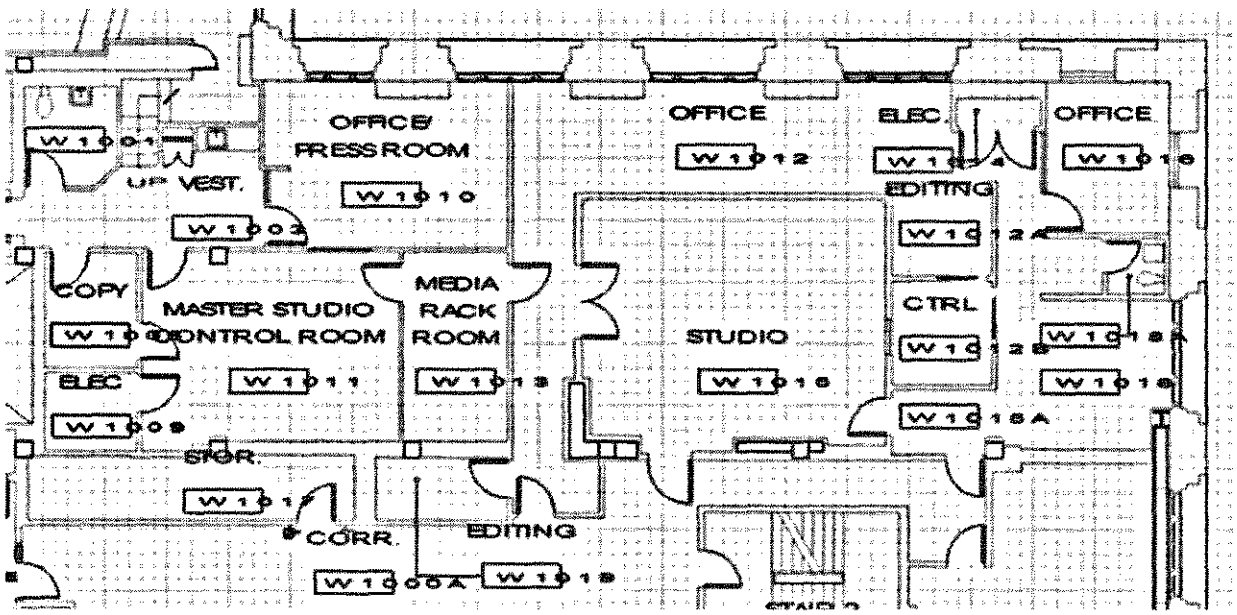
Appendix B: Glossary of Terms

TERM	DEFINITION
Analog Television	Involves the broadcasting of encoded analog audio and analog video signal, one in which the information to be transmitted, the brightness of colors of the points in the image and the sound waves of the audio signal are represented by continuous variations of some aspect of the signal (amplitude, frequency, or phase) (http://en.wikipedia.org/wiki/Analog_television)
Digital Video Router	A Video router (or Matrix) is used for transporting video signals from sources or inputs to output destinations. (http://en.wikipedia.org/wiki/Video_router)
Digital Television (DTV)	The transmission of audio and video by digitally processed and multiplexed signal. (http://en.wikipedia.org/wiki/Digital_television)
Electronic Field Production (EFP)	Television industry term referring to a video production which takes place in the field, outside of a formal television studio. EFP places the emphasis on high-quality, multiple-camera setup photography, and advanced graphics and sound. (http://en.wikipedia.org/wiki/Electronic_field_production)
Electronic News Gathering (ENG)	Broadcast news industry description of television producers, reporters and editors making use of electronic video and audio technologies for gathering and presenting news. (http://en.wikipedia.org/wiki/Electronic_news-gathering)
Graphics Generator	Also called a Character Generator – is a device or software that produces static or animated text (such as news crawls and credit rolls) for keying into a video stream. (http://en.wikipedia.org/wiki/Character_generator)
High-definition Television (HDTV)	Provides resolution that is substantially higher than standard-definition, when transmitted at two megapixels per frame HDTV has about five times as many pixels as standard-definition television. The common types are 1080p, 1080i and 720p. (http://en.wikipedia.org/wiki/High-definition_television)
Master Control Room (MCR)	Houses equipment that is too noisy or runs too hot for the PCR. It also makes sure coax cable and other wire lengths and installation requirements keep within manageable lengths, since most high-quality wiring runs only between devices in this room. This can include actual circuitry and connections between • Character generator (CG) • Camera control units (CCU) • Digital video effects (DVE) • Video servers • Video switcher • VTRs • Patch panels

TERM	DEFINITION
	(http://en.wikipedia.org/wiki/Master_control)
Non-Linear Editing (NLE)	Technique used in digital systems where a digital source (such as digitized film, video, or audio) is used to create an edited version, not by rearranging the source file, but by creating a detailed list of edit points (ins, outs, fades, etc.). The editing software reads the edit list and creates a new version (the edit) by applying the list parameters to the playback of the source. This type of non-destructive editing is one of the advantages digital editing has over cutting film or magnetic tape. (http://en.wikipedia.org/wiki/Non-linear_editing_system)
Production Control Room (PCR)	Also sometimes called the Studio Control Room (SCR) or Gallery. Place where the composition of the outgoing program takes place. PCR will typically include: • Video monitor wall, with monitors for program, preview, VTRs (video tape recorders), cameras, graphics and other video sources. Sometimes this is many individual television/computer monitors, but sometimes it is a virtual monitor with one or more large video screens, each capable of displaying multiple sources • Video switcher, a large control panel used to select the multiple-camera setup and other various sources to be recorded or seen on air • Professional audio mixing console and other audio equipment such as effects devices • Character Generator (CG), which creates the majority of the names and full digital on-screen graphics that are inserted into the program lower third portion of the television screen • Digital Video Effects (DVE), for manipulation of video sources. In newer vision mixers the DVE is integrated. • Still store, or still frame, device for storage of graphics or other images • Technical director's station, with waveform monitors, vector scopes, and the camera control units (CCU) or remote control panels for the CCUs • In some facilities the VTRs are located in the PCR, but are also often found in the central apparatus room • Intercom and IFB (interruptible feedback) equipment for communication with talent and television crew • A signal generator to genlock all of the video equipment to a common reference that requires colorburst (http://en.wikipedia.org/wiki/Production_control_room#Production-control_room)
PEG Television	Public, Educational, and Government access television. (http://en.wikipedia.org/wiki/Public,_educational,_and_government_access)
PTZ Camera	Pan-tilt-zoom camera. Camera with remote directional and zoom control. In television production PTZ controls are used with professional video cameras in

TERM	DEFINITION
	television studios and referred to as camera robotics. These cameras can be remotely controlled by automation systems. (http://en.wikipedia.org/wiki/Pan%E2%80%93tilt%E2%80%93zoom_camera)
Standard-definition Television (SDTV)	A television system that uses a resolution that is not considered to be either high-definition or enhanced-definition. The two common types are 480i and 576i. (http://en.wikipedia.org/wiki/Standard-definition_television)
Studio Floor	The actual stage on which the actions that will be recorded/broadcast will take place. The studio floor has the following characteristics: • Decoration and/or sets • Professional video camera on pedestals • Microphones • Stage lighting rigs and associated controlling equipment • Several video monitors for visual feedback from the production control room (PCR) • Public address system for communication • Glass window between PCR and studio floor for direct visual contact (desired but not always possible) (http://en.wikipedia.org/wiki/Television_studio)

Appendix C: Current King County TV Floor Plan



Updated Materials 8.20.2013

Updated Budget Estimate

King County Television HD Upgrade Cost Estimate			
Item	**Quantity**	**Item Cost**	**Total Cost**
Council Chambers			
HD Cameras	6	$18,000	$108,000
Microphone System Block	1	$4,000	$4,000
Camera 6 Telemetrics	1	$5,000	$5,000
Computer Scan Converter	1	$3,500	$3,500
Document Camera	1	$5,000	$5,000
LED Lighting	20	$2,000	$40,000
Control System	1	$20,000	$20,000
Overhead Projector	1	$15,000	$15,000
Council Chambers Total			**$200,500**
Main Equip/Rack Room			
Main Video Router	1	$80,000	$80,000
Test Equipment	1	$30,000	$30,000
Test Monitoring	1	$25,000	$25,000
Cable TV Feed Equipment	1	$12,000	$12,000
UPS System	1	$5,000	$5,000
A/V DA's	1	$17,000	$17,000
Video Patch Panels	1	$9,000	$9,000
Audio Patch Panels	1	$10,000	$10,000
Rack Room Total			**$188,000**
MCR			
Production Switcher	1	$40,000	$40,000
Audio Board	1	$2,000	$2,000
Furniture/Console	1	$10,000	$10,000
P2 Recorders	2	$5,000	$10,000

Character Generator	1	$10,000	$10,000
Intercom Station	1	$1,200	$1,200
Monitoring	1	$15,000	$15,000
MCR Total			**$88,200**
Studio			
Production Switcher/TriCaster	1	$25,000	$25,000
HD Studio Cameras	3	$18,000	$54,000
LED Lighting	20	$2,000	$40,000
Furniture/Console	1	$10,000	$10,000
Audio Board	1	$2,000	$2,000
Microphones	8	$500	$4,000
P2 Recorders	2	$5,000	$10,000
Monitoring	1	$25,000	$25,000
Studio Total			**$170,000**
Playback System			
Hardware	1	$120,000	$120,000
Miscellaneous	1	$10,000	$10,000
Playback System Total			**$130,000**
Existing Equipment Upgrades			
Pro-Bel Digital Router HD Cards	2	$10,000	$20,000
Cable/Wiring Upgrades	1	$5,000	$5,000
SAN Capacity Upgrade	1	$30,000	$30,000
Existing Equipment Upgrades Total			**$55,000**
Streaming Video			
Laptop	1	$2,000	$2,000
Software	1	$2,000	$2,000
Air Card	1	$200	$200
Miscellaneous Equipment	1	$2,000	$2,000
Streaming Video Total			**$6,200**

Equipment Total			**$837,900**
Consulting			
Design	1	$75,000	$75,000
Training	1	$10,000	$10,000
Engineering/Installation (approx. 30%)	1	$251,370	$251,370
Consulting Total			**$336,370**
Sub-Total			**$1,174,270**
WSST (9.5%)			**$111,556**
Sub-Total			**$1,285,826**
KCIT PMO Charges			
Senior Project Manager - 2013	4	$4,607	$18,429
Senior Project Manager - 2014	10	$4,854	$48,541
KCIT PMO Total			**$66,969**
Total			**$1,352,795**
Contingency (15%)			**$192,874**
Grand Total w/Contingency			**$1,545,669**
Project Funds from Playback System Budget			**$221,000**
Project Funds Required			**$1,324,669**

Updated Schedule Estimate

% Complete	Task Name	Duration	Start	Finish
35%	King County Television HD Upgrade	457 days	Mon 2/4/13	Fri 11/14/14
94%	Phase 1: Charter Document & Team Formation	155 days	Mon 2/4/13	Wed 9/11/13
50%	Phase 2: SOW/RFP Development	13 days	Thu 9/12/13	Mon 9/30/13
0%	Phase 3: Procurement Process	151 days	Tue 10/1/13	Tue 5/6/14
0%	Phase 3-A: RFP Process	91 days	Tue 10/1/13	Tue 2/11/14
0%	Phase 3-B: Contract	60 days	Wed 2/12/14	Tue 5/6/14
0%	Phase 4: Final System Design & Equipment Order	45 days	Wed 5/7/14	Tue 7/8/14
0%	Phase 5: Implementation Process	53 days	Wed 7/9/14	Fri 9/19/14
0%	Phase 5-A: Playback System	16 days	Wed 7/9/14	Wed 7/30/14
0%	Phase 5-B: Studio Control Upgrades	15 days	Wed 7/16/14	Tue 8/5/14
0%	Phase 5-C: Master Control Upgrades	13 days	Wed 7/30/14	Fri 8/15/14
0%	Phase 5-D: Council Chamber Upgrades	9 days	Wed 8/13/14	Mon 8/25/14
0%	Phase 5-E: Equipment Rack Room Upgrades	16 days	Fri 8/22/14	Fri 9/12/14
0%	Phase 5-F: LED Lighting Upgrades	10 days	Mon 9/8/14	Fri 9/19/14
0%	Phase 6: Project Close-Out	30 days	Mon 9/22/14	Fri 10/31/14