RELEASE AUTHORIZATION

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This document was reviewed following the procedures described in WHC-CM-3-4 and is:

APPROVED FOR PUBLIC RELEASE

WHC Information Release Administration Specialist:

Kara M. Broz — January 16, 1995

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7. Abstract

This document provides a Work Plan for the design, installation, and testing associated with the 241-A-701 Compressed Air System and Motor Control Center upgrade.

DISCLAIMER

8. RELEASE STAMP

RECORD OF REVISION	(1) Document Number WHC-SD-WM-WP-218	Page i

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WORK PLAN FOR UPGRADING THE 241-A-701 COMPRESSED AIR SYSTEM AND MOTOR CONTROL CENTER

CHANGE CONTROL RECORD

(3) Revision	(4) Description of Change - Replace, Add, and Delete Pages	Authorized for Release	
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WORK PLAN FOR UPGRADING

THE 241-A-701 COMPRESSED AIR SYSTEM

November 21, 1994

Author

K. E. Carpenter

TABLE OF CONTENTS

1.0 INTRODUCTION

This work plan will outline the responsibilities associated with the 241-A-701 Compressed Air System (CAS) and Motor Control Center (MCC) upgrades. All activities required to design, install, test, and operate the modified systems are addressed in this document. Upgrades Technical Support (UTS) of TWRS Engineering is responsible for the completion of all tasks associated with this upgrade. UTS will coordinate the upgrade activities, and ensure all tasks are successfully completed on or before the scheduled dates.

2.0 SCOPE

The activities listed in this work plan will be performed to provide necessary support for the CAS and MCC upgrade effort. The scope of planned activities includes design, installation, testing, and turnover to Operations. Please note that the Compressor and MCC upgrade designs are essentially complete. Remaining design items are included in the next section.

2.1 Objectives

The primary objective of the 241-A-701 Compressor and MCC Upgrade is to provide a reliable source of process and instrument compressed air to the A, AX, AY, and AZ tank farms. Items which must be completed to reach the objective are provided below for information only. Key elements include:

- seismic analysis for coolant system pipe supports.
- flow calculations for coolant system.
- electrical and mechanical engineering field support.
- removal of unneeded equipment in the compressor building.
- removal of unneeded equipment on the 241-A-702 Ventilation System.
- installation of compressors and associated components.
- installation of applicable ventilation system components.
- installation of MCC and associated components.
- functional testing of air, ventilation, and electrical systems.
- completion of "Acceptance for Beneficial Use" (ABU).
- system turnover to Operations.

2.2 Deliverables

The deliverables for this upgrade effort will be assigned and tracked using the customized ABU form shown in Appendix A. Upon completion of the ABU form, all deliverables necessary for system turnover from UTS to East Tank Farms Operations will be accomplished.

As a result of upgrade and ABU completion (see Section 5.0 for schedule), this Work Plan will be revised to show the finished ABU form. Additionally, an index will be provided listing all documentation associated with this upgrade.

3.0 DESCRIPTION

The 241-A-701 CAS supplies process and instrument air to A, AX, AY, AZ tank farms. A reliable CAS is needed to support tank level measurement and leak detection indication, supply air operated valves, and purge instrumentation or equipment.

The four 50 hp, vertical, single stage, reciprocating, oil lubricated air compressors currently in use at 241-A-701 are worn and as a result supply large amounts of oil-entrained air which is detrimental to the instrumentation and air dryer.

3.1 Upgrade Description

The CAS and MCC upgrade for 241-A-701 includes the installation of a modified MCC, new electrical cables and raceways from the substation to the MCC, two Ingersoll-Rand PHE 12½ & 7 X 6, non-lubed, two-stage, reciprocating air compressors, and ancillary equipment associated with their installation. See H-2-85072, Revision 1, Sheet 2, for a layout of the air system, and sketches SK-2-24096, Sheets 3 and 5, and SK-2-24098, Sheet 3, for the electrical system layout.

3.2 Engineering Tasks

All engineering tasks required for this work plan to be implemented, and the 241-A-701 CAS and MCC upgrades to continue, are included in Appendix B as part of the ABU Team Sheets. At the completion of the Operability Test Procedure (OTP), the ABU Team Sheets will be updated during revision of this work plan.

3.2.1 Design Inputs

As defined in this work plan, the design inputs for the 241-A-701 CAS upgrade includes any system criteria, parameters, bases, or other design requirements which the final upgrade design is based upon. Any remaining design inputs will be reviewed and approved in accordance with WHC-CM-3-5, (WHC 1994a).

Design Bases and Criteria have been provided for items whose current design parameters were modified during the upgrade design process for the 241-A-701 CAS and MCC. The initial Design Criteria for the 241-A-701 CAS were recorded in WHC-SD-WM-RPT-047 (Morris 1992b). Work Plan WHC-SD-WM-WP-161 (Morris 1992a), provided and referenced bases for the upgrade design. Some items found in the report and work plan were re-evaluated in a more recent study (Minteer 1993a), which provided additional criteria and bases in support of the upgrade design. These three documents provide some of the Design Bases and Criteria for the 241-A-701 CAS upgrade. Additional Design Bases for this upgrade are included as general note one on H-2-85072, Sheet 1, Revision 1, (note that some of the listed documents will need to be revised before the upgrade is complete). Specific design criteria are contained in these documents and as general notes on drawing H-2-85072.

In support of the Design Bases, the Safety Classification of systems, components, and parts will be evaluated as necessary. The Safety Class (SC) of the 241-A-701 CAS is currently SC 2 as defined in WHC-SD-WM-SEL-020 (Kidder 1993). By modifying some of the equipment and components in the 241-A-702 Ventilation System, the Safety Class of the 241-A-701 CAS and electrical distribution system will be downgraded to SC 3. Specific tasks required to downgrade the CAS, as outlined in WHC-SD-WM-ES-237 (Minteer 1993a), are within the scope of this work plan and include:

- installing a SC 2 accumulator (ECN 198280 and change ECN 609710) to supply compressed air to three ventilation system valve actuators.

- replacing a SC 2 pneumatic steam supply system valve (ECN 198281) with an electric actuating valve.

- re-sizing three orifices (ECN 198282) in the 241-A-401 Condenser Building cooling water system.

- performing an Unreviewed Safety Question (USQ) screening/evaluation for all applicable modifications per WHC-IP-0842 (WHC 1994c).
  NOTE: This has been completed (Minteer 1993b).

- supplying the necessary information to the SAR development group, or producing the necessary ECNs, so that all affected safety documentation can be revised to reflect the new 241-A-701 CAS and MCC configuration and operating parameters.

3.2.2 Design Outputs

The majority of design media needed for the removal and installation of 241-A-701 CAS and MCC has been completed. Forthcoming design media will be initiated, completed, and released in accordance with the current revision of WHC-CM-6-1 (WHC 1994b). The design outputs may include any ECNs against current drawings and supporting documents or EDTs releasing entirely new drawings or supporting documents. All documents used to support design analyses will be released as engineering documents per requirements in WHC-CM-6-1 (WHC 1994b). Design Services will provide support to modify or initiate any demolition or installation drawings.

3.3 Design Verification

To ensure that inputs to the upgrade design are technically adequate, design verification will be performed. All design inputs will require the appropriate review process and design verification per WHC-CM-6-1 (WHC 1994b).

A Formal Design Review of the compressor and MCC designs was performed and documented in WHC-SD-WM-FDR-006 (Freeman 1993). The formal design review was performed on all available WHC controlled design documents and any applicable design inputs for the upgrade.

3.4 Installation and Testing

The installation of new components must allow the 241-A-701 CAS and MCC to operate safely and within the design parameters. Waste Tank Upgrade, Installation, and Testing, of TWRS Plant, will provide the necessary resources for system installation. To support the installation, a SC 2 Interim Air System was designed per the criteria outlined in WHC-SD-WM-DB-019 (Minteer 1994) and ECNs 603445 and 603446.

The final system installation will be verified by testing. The tests shall be in accordance with WHC-CM-6-1 (WHC 1994b) and include Acceptance and Operability Tests. The ATP has been released (Desantis 1994) and the OTP is drafted with a scheduled release date of December, 13, 1994. Specific testing responsibilities are detailed in the procedures.

4.0 ORGANIZATIONAL RESPONSIBILITIES

The tasks listed on the ABU team sheets in Appendix B will be required to test, maintain, and operate the upgraded 241-A-701 CAS and MCC systems. The individuals or groups identified as the "TWRS Upgrade Team" in Appendix B are responsible to complete the tasks assigned to them. As additional support is required, the team sheets will be modified to include all necessary organizations or individuals. Signatures on the Direct Revision (ECN 615819 that implements Revision 1

of this work plan) indicate concurrence that the tasks are accepted by the responsible individuals listed for each task and the organizations they represent. Please note that the due dates shown for each task on the ABU team sheets are the result of input by the ABU team members, and are provided in this work plan for reference purposes only.

5.0 SCHEDULE

This work plan establishes the schedule to be followed for upgrade completion. The baseline schedule for this upgrade supports an installation completion date of March 24, 1995, for the CAS and MCC. A productivity incentive establishes a target date for installation completion of February 24, 1995. Turnover of the MCC to Operations is due by May 26, 1995. System testing, ABU closure, and turnover to Operations for the CAS is scheduled for completion by June 16, 1995.

A detailed schedule has been generated in support of the baseline schedule and is being utilized by the ABU team to track upgrade commitments. A CENRTC upgrade to the 241-A-701 Building HVAC, not included in the scope of this work plan, will be tracked on the detailed schedule for the CAS and MCC upgrade.

6.0 COST ESTIMATE

The cost estimate (see Appendix C) for this upgrade consists of a Rough Order of Magnitude (ROM), Estimate At Completion (EAC) for associated upgrade activities. The cost estimate in Appendix C is divided into two parts; the first applicable to installation activities, the second for required turnover activities.

7.0 UNCERTAINTIES

To permit the design and installation effort outlined in this work plan to continue, justification for downgrading the 241-A-701 CAS from SC 2 to SC 3 has been provided (see Section 3.2.1). The justification to downgrade the Safety Class of the 241-A-701 CAS has been addressed in detail in WHC-SD-WM-ES-237 (Minteer 1993a) and WHC-SD-WM-DA-137 (Minteer 1993b), which have been released as Impact Level 2SQ and 2ESQ engineering documents. Therefore, the remaining uncertainties (if any) concerning the downgrade justification should be minimal. UTS will proceed with the installation of the design outlined in this work plan and downgrade the Safety Classification of the 241-A-701 CAS and MCC to SC 3.

REFERENCES

Desantis, G. N., 1994, *Acceptance Test Procedure for 241-A-701 Air Compressor Upgrade*, WHC-SD-WM-ATP-083, Rev. 0, WHC, Richland, Washington.

Freeman, R. D., 1993, *241-A-701 Compressor Upgrade Final Design Review Report*, WHC-SD-WM-FDR-006, Rev. 0, WHC, Richland, Washington.

Kidder, R. J., 1993, *Aging Waste Tank Interim Safety Equipment List*, WHC-SD-WM-SEL-020, Rev. 0, WHC, Richland, Washington.

Minteer, D. J., 1993a, *241-A-701 Compressor Upgrade Engineering Study*, WHC-SD-WM-ES-237, Rev. 0, WHC, Richland, Washington.

Minteer, D. J., 1993b, *Safety Classification of the 241-A-701 Compressed Air System*, WHC-SD-WM-DA-137, Rev. 0, WHC, Richland, Washington.

Minteer, D. J., 1994, *Design Basis for the 241-A-701 Construction Compressed Air System*, WHC-SD-WM-DB-019, Rev. 0, WHC, Richland, Washington.

Morris, K. L., 1992a, *Work Plan for 241-A-701 Compressor Upgrade*, WHC-SD-WM-WP-161, Rev. 0, WHC, Richland, Washington.

Morris, K. L., 1992b, *241-A-701 Compressed Air System Criteria*, WHC-SD-WM-RPT-047, Rev. 0, WHC, Richland, Washington.

WHC, 1994a, *Document Control and Records Management Manual*, WHC-CM-3-5, Rev. (Rel. 26), WHC, Richland, Washington.

WHC, 1994b, *Standard Engineering Practices*, WHC-CM-6-1, Rev. (Rel. 60), WHC, Richland, Washington.

WHC, 1994c, *Waste Tanks Administration*, WHC-IP-0842, Rev. (Rel. 42), WHC, Richland, Washington.

APPENDIX A

Program/Project Title: 241-A-701 CAS and MCC Upgrade ETN: 94-0011

DOCUMENTATION REQUIRED for ACCEPTANCE FOR BENEFICIAL USE

DESCRIPTION		RESPONSIBILITY
ENGINEERING		
• Engineering Task Plan (ETP)	[ ]	
• Activity Schedule	[ ]	
• Interim Safety Basis - update	[ ]	
• Safety Assessment (SA)	[ ]	
• Safety Equipment List (SEL)	[ ]	
• Operational Safety Requirements (OSR) - or update existing	[ ]	
• Operational Safety Document(s) (OSD) - or update existing	[ ]	
• Design Criteria	[ ]	
• Design Requirements	[ ]	
• System Description	[ ]	
• Test Plan/Specifications	[ ]	
• Acceptance Test Procedure (ATP) and Acceptance Test Report (ATR)	[ ]	
• Operability Test Procedure (OTP) and Operability Test Report (OTR)	[ ]	
• Environmental Permit	[ ]	
• Hazardous Waste Disposal Plan/Procedures	[ ]	
• Solid Waste Disposal Plan/Procedures	[ ]	
• Stress/Seismic Analysis	[ ]	
• Stress/Design Reports	[ ]	
• Design Specifications	[ ]	
• Equipment Specifications	[ ]	
• Procurement Specifications	[ ]	
• Final Design Drawing(s)	[ ]	
• Installation Drawing(s)	[ ]	
• Installation Work Plan	[ ]	
• As-built Drawing(s)	[ ]	
• Interface Control Drawing(s)	[ ]	
• IEFD Drawing(s)	[ ]	
• Systems Drawing(s)	[ ]	
• Drawing Tree	[ ]	
• Electrical Load Calculations	[ ]	
• Short Circuit & Coordination Study	[ ]	

DESCRIPTION		RESPONSIBILITY
ENGINEERING cont'd		
• Incorporate outstanding project generated ECNs	[ ]	
• Software Configuration Management Plan	[ ]	
• System Requirements Specs.	[ ]	
• Validation & Verification Records	[ ]	
TRAINING		
• Training Plan	[ ]	
• Training Manuals	[ ]	
• Training to Operating Crews	[ ]	
• Training to Maintenance Crews	[ ]	
• Training Mock-Up	[ ]	
OPERATIONS/ MAINTENANCE		
• Operating Procedures	[ ]	
• Surveillance Procedures	[ ]	
• Calibration Procedures	[ ]	
• Preventative Maintenance Procedures	[ ]	
• Repair/Maintenance Procedures	[ ]	
• Functional Check Procedures	[ ]	
• CBRS (PM/S) Data Sheets	[ ]	
• Vendor Information Files	[ ]	
• Spare Parts List	[ ]	
• Spare Parts in Stock	[ ]	
QUALITY ASSURANCE		
• Inspection Plan	[ ]	
• QAPP	[ ]	

APPENDIX B

TWRS UPGRADE TEAM - 241-A-701 CAS & MCC

Maintenance Upgrade Tasks	WHC Manager Engineer (Design Agent)	Plant Engineering Manager Cog Engineer (Design Authority)	Operations Manager Operations Rep.	Maintenance Engineering Manager Engineer	Quality Assurance WHC	Environmental WHC	Upgrades Major Maint Manager PIC
701-A Compressor	Bill Jenkins Keith Carpenter	Ryan Dodd Bill Meeuwsen (Gary Tardiff)	Jim Badden Mark Hunn	Denny Hert Larry Orcutt	Don Board	L Diediker	Jim Crawford Gary Moe
701-A MCC	John Propson Gurdhian Singh	Ryan Dodd Bill Meeuwsen (Gary Tardiff)	Jim Badden Mark Hunn	Denny Hert Jake Jacobsen	Don Board	L Diediker	Bill Bryant Al Coffman

Ray Thygesen - Team Scheduler
Jake Jacobson - Team Coordinator

ACCEPTANCE for BENEFICIAL USE (ABU) TEAM SHEETS Actionee/Due Date			
DESCRIPTION	**RESPONSIBILITY**	**DUE DATE**	**STATUS**
ENGINEERING (AGENT)	**JENKINS/PROPSON**		
Engineering Task Plan (ETP)	Keith Carpenter	x	Complete
Engineering Task Number (ETN)	Keith Carpenter	x	ETN # 94-0011
Design Schedule	Keith Carpenter Gurdhian Singh	x	Complete
Test Plan/Specifications	Keith Carpenter	x	Complete
Acceptance Test Procedures (ATP) [release/do/report]	Keith Carpenter	@ ATP Completion	ATP Released/ATR Pending ATP completion
Release Operability Test Procedure	Keith Carpenter	12/13/94	Draft 90% complete
Environmental requirements and documentation	Keith Carpenter	x	Complete
Special Hazardous Waste Disposal Plan/Procedures	Keith Carpenter	x	Covered by standard procedures
Special Solid Waste Disposal Plan/Procedures	Keith Carpenter	x	Covered by standard procedures
Procurement Specifications (Vendor/QA/etc)	Gurdhian Singh Keith Carpenter	x	Complete
Evaluate Essential Materials Requirements (consumable chemicals, etc)	Keith Carpenter	x	No ongoing chemical usage identified
Identify Required Vendor Information	Keith Carpenter Gurdhian Singh	12/29/94	Ongoing
Drawings Supporting Installation	Gurdhian Singh Keith Carpenter	02/24/95	Ongoing through installation completion
Operations Essential Drawings Complete for Turnover	Keith Carpenter Gurdhian Singh	02/24/95	ECNs and print markups ongoing
Develop Spare Parts List	Gurdhian Singh Keith Carpenter	12/29/94	Coordinate with Maintenance Engineering and System Cog.
Check in Progress Activities for Interface	Keith Carpenter Gurdhian Singh		Ongoing with input from team members

ACCEPTANCE for BENEFICIAL USE (ABU)
TEAM SHEETS
Actionee/Due Date

DESCRIPTION	RESPONSIBILITY	DUE DATE	STATUS
Review Prior ECN's	Keith Carpenter Gurdhian Singh	x	Complete
Close out/Work complete ECN's and Provide Funding for As-Builts	Gurdhian Singh Keith Carpenter	02/24/95	Design Services will provide as-builts. PICs to identify completed work.
Human Factors Review	Gurdhian Singh	02/14/95	Suzanne Lindberg will complete analysis
Field ECN's Reviewed and Released	Keith Carpenter Gurdhian Singh	04/14/95	Ongoing per field requirements
Design Reviews (30, 60, 90)	Gurdhian Singh Keith Carpenter	x	Complete (WHC-SD-WM-FDR-006)
Check Corrective Maintenance JCS Packages Against Upgrade Scope	Keith Carpenter Glenn Hester	01/18/95	
Identify, Order and Distribute Vendor Inform.	Keith Carpenter Gurdhian Singh	03/02/95	Ongoing with input from Maintenance Engineering and System Cog.
Develop Operating Procedures	Keith Carpenter	02/27/95	Interim POP complete. Complete upgrade procedure development ongoing.
Input Training/Procedure Recommendations for J-6	Keith Carpenter Gurdhian Singh	02/27/95	Input required by TWRS training (Louis Simmons)
Incorporate ICF/KH Paper (PCP, BOM, etc) into Retrievable Files	Keith Carpenter	02/24/95	Work Plan, REV 2, will index all related documents (including ICF/KH).
Identify PM/CBRS Procedures and Periodicities	Gurdhian Singh Keith Carpenter	02/01/95	Input required from Maintenance Engineering.
Develop PM/S Data Sheets	Keith Carpenter Gurdhian Singh	02/24/95	Ongoing with input from Maintenance Engineering and System Cog.
Transfer Project File to Storage after Completion	Keith Carpenter	06/16/95	All documentation to be released through CDWS
ENGINEERING (AUTHORITY)	**RA DODD**		
Initial Review for Unresolved Safety Question	Gurdhian Singh Keith Carpenter	x	Complete
USQ Screen/Eval. for Procedures	Bill Meeuwsen	03/24/95	
Safety Documents/Compliance	Bill Meeuwsen	06/16/95	ECNs 604901-4
Operability Test Report (OTR)	Bill Meeuwsen	@ OTP comp.	Dependent upon completion of OTP

ACCEPTANCE for BENEFICIAL USE (ABU)
TEAM SHEETS
Actionee/Due Date

DESCRIPTION	RESPONSIBILITY	DUE DATE	STATUS
Assemble/Prepare Turnover Documentation	Keith Carpenter Bill Meeuwsen	06/16/95	Ongoing to upgrade completion
Establish Design Requirements	Bill Meeuwsen	x	Complete
Approve Initial and Final Designs	Bill Meeuwsen Gurdhian Singh	@ ATP Completion	Initial Complete
Verify Vendor Information Requirements	Bill Meeuwsen	01/18/95	Ongoing
Verify Spare Parts List	Bill Meeuwsen	02/24/95	Coordinate with Maintenance Engineering and Design Agent
Update Critical Equipment List	Bill Meeuwsen	01/31/95	
Approve Operating Procedures	Bill Meeuwsen	03/24/95	Dependent upon POP completion
Issue Quality Assurance Program Plan (ABU/LOI/BOM)	Bill Meeuwsen	x	Complete
Develop Surveillance Procedures	Bill Meeuwsen	03/24/95	Confirm procedure writer commitment with Jerry Lehman
Develop Logs/Roundsheets	Bill Meeuwsen	03/24/95	Confirm procedure writer commitment with Jerry Lehman
TRAINING	**LE SIMMONS**		
Training Plan	Louis Simmons		
Operating Crew Training	Darrell Lamastus		
Maintenance Crew Training	Darrell Lamastus		
Update Certification Pkg	Darrell Lamastus		
OPERATIONS	**JJ BADDEN**		
Verify OSR/OSD compliance	Mark Hunn	05/26/95	
J-6 to Identify Training Requirements to Training	Mark Hunn		
Review Operating Procedures	Mark Hunn	03/24/95	(Shift Ops)
Review Alarm Response Procedures	Mark Hunn	03/24/95	(Shift Ops)
Emergency Preparedness	Mark Hunn	x	Complete

ACCEPTANCE for BENEFICIAL USE (ABU) TEAM SHEETS Actionee/Due Date			
DESCRIPTION	**RESPONSIBILITY**	**DUE DATE**	**STATUS**
Readiness Review Construction	Mark Hunn		(Dean House)
Readiness Review Startup	Mark Hunn		(Dean House)
Verify Priority, Agree to Support on Schedule	Mark Hunn		
Perform Operability Test Procedure	Mark Hunn	@ ATP Completion	
MAINTENANCE	**DG HERT**		
Review Design for Maintainability	Jake Jacobsen Larry Orcutt	x	Complete
Input Spare Parts Identification	Larry Orcutt Jake Jacobsen	03/24/95	Coordinate with System Cog. and Design Agent
Develop Functional Test Procedures	Jake Jacobsen Larry Orcutt	03/24/95	Coordinate with System Cog. and Design Agent
Develop Calibration Procedures	Larry Orcutt Jake Jacobsen	03/24/95	Coordinate with System Cog. and Design Agent
Input JCS Recall Procedures, Schedules, Data Sheets	Jake Jacobsen Larry Orcutt	03/24/95	Coordinate with System Cog.
Update the Comprehensive Equipment List	Larry Orcutt Jake Jacobsen	03/24/95	Coordinate with Byon Norris
Component Labeling	Jake Jacobsen Larry Orcutt	03/24/95	Coordinate transition before OTP with Byon Norris
Identify Training Requirements by J-6	Jake Jacobsen Larry Orcutt	02/24/95	Coordinate with TWRS training (Louis Simmons)
Update Alarm Maintenance Procedures	Larry Orcutt Jake Jacobsen	03/24/95	Coordinate with System Cog.
QUALITY ASSURANCE	**DC BOARD**		
Provide required reviews	QAE	05/16/95	
Review Inspection Plans	Gary Moe Al Coffman	x	Complete

ACCEPTANCE for BENEFICIAL USE (ABU)
TEAM SHEETS
Actionee/Due Date

DESCRIPTION	RESPONSIBILITY	DUE DATE	STATUS
Develop JCS Inspection Plan	Al Coffman Gary Moe	x	Complete
UPGRADES	**CRAWFORD/BRYANT**		
Coordinate Team Efforts	Jake Jacobson	06/16/95	Ongoing
Review Designs & ECN's	Gary Moe Al Coffman	02/24/95	Initial complete, ongoing for emerging changes
Prepare/Approve JCS Work Documents	Gary Moe Al Coffman	02/24/95	Initial complete, ongoing for emerging changes
Issue J-6 Identifying Training and Procedure Requirements	Gary Moe Al Coffman		May want/need separate J-6 for electrical and mechanical
Material Responsibility, BOM's, Track Procurement	Gary Moe Al Coffman	02/24/95	Ongoing through ATP
Develop Installation Schedule	Al Coffman Gary Moe	x	Tracked on detailed schedule
Coordinate Installation Plan	Al Coffman Gary Moe	02/24/95	Ongoing
Contractor QA Inspection Agreement (LOI, etc.)	Bill Bryant		
Prepare Budget and Manning Estimate for Installation	Bill Bryant Jim Crawford	x	Complete
Supervise Fabrication & Installation	Gary Moe Al Coffman	02/24/95	Ongoing
Negotiate Contractor Support	Jim Crawford	x	Complete
Establish ABU Team	Jake Jacobson	x	Complete
Post Upgrade Critique Develop/Promulgate Lessons Learned	Jake Jacobson	06/16/95	TBD @ installation completion
Maintain Team "ABU"	Jake Jacobson	06/16/95	Ongoing
Vendor Information to Design Agent	Gary Moe Al Coffman	02/24/95	Ongoing
MISCELLANEOUS			

ACCEPTANCE for BENEFICIAL USE (ABU)
TEAM SHEETS
Actionee/Due Date

DESCRIPTION	RESPONSIBILITY	DUE DATE	STATUS
Fire Protection Assessment	Gurdhian Singh Keith Carpenter		Fire Protection Engineer to provide assessment
Procure and Stage Material	Gary Moe Al Coffman	02/24/95	Ongoing (ICF/KH)
Identify Person With Overall Responsibility for Upgrade Completion	Bill Jenkins	x	Complete
Establish Funding (TPCN's)	Eric Biebesheimer	x	Complete
Get on Integrated Schedule	Bill Dunbar	x	Complete
Identify Milestones and Drivers	Ray Thygesen	x	Complete
Incorporate Design Media and Essential ECN's/As-built drawings	Harry Humphreys	03/24/95	(Design Services)
Issue Operating Procedures	Royal Shupe	03/24/95	
Issue Surveillance Procedures	Royal Shupe	03/24/95	
Issue Logs/Roundsheets	Royal Shupe	03/24/95	
Issue Level 6 Schedule	Ray Thygesen		
Punchlist/Open Items on Tracking system (ie.., QST)	Keith Carpenter Bill Meeuwsen	06/16/95	TBD during ABU activities

APPENDIX C

TABLE 1
INSTALLATION ACTIVITIES

RESPONSIBLE ORGANIZATION (See ABU Team Sheets for specific tasks)	REQUIRED FUNDING (ROM)
Design Agent (Mechanical and Electrical)	$70K
Operations (East Tank Farms)	$15K
Maintenance (East Tank Farms Maintenance Engineering)	$30K
Upgrades and Installation (Major Maintenance Upgrades)	$105K
Installation Support (hardware, HPTs, applicable crafts)	$1,100K
Quality Assurance and Quality Control	$25K
TOTAL EAC	**$1,345K**

TABLE 2
TURNOVER ACTIVITIES

RESPONSIBLE ORGANIZATION (See ABU Team Sheets for specific tasks)	REQUIRED FUNDING (ROM)
Design Agent (Mechanical and Electrical)	$35K
Design Authority (East Tanks Plant Engineering)	$15K
Upgrades and Installation (Major Maintenance Upgrades)	$5K
Design Services (ICF-KH)	$10K
Independent Safety (WTSA)	$5K
Quality Assurance and Quality Control	$5K
TOTAL EAC	**$75K**