

SCR TD
METRO RAIL PROJECT
SAFETY CERTIFICATION PROGRAM
CRITERIA CONFORMANCE CERTIFICATION

CONTRACT A615

PROTECTIVE COVERBOARD

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INTRODUCTION

This Criteria Conformance Verification package is submitted for review and compliance assessment in accordance with Rev. 1.1 of the SCRTD Metro Rail Project Safety Certification Plan dated June 1988. The purpose of this package is to document the incorporation of safety-related design criteria into the contract drawings and specifications. This activity is part of a multi-phased program to provide a traceable history of the Metro Rail Project Safety Program.

During design progression, MRTC Safety, Assurance & Security personnel, in conjunction with Rolf Jensen & Associates and the Metro Rail Project Fire/Life Safety Committee, have reviewed design documents at the 60%, 85%, and 100% levels. The 100% design review for this document was held in May and June of 1985. At each review level design review checklists were utilized and appropriate design review comments generated. Subsequent reviews were initiated by determining the resolution status of comments. Unresolved comments were repeated at each review level until resolution was achieved and verified.

Design review checklists for the Fire/Life Safety, System Safety, Security and System Assurance design criteria were updated in December 1986 to reflect the significant revisions made through the Change Request process. A vertical bar in the Req. I.D. column of the checklist was used to indicate only those changes which impacted design. For clarity, editorial revisions and clarifications of intent were not indicated on the checklist; however, all revisions were indicated in the text of the design criteria and pertinent Change Requests.

The scope of this contract encompasses the detail design, qualification testing, manufacture, testing, and delivering contact rail protective coverboard, support brackets, and associated hardware, including fastener assemblies and expansion joint hardware.

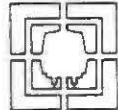
The comments included in this package represent the result of the reviews performed at the 100%. The checklists included are the updated checklists applied at the 100% review. Checklist references to specific drawing numbers or specific sections are based on the conformed contract documents, dated August 1988. Only those portions of checklists containing design criteria requirements directly applicable to this contract, including those for Fire/Life Safety, System Safety, Reliability, Maintainability, and Quality Assurance are included in this document. Design group responses to the comments are included in most cases, as well as resolution verification by MRTC Safety, Assurance, and Security personnel. Supporting correspondence has been included where deemed appropriate. Additionally, addenda issued for each contract were reviewed to determine impact on the Safety Certification Program. Addenda distribution letters, annotated to indicate results of the review, are included.

This verification package, once audited and confirmed by SCRTD, will become the primary documentation to allow the SCRTD to issue a Criteria Conformance Certification Certificate. Once issued, the Certificate will be appended to this document.



RTD
Metro Rail Project

CRITERIA CONFORMANCE VERIFICATION



Metro Rail Transit Consultants
DMJM/PBQD/KE/HWA

Safety Certification Program

DESIGN REVIEW CONTRACT NUMBER A615 Protective Coverboard

REVIEWING DISCIPLINE MRTC Safety, Assurance & Security

EXCEPTIONS NOTED: NONE

This verifies that the specifications and drawings of the above DESIGN REVIEW PACKAGE comply with the applicable SCRTD DESIGN CRITERIA for safety, fire/life safety, security and system assurance.

Signature J. N. Brown Date 4/12/89
Manager - MRTC Safety, Assurance & Security

Signature J. Mahapatra Date 4/13/89
Manager - MRTC System Division



SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

METRO RAIL PROJECT DESIGN REVIEW CHECKLIST

CERTIFIABLE ELEMENT: PROTECTIVE COVERBOARD

GROUP: MRTC-SAFETY, ASSURANCE & SECURITY

DATE: 11/15/88

REVIEWER: R. HARVEY

DISCIPLINE: FIRE/LIFE SAFETY - TRAINWAY FACILITIES

REVIEW REFERENCE: METRO RAIL PROJECT SYSTEM DESIGN

CONTRACT No.: A615

CRITERIA AND STANDARDS - VOL. 1, SECTION 2.3

REVIEW LEVEL: 100%

REQ. I.D.	REQUIREMENT	YES	NO	COMMENT
2.3.3	<u>TRAINWAY TRACTION POWER AND FACILITY WIRING</u>			
2.3.3.1	<u>Protective Coverboard</u>			
2.3.3.1.1	The protective coverboard provided on all contact rail sections shall be securely anchored.	X		Contract A615
	Coverboard materials shall be electrically insulating, capable of passing the ASTM E162-78 Radiant Panel Test with flame propagation index not exceeding 15, and capable of passing the ASTM E662-75 test with a smoke emission optical density index (D_s) of 200 or less in 4 minutes.	X		See Section 2, ¶ 3.2.2.C,D
2.3.3.1.2	The coverboard shall be capable of withstanding vertical mechanical load cycle and drop tests with loads of 250	X		See Section 2, ¶ 3.2.3, & Section 4, ¶ 4.6.4



SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

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DATE: 11/15/88

REVIEWER: R. HARVEY

DISCIPLINE: FIRE/LIFE SAFETY - TRAINWAY FACILITIES

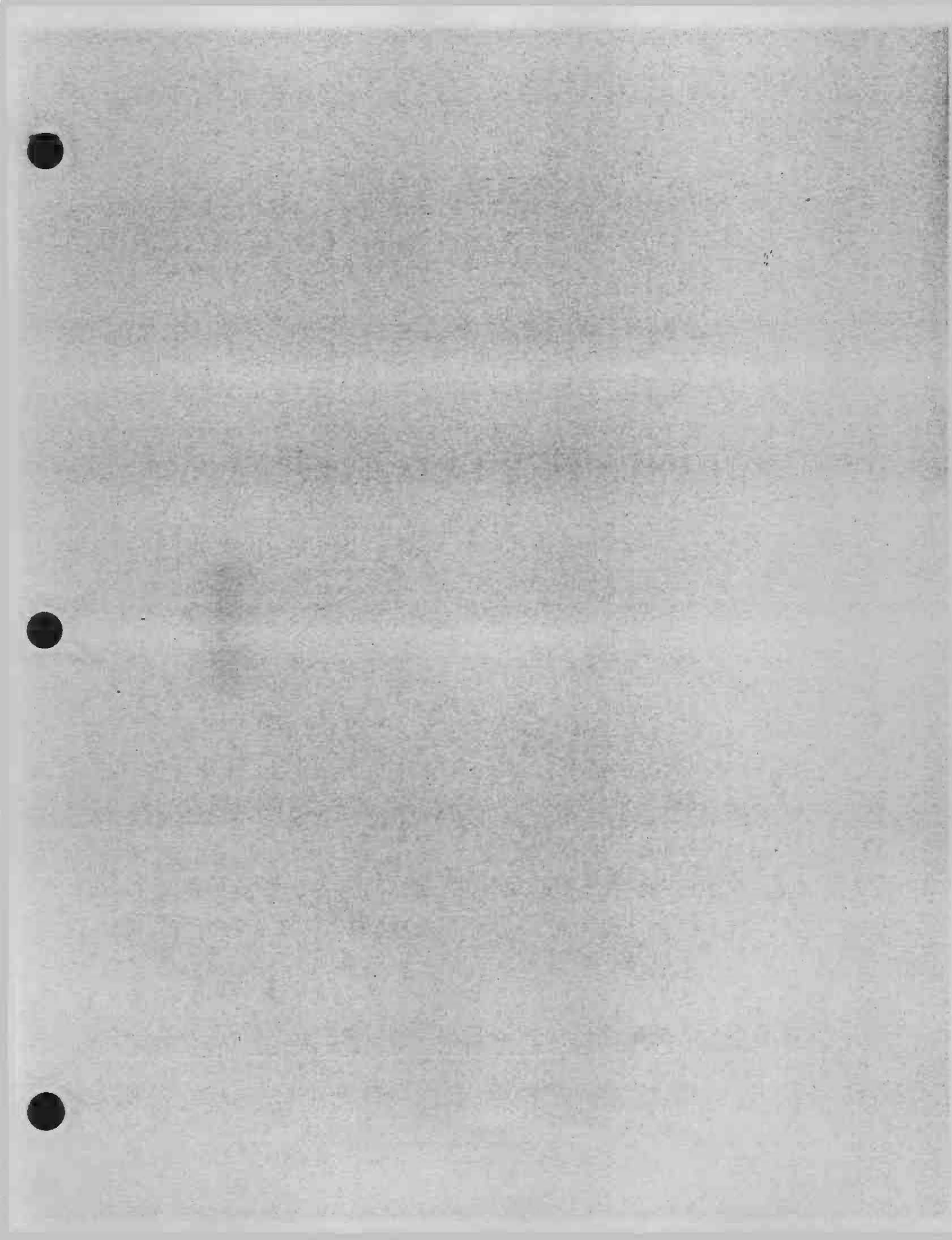
REVIEW REFERENCE: METRO RAIL PROJECT SYSTEM DESIGN

CONTRACT No.: A615

CRITERIA AND STANDARDS - VOL. 1, SECTION 2.3

REVIEW LEVEL: 100%

REQ. I.D.	REQUIREMENT	YES	NO	COMMENT
	pounds distributed over 6" by 12" area at any single location, when supported at maximum design spans and with specified attachment methods without manifesting cracks, splits, points of stress, or breaks and with a permanent deflection of no more than 1/4 inch.			
	During load cycle, deflection shall not exceed 1 1/2 inches and not exceed 2 1/2 inches with a 12-inch drop test.	X		See Section 4, ¶ 4.6.4.A
2.3.3.1.3	The coverboard shall be permanently and conspicuously marked to provide basic location identification by section of trainway and electrification feeder zone.	X		See Section 2, Article 2.4
	Markings should be at ends of station platforms, at each end of each contact rail gap, and at intervals along the trainway not to exceed 500 feet.			
	Marking locations should be coordinated with graphics specified for emergency access points.			
2.3.3.2	Cables connecting the contact rail, pot heads, and energized hardware shall be covered with insulating material and installed so as not to present an electrical or tripping hazard to personnel on the walkway.			See Contract A610





SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

METRO RAIL PROJECT DESIGN REVIEW CHECKLIST

CERTIFIABLE ELEMENT: PROTECTIVE COVERBOARD

GROUP: MRTC-SAFETY, ASSURANCE & SECURITY

DATE: 11/15/88

REVIEWER: R. HARVEY

DISCIPLINE: SYSTEM SAFETY

REVIEW REFERENCE: METRO RAIL PROJECT SYSTEM DESIGN

CONTRACT No.: A615

CRITERIA AND STANDARDS - VOL. 1, SECTION 3.7
POWER, 07/86 REVISION 2

REVIEW LEVEL: 100%

REQ. I.D.	REQUIREMENT	YES	NO	COMMENT
3.7.3.A	Tunnel fans, lighting, ETS and tele- phones shall be fed from two separate power sources.			See Facilities Contracts Electrical Drawings
3.7.4	<u>Contact Rail</u>			
3.7.4.A	The contact rail shall be located opposite the safety walk and the sta- tion platform.			See Contract A612
3.7.4.B	Patrons and employees shall be alerted to the hazards of the contact rail through signing.			See Contracts A680 & A760
3.7.4.C	Coverboards shall be installed to re- duce the possibility of patrons and em- ployees inadvertently contacting the contact rail.	X		Contract A615
3.7.5	<u>Traction Power</u>			
3.7.5.A	Electrical grounding and lightning protection shall be provided for all traction power subsystems and gap breaker stations.			See Contracts A630 & A631
3.7.5.B	The RCC shall have the capability of operating and controlling essential ac/dc switchgear functions.			See Contract A640
	There shall be alarms and visual indication of status changes and			



SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

METRO RAIL PROJECT DESIGN REVIEW CHECKLIST

CERTIFIABLE ELEMENT: PROTECTIVE COVERBOARD
GROUP: MRTC-SAFETY, ASSURANCE & SECURITY

DATE: 11/15/88

REVIEWER: R. HARVEY

DISCIPLINE: SYSTEM SAFETY

REVIEW REFERENCE: METRO RAIL PROJECT SYSTEM DESIGN

CONTRACT No.: A615

CRITERIA AND STANDARDS - VOL. 1, SECTION 3.7
POWER, 07/86 REVISION 2

REVIEW LEVEL: 100%

REQ. I.D.	REQUIREMENT	YES	NO	COMMENT
	abnormal conditions associated with traction power substations and gap breaker stations. .			



SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

METRO RAIL PROJECT DESIGN REVIEW CHECKLIST

CERTIFIABLE ELEMENT: PROTECTIVE COVERBOARD
GROUP: MRTC-SAFETY, ASSURANCE & SECURITY

DATE: 11/15/88

REVIEWER: R. HARVEY

DISCIPLINE: RELIABILITY

REVIEW REFERENCE: METRO RAIL PROJECT SYSTEM DESIGN

CONTRACT No.: A615

CRITERIA AND STANDARDS - VOL. 1, SECTION 5.2

REVIEW LEVEL: 100%

REQ. I.D.	REQUIREMENT	YES	NO	COMMENT
5.2.1.B	<p>Manufacturers of the following system equipment shall be required, by contract, to establish and maintain a Reliability Program and Plan:</p> <p>Program and Plan:</p> <ol style="list-style-type: none"> 1. Vehicle 2. Train Control 3. Fare Collection. <p>Their plans shall be prepared using the SCRTD System Assurance Program Plan as a guide for style, content, and format.</p>			<p>Reliability Program requirements are not applicable to this equipment Procurement Contract</p>
5.2.2.C	<p>Contractors for the following systems shall be required to prepare and submit a FMECA to identify all critical single point failure modes. The FMECA shall be conducted to the lowest replaceable module.</p> <ol style="list-style-type: none"> 1. Vehicle 2. Train Control 3. Fare Collection. 			
5.2.2.D	<p>Contractor for the Vehicle, Train Control, and Fare Collection systems shall be required to prepare and submit a Reliability Analysis which shall include, as a minimum:</p> <ol style="list-style-type: none"> 1. System definitions and related assumptions 			



SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

METRO RAIL PROJECT DESIGN REVIEW CHECKLIST

CERTIFIABLE ELEMENT: PROTECTIVE COVERBOARD
GROUP: MRTC-SAFETY, ASSURANCE & SECURITY

DATE: 11/15/88

REVIEWER: R. HARVEY

DISCIPLINE: RELIABILITY

REVIEW REFERENCE: METRO RAIL PROJECT SYSTEM DESIGN
CRITERIA AND STANDARDS - VOL. 1, SECTION 5.2

CONTRACT No.: A615

REVIEW LEVEL: 100%

REQ. I.D.	REQUIREMENT	YES	NO	COMMENT
	MTBF, MTBSF, MCBF, and failure rates as specified by contract.			N/A to this Contract ↓
5.2.3.A	Contractors shall be legally bound to ensure that contractual reliability requirements are achieved.			
5.2.4	The contractor shall demonstrate the achievement or prove the failure of reliability requirements incorporated into contractor specifications and track system reliability during testing and revenue service.			
5.2.4.A	Contractors shall be required to use the format designed by the SCRTD for reporting failures.			
5.2.5.A	The system elements, as described below, shall be suitable for a lifetime of use in the Southern California environment, with normal maintenance and overhaul, if required, for the number of years as outlined below: 1. Vehicle Body: 30 years 2. Train Control System: 25 years 3. Fare Collection System: 25 years 4. Tunnels: 100 years 5. Trackwork: 30 years.			
5.2.5.B	The system elements shall be capable of being operated, stored, and maintained at specific performance levels without impairment resulting from the impact of	X		



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DATE: 11/15/88

REVIEWER: R. HARVEY

DISCIPLINE: RELIABILITY

REVIEW REFERENCE: METRO RAIL PROJECT SYSTEM DESIGN
CRITERIA AND STANDARDS - VOL. 1, SECTION 5.2

CONTRACT No.: A615

REVIEW LEVEL: 100%

REQ. I.D.	REQUIREMENT	YES	NO	COMMENT
	<p>the following environmental parameters throughout the indicated range of values:</p> <ol style="list-style-type: none"> 1. Air temperature: Minimum: 20°F Maximum: 110°F Average: 66°F 2. Relative humidity: 24 hour range: 45% to 85% 3. Rainfall in 24 hours: Maximum recorded: 6.11" 4. Rainfall in 1 hour: Maximum recorded: 1.87" 5. Wind speed: Average: 10 mph Maximum recorded: 49 mph 6. Seismic activity: (Reference "DESIGN EARTHQUAKE PARAMETERS" and "DESIGN FAULT PARAMETERS" tables of Criteria) 7. Air pollution: <ul style="list-style-type: none"> o Dust Particulates: Size: 1 to 200 microns Concentration: (max.) 0.248 mg/m³ (avg.) 0.142 mg/m³ o Acid Precipitation: pH of 4.41 o Gases and fumes: (Reference "Types" and "Concentrations" table of Criteria) 	X		See Section 2, Article 2.2



SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

METRO RAIL PROJECT DESIGN REVIEW CHECKLIST

CERTIFIABLE ELEMENT: PROTECTIVE COVERBOARD

MRTC-SAFETY, ASSURANCE & SECURITY

DATE: 11/15/88

GROUP: _____

DATE: _____

REVIEWER: R. HARVEY

DISCIPLINE: MAINTAINABILITY

REVIEW REFERENCE: METRO RAIL PROJECT SYSTEM DESIGN
CRITERIA AND STANDARDS - VOL. 1, SECTION 5.3

CONTRACT No.: A615

REVIEW LEVEL: 100%

REQ. I.D.	REQUIREMENT	YES	NO	COMMENT
5.3.1.B	<p>Manufacturers of the following system equipment shall be required, by contract, to establish and maintain a Maintainability Program and Plan.</p> <ol style="list-style-type: none"> 1. Vehicle 2. Train Control 3. Communications 4. Fare Collection 5. Traction Power. <p>Their plans shall be prepared using the SCRTRD System Assurance Plan as a guide for style, content, and format.</p>			Due to the Nature of this equipment Procurement Contract, a maintainability Program and Plan are unnecessary
5.3.2.A	<p>A detailed Maintenance Concept shall be developed and submitted to the SCRTRD by the contractors indicated in 5.3.1.B. The Maintenance Concept shall include a description of how the contractor intends to achieve the maintenance requirements identified in their contract. The Maintenance Concept shall cover the following, as a minimum:</p> <ol style="list-style-type: none"> 1. Maintenance Levels <ol style="list-style-type: none"> a. System repairs done on SCRTRD property b. Module and component repairs done on SCRTRD property c. Module and component repairs done at the contractor's facilities. 			



METRO RAIL PROJECT DESIGN REVIEW CHECKLIST

CERTIFIABLE ELEMENT: PROTECTIVE COVERBOARD

GROUP: MRTC-SAFETY, ASSURANCE & SECURITY

DATE: 11/15/88

REVIEWER: R. HARVEY

DISCIPLINE: MAINTAINABILITY

REVIEW REFERENCE: METRO RAIL PROJECT SYSTEM DESIGN
CRITERIA AND STANDARDS - VOL. 1, SECTION 5.3

CONTRACT No.: A615

REVIEW LEVEL: 100%

REQ. I.D.	REQUIREMENT	YES	NO	COMMENT
	2. Maintenance Tasks			N/A to this Contract
	a. Scheduled Maintenance			
	i. Preventive Maintenance			
	ii. Service Maintenance			
	b. Corrective Maintenance.			
	3. Shop Facilities			
	a. Union Station maintenance activities			
	b. Hollywood maintenance activities			
	c. Component Repair Facilities.			
	4. Shop Equipment and Tools			
	a. Furnished by Vehicle/Train Control/ Fare Collection Contractor			
	b. Furnished by Shop Equipment Contractor.			
	5. Spare Part Requirements			
	a. Expected Part Life			
	b. Consumables and Repairables.			
	6. Skill Levels and Mechanics Required.			
5.3.2.B	A Maintenance Analysis shall be developed and submitted to the SCRTD by the Vehicle,			



SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

METRO RAIL PROJECT DESIGN REVIEW CHECKLIST

CERTIFIABLE ELEMENT: PROTECTIVE COVERBOARD

GROUP: MRTC-SAFETY, ASSURANCE & SECURITY

DATE: 11/15/88

REVIEWER: R. HARVEY

DISCIPLINE: MAINTAINABILITY

REVIEW REFERENCE: METRO RAIL PROJECT SYSTEM DESIGN
CRITERIA AND STANDARDS - VOL. 1, SECTION 5.3

CONTRACT No.: A615

REVIEW LEVEL: 100%

REQ. ID.	REQUIREMENT	YES	NO	COMMENT
5.3.4.A	<p>Train Control, and Fare Collection contractors.</p> <p>The Maintenance Analysis shall be submitted iteratively (every 90-180 days) as the design develops.</p> <p>The analysis shall describe all the maintenance tasks SCRTD personnel may be required to perform on the system. The analysis shall include for each maintenance task, as a minimum:</p> <ol style="list-style-type: none"> 1. Frequency of task 2. Time to perform 3. Test equipment, tools, and facilities required 4. Crew size and skill level 5. Manuals and instructions needed. <p>All suppliers and contractors shall be required to submit maintenance manuals which contain all the information needed to service, maintain, repair, inspect, adjust, troubleshoot, replace, and overhaul each component or subsystem. Requirements for the maintenance manuals shall include, but not be limited to:</p> <ol style="list-style-type: none"> 1. Running Maintenance and Servicing Manuals 			N/A to this Contract



SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

METRO RAIL PROJECT DESIGN REVIEW CHECKLIST

CERTIFIABLE ELEMENT: PROTECTIVE COVERBOARD

GROUP: MRTC-SAFETY, ASSURANCE & SECURITY

DATE: 11/15/88

REVIEWER: R. HARVEY

DISCIPLINE: MAINTAINABILITY

REVIEW REFERENCE: METRO RAIL PROJECT SYSTEM DESIGN

CONTRACT No.: A615

CRITERIA AND STANDARDS - VOL. 1, SECTION 5.3

REVIEW LEVEL: 100%

REQ. I.D.	REQUIREMENT	YES	NO	COMMENT
5.3.4.B	<p>2. Heavy Repair Maintenance Manuals</p> <p>3. Parts Catalogs</p> <p>4. Test Equipment Maintenance Manuals.</p> <p>The manuals shall be designed for continuous, long term service in a maintenance shop environment.</p> <p>All manuals shall be in either pocket size (3-1/2" x 8" x less than 1" thick) or standard size (8-1/2" wide x 11" high).</p> <p>All manuals shall be prepared in accordance with normal commercial standards, using MIL-M-38784 and MIL-M-15071 as guides for format and technical content, respectively.</p>			N/A to this Contract
5.3.5.A	<p>Contractors shall be required to provide a comprehensive training program for SCRTRD maintenance personnel.</p> <p>Contractors shall provide the SCRTRD with course materials, instructors, training aids, equipment, and all literature required.</p> <p>The contractor shall train all SCRTRD maintenance personnel to a level of competence such that work performed by these personnel will not void any of the warranties or guarantees in effect.</p>			

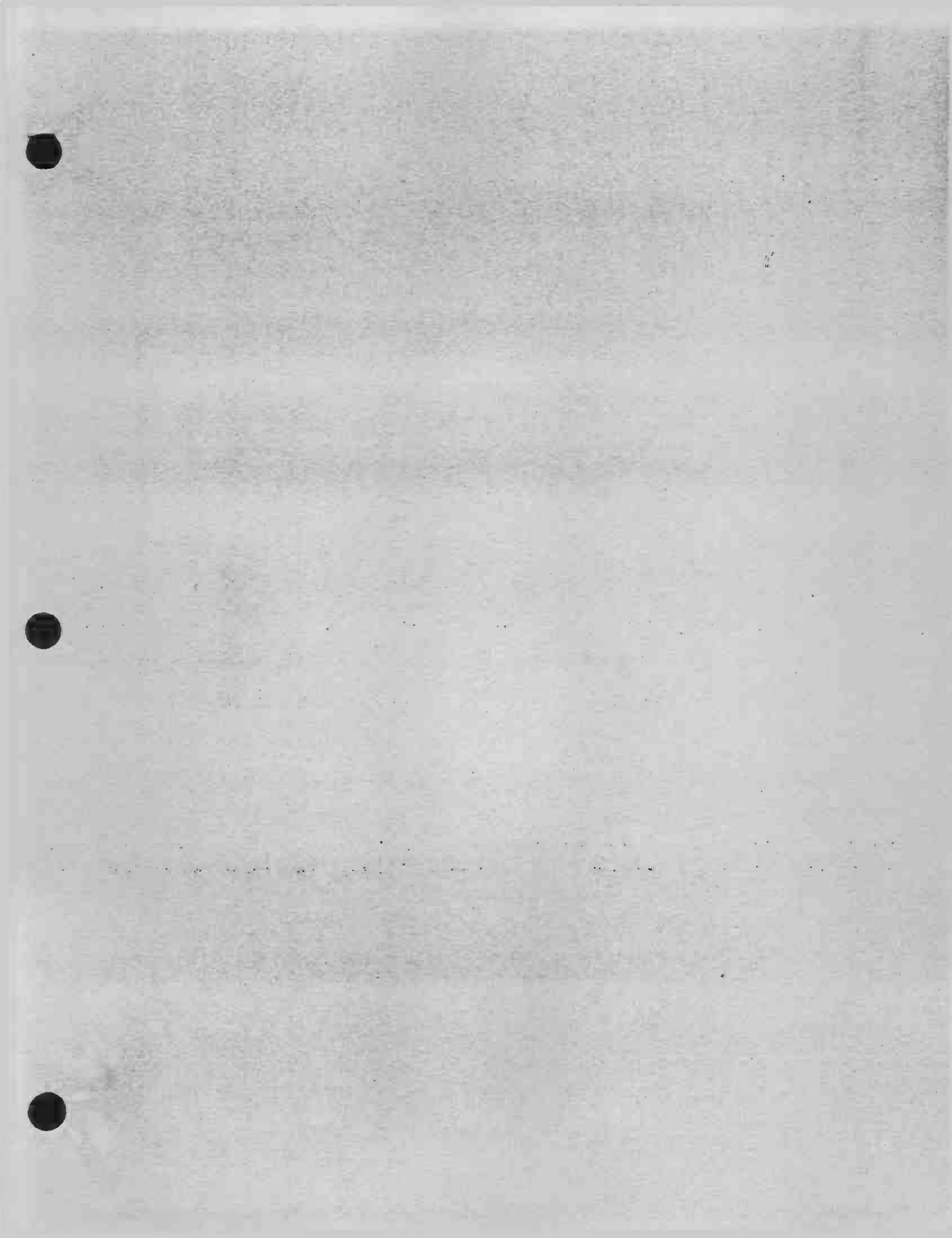


SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

METRO RAIL PROJECT DESIGN REVIEW CHECKLIST

CERTIFIABLE ELEMENT: PROTECTIVE COVERBOARD
 GROUP: MRTC-SAFETY, ASSURANCE & SECURITY DATE: 11/15/88
 REVIEWER: R. HARVEY
 DISCIPLINE: MAINTAINABILITY
 REVIEW REFERENCE: METRO RAIL PROJECT SYSTEM DESIGN CONTRACT No.: A615
CRITERIA AND STANDARDS - VOL. 1, SECTION 5.3 REVIEW LEVEL: 100%

REQ. I.D.	REQUIREMENT	YES	NO	COMMENT
5.3.6.A	The contractors shall incorporate qualitative features into all equipment whenever feasible. MIL-STD-1472C shall be used as a guide, along with the design features in the "Maintainability Checklist" provided in paragraph 15.3.6 of UMTA Report No. IT-06-0027-A "Guideline Specification for Urban Rail Cars", March 1973.			N/A to this Contract





SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

METRO RAIL PROJECT DESIGN REVIEW CHECKLIST

CERTIFIABLE ELEMENT: PROTECTIVE COVERBOARD

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DATE: 11/15/88

REVIEWER: R. HARVEY

DISCIPLINE: QUALITY ASSURANCE

REVIEW REFERENCE: METRO RAIL PROJECT SYSTEM DESIGN

CONTRACT No.: A615

CRITERIA AND STANDARDS - VOL. 1, SECTION 5.4

REVIEW LEVEL: 100%

REQ. I.D.	REQUIREMENT	YES	NO	COMMENT
5.4.1.B	<p>QUALITY ASSURANCE PROGRAM PLAN - CONTRACTORS</p> <p>Manufacturers of the following system elements shall be required by contract to establish and maintain a QA Program and Plan:</p> <ol style="list-style-type: none"> 1. Facilities 2. Vehicle 3. Train Control 4. Fare Collection 5. Communications 6. Escalators 7. Elevators 8. Auxiliary Vehicles <p>These plans shall be prepared using the SCRTRD System Assurance Program Plan and the SCRTRD QA Manual as a guide for style, content, and format.</p>	X		Section Article 5.2
5.4.2	<p>WARRANTIES</p> <p>A. Warranty provisions shall be included in all contracts, both civil and system.</p> <p>The following additional time warranties shall be included in the vehicle contract:</p> <ol style="list-style-type: none"> 1. Carbody - 5 years 2. Truck-Structural Elements - 5 years 	X		See Section 3 ¶3.2.1



SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

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DATE: 11/15/88

REVIEWER: R. HARVEY

DISCIPLINE: QUALITY ASSURANCE

REVIEW REFERENCE: METRO RAIL PROJECT SYSTEM DESIGN

CONTRACT No.: A615

CRITERIA AND STANDARDS - VOL. 1, SECTION 5.4

REVIEW LEVEL: 100%

REQ. I.D.	REQUIREMENT	YES	NO	COMMENT
5.4.3	3. Traction Motors, except brushes - 5 years			
	4. Gear reducers for propulsion subsystem - 5 years.			
	<u>QUALITY PROGRAM CONTENT</u>			
	A. <u>Receiving Inspection</u>			
	Contractors shall provide for the inspection of all incoming material. Statistical sampling is acceptable.	X		See Section 5, Article 5.2.A
	All material certifications and test reports used as the basis for acceptance by the contractors shall be maintained as quality records.			Also see Section 4, ¶ 4.5.3
	B. <u>Statistical Sampling Plans</u>			
	Statistical sampling used in inspection shall be fully documented and based on generally recognized statistical practices, such as MIL-STD-105 or MIL-STD-414.			
	C. <u>Changes to Drawings and Specifications</u>			
	Contractors shall ensure that all inspection and acceptance test are based on the latest revision or changes to drawings and specifications.	X		See Section 5, Article 5.2



SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

METRO RAIL PROJECT DESIGN REVIEW CHECKLIST

CERTIFIABLE ELEMENT: PROTECTIVE COVERBOARD
 GROUP: MRTC-SAFETY, ASSURANCE & SECURITY DATE: 11/15/88
 REVIEWER: R. HARVEY
 DISCIPLINE: QUALITY ASSURANCE
 REVIEW REFERENCE: METRO RAIL PROJECT SYSTEM DESIGN CONTRACT No.: A615
 CRITERIA AND STANDARDS - VOL. 1, SECTION 5.4 REVIEW LEVEL: 100%

REQ. I.D.	REQUIREMENT	YES	NO	COMMENT
	An acceptable configuration management and control system shall be established and maintained.			
	The responsibility for control of changes shall extend to suppliers.			
D.	<u>Identification of Inspection Status</u>			
	Contractors shall maintain a system for identifying the progressive inspection status of components or materials as to their acceptance, rejection or non-inspection.	X		See Section 2, Article 2.4
E.	<u>Shipping Inspection</u>			
	Contractors shall provide for the proper inspection of products to ensure completion of manufacturing and conformance to contract requirements prior to shipment.	X		See Section 5, ¶ 5.2.C
F.	<u>Quality Assurance Organization</u>			
	The organization of each contractor's QA Program shall be well defined.	X		See Section 5, ¶ 5.2.C
	QA personnel shall have sufficient, well-defined responsibilities and organizational freedom which encourage the identification and evaluation of quality problems.			



SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

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CERTIFIABLE ELEMENT: PROTECTIVE COVERBOARD
GROUP: MRTC-SAFETY, ASSURANCE & SECURITY

DATE: 11/15/88

REVIEWER: R. HARVEY

DISCIPLINE: QUALITY ASSURANCE

REVIEW REFERENCE: METRO RAIL PROJECT SYSTEM DESIGN
CRITERIA AND STANDARDS - VOL. 1, SECTION 5.4

CONTRACT No.: A615

REVIEW LEVEL: 100%

Table with 5 columns: REQ. I.D., REQUIREMENT, YES, NO, COMMENT. Contains items G, H, and I regarding personnel qualification, in-process inspection, and handling/storage/delivery.



SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

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CERTIFIABLE ELEMENT: PROTECTIVE COVERBOARD

GROUP: MRTC-SAFETY, ASSURANCE & SECURITY

DATE: 11/15/88

REVIEWER: R. HARVEY

DISCIPLINE: QUALITY ASSURANCE

REVIEW REFERENCE: METRO RAIL PROJECT SYSTEM DESIGN

CONTRACT No.: A615

CRITERIA AND STANDARDS - VOL. 1, SECTION 5.4

REVIEW LEVEL: 100%

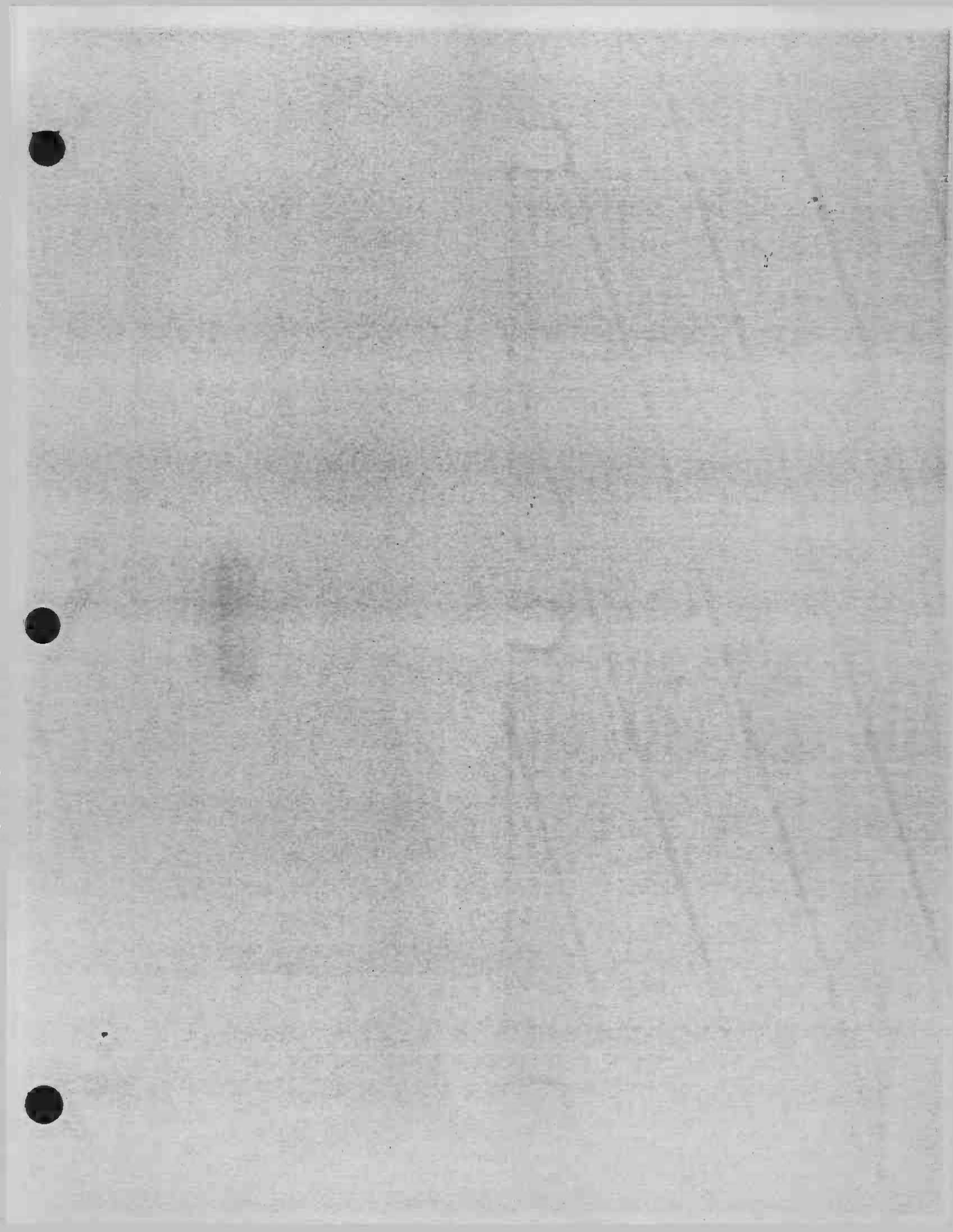
REQ. I.D.	REQUIREMENT	YES	NO	COMMENT
J.	<u>Corrective Action</u> Contractors shall establish, maintain, and document procedures to ensure that conditions adverse to quality are promptly identified and corrected.	X		See Section 5, ¶ 5.2.A Also see Section 4, ¶ 4.5.3
K.	<u>Nonconforming Material</u> Contractors shall establish and maintain an effective system for controlling nonconforming material including procedures for identification, segregation, and disposition. A Material Review Board consisting of appropriate SCRTRD, contractor, QA and design personal shall be established.	X		See Section 5, Article 5.2 Also see Section 4, ¶ 4.5.3 N/A to this Contract

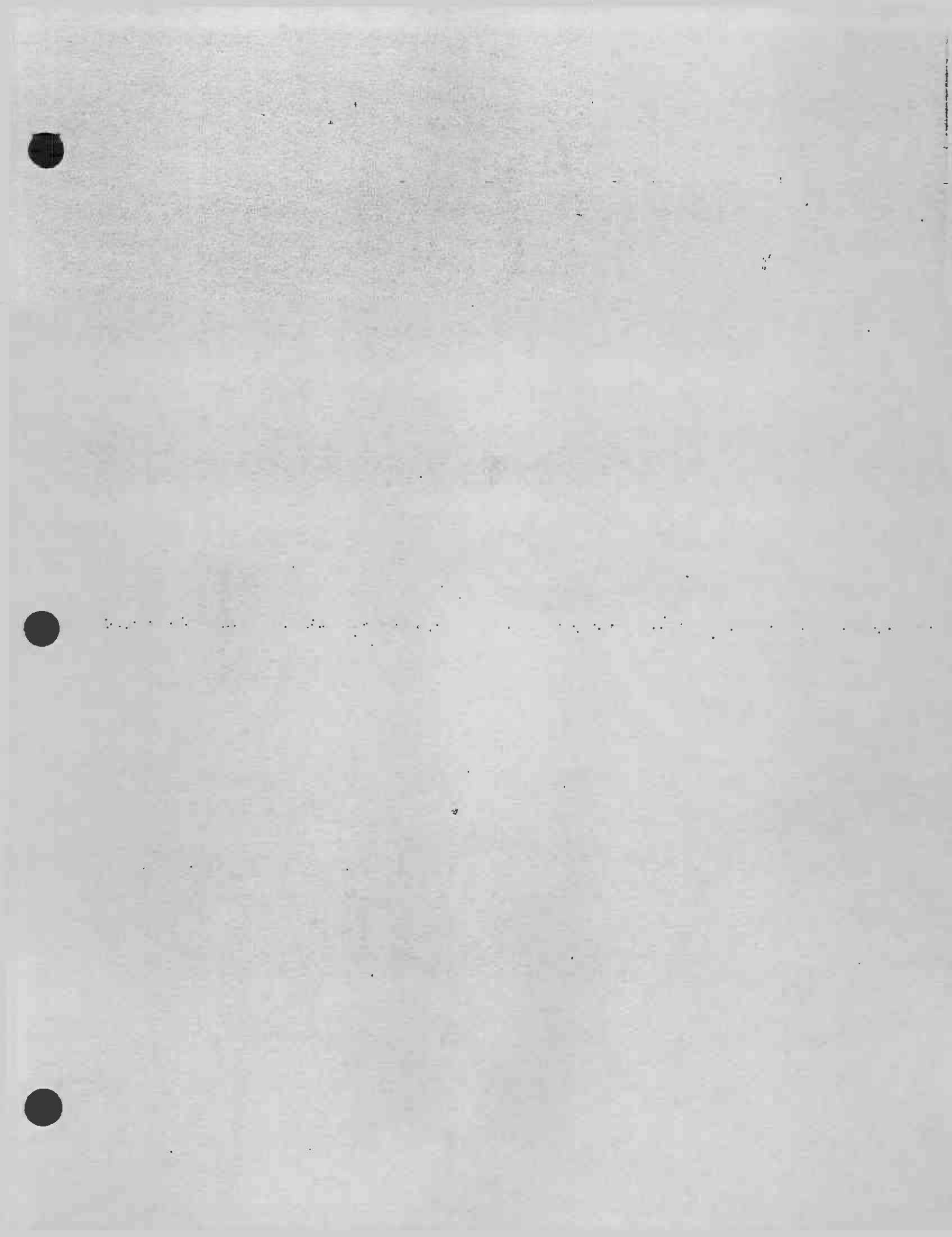


DESIGN REVIEW COMMENTS

REVIEWER J. Conahan FILE NO. _____ ORGANIZATION S.A.S.
% SUBMITTAL FOR A615, A612, A630

REF. NO.	PAGE NO.	DRAWING NO./ SPEC. SECTION	COMMENTS	RESPONSE	ACTION
1	TP-3-4	A 615	3.5 3rd LINE - Verify "12 inches" this appears much.	IS OK	3.5 Revised Mk 11-14-88
2	SP-3	A 612	7.0 - Reference Vehicle Specification A650 SP-3.0. DBE/WBE Requirements are specified as DBE 15% WBE 5.2% - If these requirements are the latest from RTD they should be inserted. in these Specs.	RTD WILL VERIFY	
3	SP-3	A 615	7.0 SAME Comment as #2.	RTD WILL VERIFY	
4	SP-6	A 630	9.0 SAME Comment as #2.	RTD WILL VERIFY	
5	TP-2	A 630	1.2 General Comment: from reading the System Description 1.2A, 1.2.B, 1.2.C and checking Bid Same and information to 1.2.1.		







METRO RAIL TRANSIT CONSULTANTS
DMJM/PBQD/KE/HWA

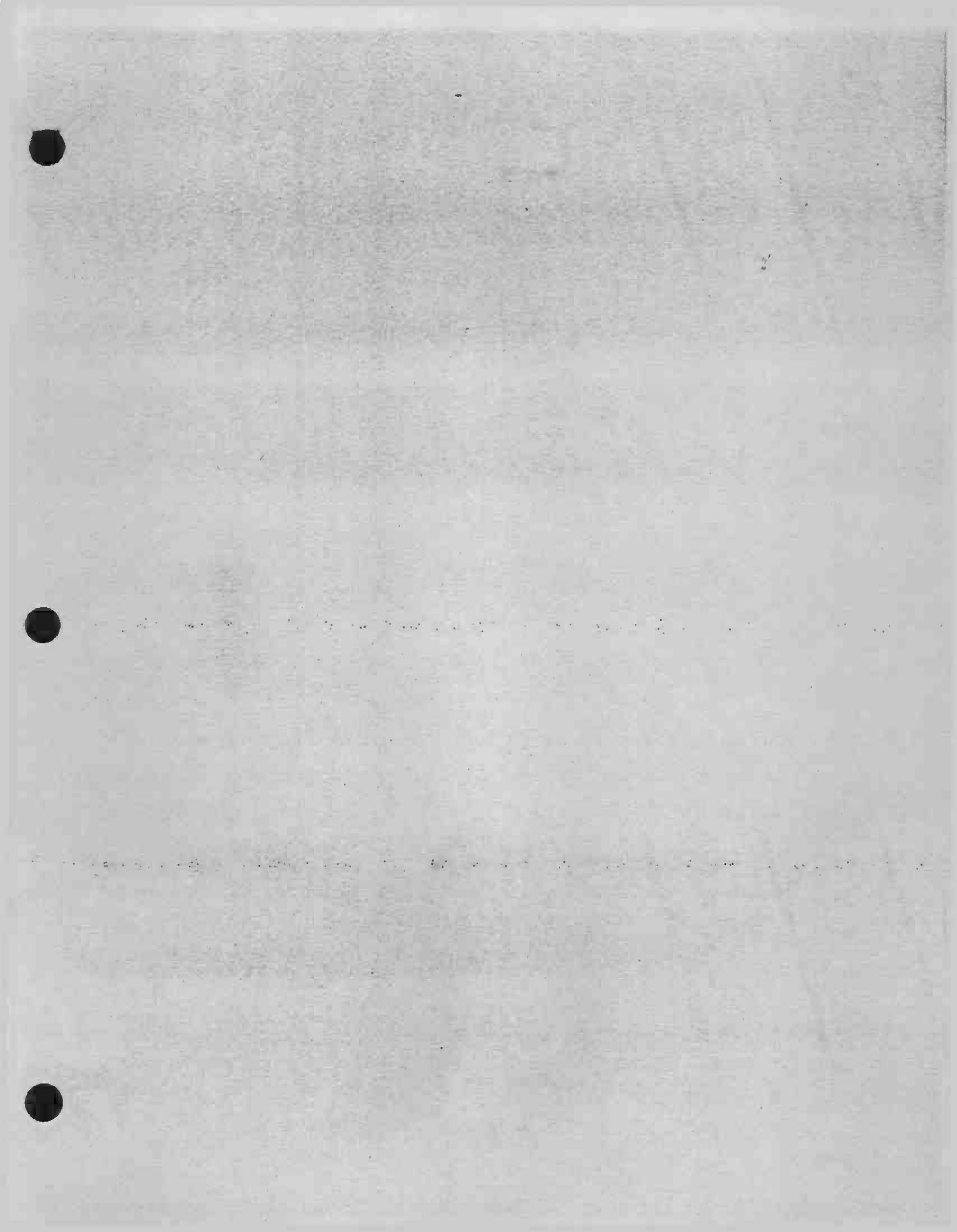
Cross Ref.
Section III
6-14-83

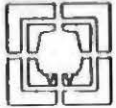
DATE 6-6-83
SHEET 1 OF 2

DESIGN REVIEW COMMENTS

REVIEWER M. INGRAM FILE NO. W001A630 P.10 ORGANIZATION S, A95
100 % SUBMITTAL FOR Traction Power Procurement - A630
A612, A615 & A630

REF. NO.	PAGE NO.	DRAWING NO./ SPEC. SECTION	COMMENTS	RESPONSE	ACTION
			COVERBOARD A615		
1	^a TP-8-2	^a TABLE TP-8-1	Item No. 6 - TITLE should be Quality Assurance Program ; REFERENCE PARA. should be 5.3.	Will correct	ok RM 11-14-83
			CONTACT RAIL A612		
2	TP-8-2	TABLE TP-8-1	Item No. 09 - REF. PARA. should be 5.3.	Will correct	
			SUBSTATION EQUIPMENT A630		
3	SP-5	7.3	Line 4 - Exhibit TP-1-1 should be Appendix TP-1-A in order to be consistent with actual term used.	Will correct	
4	TP-9-3	9.15	Title should read IDENTIFICATION OF INSPECTION STATUS.	Will correct	
5	TP-11-2 TP-11 4	11.1.5 11.2.6	Calibration certificates should be indicated as A. CDRL item, and added to Table TP-13-1	Will indicate	

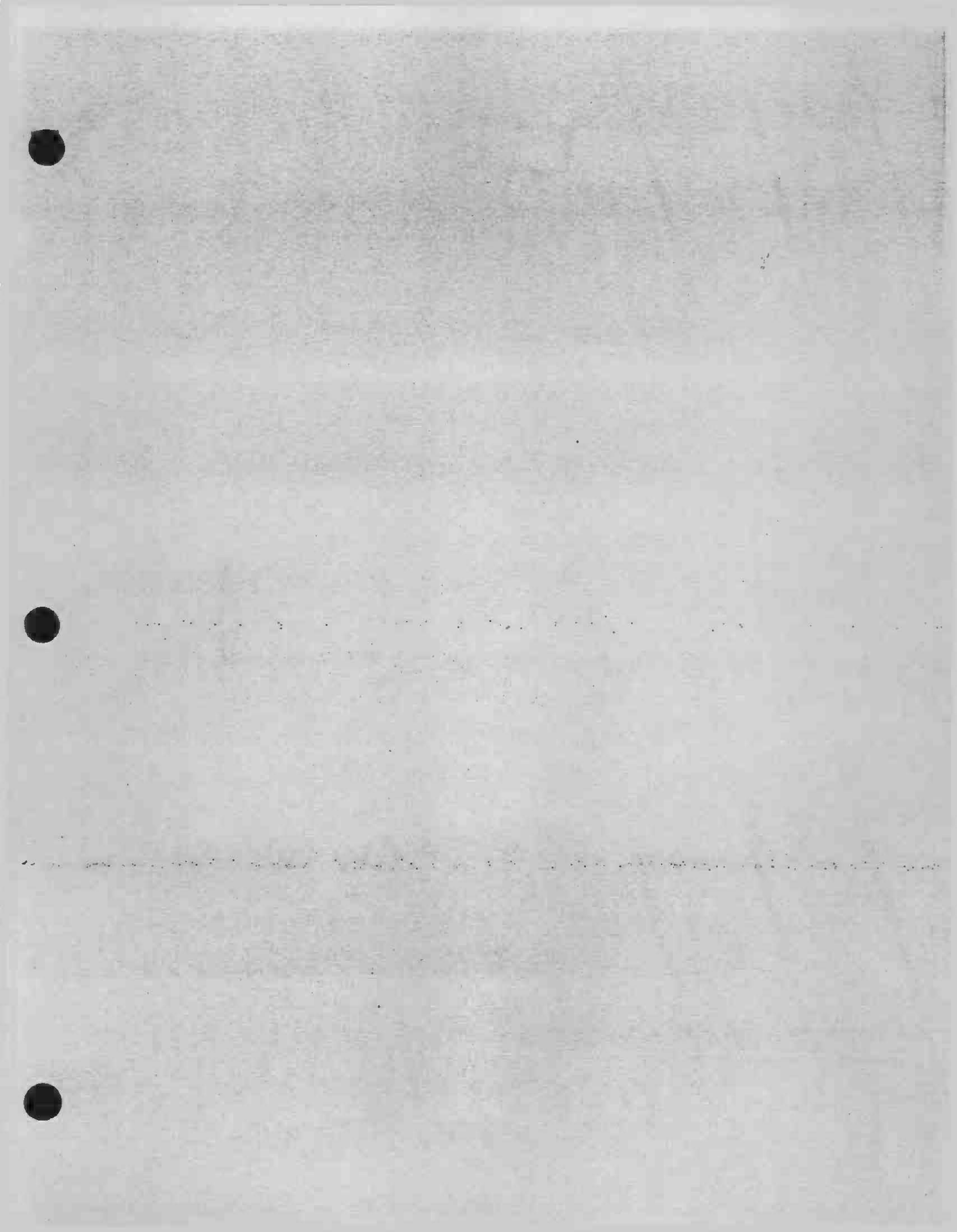


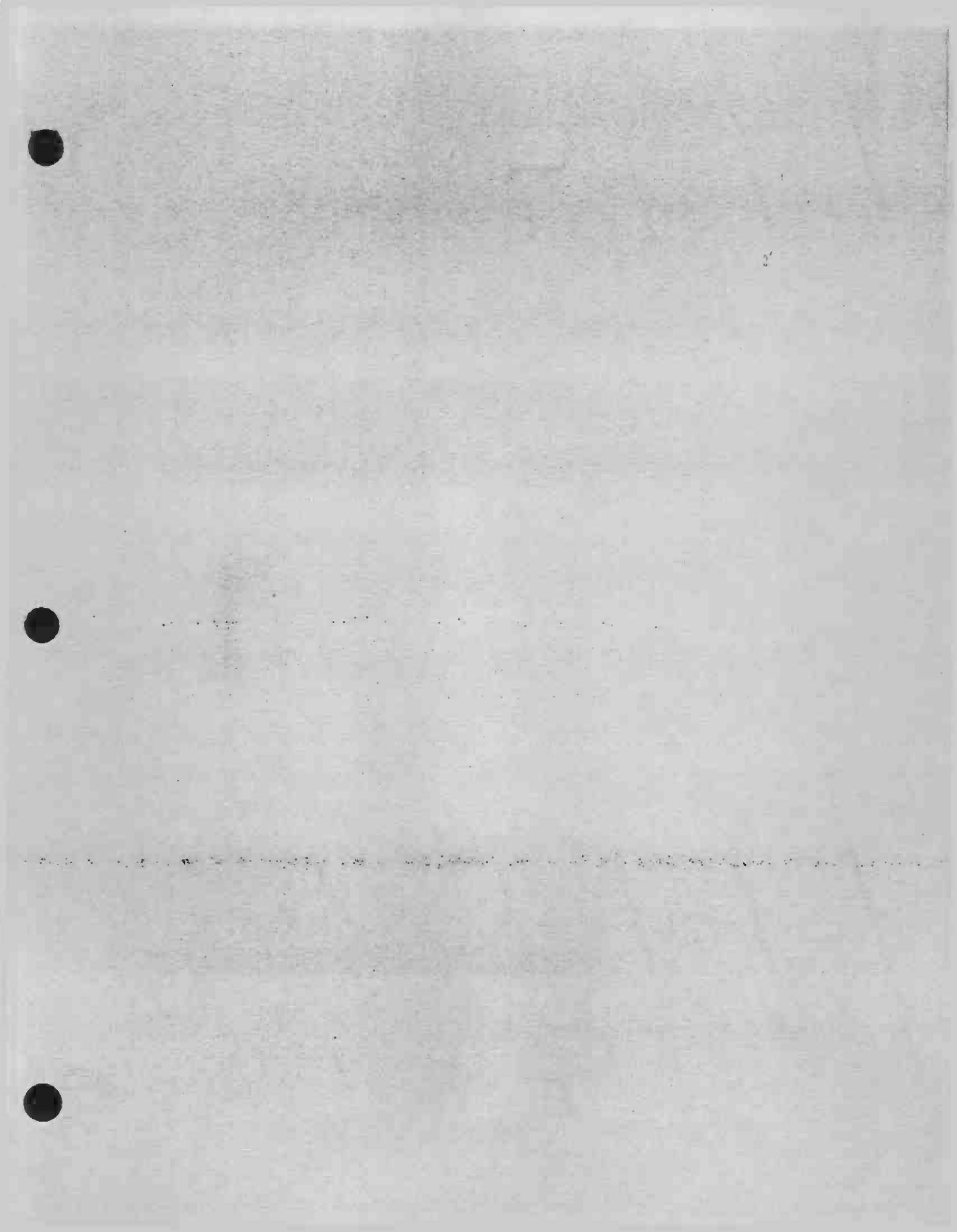


DESIGN REVIEW COMMENTS

REVIEWER D.R. FIEDLER FILE NO. _____ ORGANIZATION ROLF JENSEN & Assoc
100 % SUBMITTAL FOR A-615 COVERBOARD

REF. NO.	PAGE NO.	DRAWING NO./ SPEC. SECTION	COMMENTS	RESPONSE	ACTION
1	TP-1-2	1.2.D	Analyses to date have used a maximum vehicle capacity of 220. Either 160 should be specified as the maximum no. of standers at crush load or additional analyses and possibly additional splicing facilities may be required.	Disagree. see W. J. Rhine memo of 5/24/85 / see Doc # 85-04132	Reference to vehicle capacity deleted RJA 11-14-88
2	TP-3-2	3.1.2	Add ASTM G23 to list of references	Will add	RJA 11-14-88
3	TP-4-3	4.6	Add a new paragraph, 4.6.5 Flammability and Smoke Development Tests	Will add	added paragraph references requirements in sec. 3 RJA 11-14-88
			Samplers from coverboard sections used for mechanical load test may be used. Samplers shall be tested in accordance with ASTM D279, Method I, E162 and E662. The results of all tests shall meet the requirements specified in section 3.2.1 B, C and D.		





**METRO RAIL PROJECT
REVIEW / COMMENT SHEET**

Reviewer H.E. Storey File No. A 615 Date 5/28 1986

Dept. / Section SDEA Submittal No. and/or Date _____ Sheet 1 of 2

Design Review / Submittal Title Safety Certification - Cereboard

REF NO.	PAGE NO.	DRAWING NO. / DOCUMENT SECT	COMMENT	RESPONSE / ACTION
1		A 615	Add paragraph 4.2 Spare Parts, page SP-2	ok RVA 11-14-88
2		A 615	Add paragraph 1.1.1 Materials, page TP-1-1, Section 1-Scope	
2		A 615	Add paragraph 2.4, page TP-2-2, Material Identification	ok RVA 11-14-88
3		A 615	Add paragraph 3.1.1, Description, page TP-3-1.	ok RVA 11-14-88
3		A 615	Specification indicates Flame Resistance Method I, checklist indicates Method II. Resolve which method is to be used.	Revised to Method II RVA 11-14-88
4		A 615	Add page and paragraph numbers for Item 5, Insulation Resistance	see TP section 3 3.2.4 RVA 11-14-88
4		A 615	Add page and paragraph numbers for Item 10, Support Brackets	see TP section 3 3.4



**METRO RAIL PROJECT
REVIEW / COMMENT SHEET**

Reviewer H. E. Storey File No. A 615 Date 5/28 1986

Dept. / Section SO&A Submittal No. and/or Date _____ Sheet 2 of 2

Design Review / Submittal Title Safety Certification - Coverboard

REF NO.	PAGE NO.	DRAWING NO. / DOCUMENT SECT	COMMENT	RESPONSE / ACTION
	4	A 615	Add to Item 10, Sentence, "Bolts, inserts and washers shall be in accordance with ASTM A305, Type 3.	ok RVA 11-14-88
	5	A 615	Add page and paragraph numbers for Item 11, Expansion Joints.	see TP section 3 3.5 RVA 11-14-88
	5	A 615	Add paragraph 4.2, Tests Required, Page TP-41.	ok RVA 11-14-88
	5	A 615	Add paragraph 4.5.1, Test Program Plan, page TP 42.	ok RVA 11-14-88
	5	A 615	Add "Weathering Test and Electrical Insulation Resistance Deterioration Test" to Item 13. Also add page and paragraph numbers to all Item 13 listings.	ok RVA 11-14-88
	—	A 615	Add a "Quality Assurance" page and Item No. 14, paragraph 5.2, page TP-5-1	ok RVA 11-14-88

SCRTMETRO RAIL
A615- COV BOARD - DRAWINGS
PREFINAL REVIEW

<u>NO.</u>	<u>REVIEWER</u>	<u>DATE</u>	<u>DRAWING NO.</u>	<u>COMMENT</u>	<u>RESPONSE</u>
1.	W.J. Armento	01/25/85	P-152	Support bracket-side view has notation; side coverboard (as required). There is no such notation for Top Coverboard. How does the Bidder or Contractor know where side coverboard will be required. Bid Item No. 1 in the Bid Form does not separate side coverboard from top coverboard so how is quantity "each" intended to be interpreted?	THIS IS A PROCUREMENT CONTENT, QUANTITIES ONLY ARE NEEDED AND WILL BE ADDED TO THE "SCHEDULE OF BID ITEMS AND PRICES" "(AS REQUIRED)" WILL BE DELETED FROM P152
2.	Fire/Life Safety Comm.	01/22/85	P-152	Support bracket-side view - cotter pins for side coverboard should be reversed. (installed in a downward position).	AGREE. WILL REVISE DRAWING
3.	W.J. Armento	01/25/85	P-153	Should give all necessary dimensions for the overlap portions of the protective coverboard.	AGREE. WILL ADD DIMENSIONS
4.	Fire/Life Safety Comm.	01/22/85	P-153	Section "A" depicts different type cotter pin than shown on P-152.	AGREE. WILL REVISE ok AK 11-14-88

SCRTD METRO RAIL
A615 - COVERBOARD - SPECIFICATIONS
PREFINAL DESIGN REVIEW

<u>NO.</u>	<u>REVIEWER</u>	<u>DATE</u>	<u>PARAGRAPH</u>	<u>PAGE</u>	<u>COMMENT</u>	<u>RESPONSE</u>
1.	W.J. Armento	1-25-85	N/A	Cover sheet	Would it not be more appropriate if PROTECTIVE COVERBOARD were used in title of contract rather than simply COVERBOARD? The Specifications use Protective Coverboard when describing this item and the titles on Dwgs. P-152 and P-153 likewise use Protective Coverboard.	<i>Will use COVERBOARD THROUGHOUT</i>
2.	T.W. Cook	1-28-85	N/A	Cover	Shouldn't the title package "Contact Rail Coverboard" or "Protective Coverboard" be consistent with rest of spec. uses "Protective Coverboard" in the technical portion.	<i>SAME AS NO. 1</i>
3.	E. Leard	1-23-85	Inv. to Bid	ITB-2	Reduce cost of set of Bid Documents from \$100 to \$25.00 (or less) - we don't want to make a profit on this!	<i>Agree. Will REDUCE</i>
4.	W.J. Armento	1-25-85	6.2	ITB-6	This Section, and elsewhere later, the products of this contract are referred to as "the equipment". Question the validity of using "equipment" as generic term.	<i>Agree. Will change to "EACH BID ITEM"</i>

<u>NO.</u>	<u>REVIEWER</u>	<u>DATE</u>	<u>PARAGRAPH</u>	<u>PAGE</u>	<u>COMMENT</u>	<u>RESPONSE</u>
5.	W.J. Armento	1-25-85	Bid Form	ITB-15	a) Item No. 1. Suggest you call this Protective Coverboard. b) Item No. 2. Suggest you call this Support Bracket. c) Item No. 4. There are two different sets of Fasteners. Those used to secure the protective coverboard to the support bracket and those used for attaching the brackets to the rail. See Pg. 3-4, Art. 3, 6. They are different and should be bid separately.	<i>SAME AS NO 1</i> <i>Agree. Will call.</i> <i>Agree. Will add clamp as a separate bid item.</i>
6.	R. Frias (PDCD)	1-25-85	Bid Form	ITB-15	Add construction account numbers to this form.	<i>Comment is not clear. Are construction account numbers available?</i>
7.	R. Frias (PDCD)	1-25-85	C.2	ITB-25	Change "inspections quality assurance program" to "inspection and quality assurance."	<i>Disagree. OK as is.</i>
8.	J.M. McKinley (PDCD)	1-25-85	Contract Agreement	ITB-30	Para. 2.0 should refer to "cover board" instead of "Contact Rail."	<i>Agree. Will revise</i>
9.	R. Frias (PDCD)	1-25-85	1.4	SP-1	Should "progress" be "progress meetings?"	<i>Should be progress reviews. Will revise</i>
10.	W.J. Armento	1-25-85	1.4	SP-1	Reads: "Attend or conduct progress..." a grammatical or typo irregularity.	<i>Same as No. 9</i>

<u>NO.</u>	<u>REVIEWER</u>	<u>DATE</u>	<u>PARAGRAPH</u>	<u>PAGE</u>	<u>COMMENT</u>	<u>RESPONSE</u>
11.	M. Ingram	1-2 ⁸ -85	1.4	SP-1	Insert the word "meetings" between "progress" and "at."	<i>ok Aut 11-14-88</i> Same as No.9.
12.	W. Robertson (PDCD)	1-25-85	N/A	SP-1	In paragraph 1.4, first line, after "progress" add "reviews."	Same as No.9.
13.	J.M. McKinley (PDCD)	1-25-85	N/A	SP-2	Para. 4. The warranty period stated does not seem compatible with General Provision Sections 10.1 and 10.2. It is recognized that the longer period specified in this paragraph governs, inasmuch as Special Provisions take precedence over General Provisions. However, it would take little effort to make these two sections agree to avoid confusion.	Disagree. OK as is
14.	W.J. Armento	1-25-85	4	SP-2	Should read: "after final delivery" or "after final acceptance" to agree with requirement on Page 4, Art. 10.1, eighth line down.	Agree. Will revise to read "after final acceptance"
15.	W.J. Armento	1-25-85	7	SP-3	Can it be stated here whether rail or truck delivery will be involved?	Agree. Will revise to indicate that delivery location is amenable to truck delivery.
16.	J.M. McKinley (PDCD)	1-25-85	N/A	GP-1	Section 3.0. Appendix A was not included in the Procurement Specifications Book.	

<u>NO.</u>	<u>REVIEWER</u>	<u>DATE</u>	<u>PARAGRAPH</u>	<u>PAGE</u>	<u>COMMENT</u>	<u>RESPONSE</u>
17.	J.M. McKinley (PDCD)	1-25-85	N/A	GP-1	Section 3.0. This article refers to Appendix A - which is not attached. It is important that the definitions of such terms as "Contracting Officer," for instance, be included.	WILL ADD APP A IT IS DEFINED
18.	W.J. Armento	1-28-85	3.0	GP-1	Refers to Appendix A which is not in this Book.	WILL ADD.
19.	W.J. Armento	1-25-85	10.3	GP-1	Refers to "District-owned spare parts." How will District come to own spare parts?	PAY FOR THEM
20.	R. Frias (PDCD)	1-25-85	8.1 A	GP-3	Is the Contractor to provide "All Risk Builders Risk Insurance", or is the District providing it?	WILL BE IN THE INSURANCE SPECS
21.	J.M. McKinley	1-25-85	N/A	GP-7	Section 12.2. The reference to Section 11.1 should be 12.1.	AGREE. WILL CORRECT
22.	R. Frias (PDCD)	1-25-85	17.4	GP-12	Add after when requested, "in addition to records required to be submitted to the District or its representative in the technical specifications."	NO. BELIEVE CLAUSE IS CORRECT AS IS - REQUIRES HIM TO PRODUCE ANYTHING PERTAINING TO TERMINATION
23.	W.J. Armento	1-25-85	18.3	GP-13	Refers to "partially completed installations." This is a procurement contract and does not include installation of the products.	OTHER CONTRACTS USING THESE SAME GPS MAY HAVE INSTALL NO CHANGE

sec. 17
deleted
11-14-88

<u>NO.</u>	<u>REVIEWER</u>	<u>DATE</u>	<u>PARAGRAPH</u>	<u>PAGE</u>	<u>COMMENT</u>	<u>RESPONSE</u>
24.	R. Frias (PDCD)	1-25-85	2.0	GP-15	Definition of equipment conflicts with definition in Standard Specifications for Construction Contracts, i.e., equipment in 2.0 includes materials whereas definition of material in Standard Specifications includes equipment. Suggest that definitions be consistent for both construction and system procurement contracts.	NO CHANGE. TOO LATE AND TOO FLUID
25.	W.J. Armento	1-25-85	23.0	GP-17	This entire Section on DISTRICT-FURNISHED EQUIPMENT is questioned.	NONE IN THIS CONTRACT BUT SOME GPs USED ELSEWHERE
26.	R. Frias (PDCD)	1-25-85	24.3	GP-18	Suggest shipments be packaged and packed in accordance with manufacturer's standards or if the manufacturer does not specify any standards, then equipment should be packed and packaged in accordance with the best commercial standards.	NO CHANGE PRESENT ARTICLE OK
27.	L. Boyden (RTD)	1-10-85	25.1	GP-18	Title should not be deemed to have passed to the District until the materials, services and workmanship have been verified to meet the quality and safety standards of the District.	TITLE PASSES WHEN ITEM PAID FOR. IF NOT GOOD DON'T PAY FOR IT
28.	W.J. Armento	1-25-85	24.3	GP-18	Last sentence refers to "packaging requirements" contained in the Technical Provisions, but there are no packaging requirements spelled out in PART III.	THEN COMMERCIAL IS ADEQUATE

*ok
see GP
26.A.2
RJA
11-14-88*

<u>NO.</u>	<u>REVIEWER</u>	<u>DATE</u>	<u>PARAGRAPH</u>	<u>PAGE</u>	<u>COMMENT</u>	<u>RESPONSE</u>
29.	M. Ingram	1-28-85	35.6	GP-23	The referenced paragraphs 31.1 through 31.6 appear to be in error. Correct.	<i>Section Revised RM 11-14-88</i> AGREE WILL CORRECT
30.	E.V. Martinez	1-25-85	36.0	GP-23	Should read: "DISADVANTAGED BUSINESS ENTERPRISE/WOMEN-OWNED BUSINESS ENTERPRISE PROVISIONS."	WILL CHECK WITH DISTRICT ARTICLE CAME FROM CONSTRUCTION CONTRACT
31.	E.V. Martinez (PDCD)	1-25-85	36.2	GP-24	The last sentence should read: The Contractor shall not discriminate on the basis of race, color, national origin, religion, age or sex in the award..."	SAME AS NO. 30
32.			36.3	GP-24	The last sentence reads: "The affirmative action steps which must be taken and documented are set forth herein." Reference should be made to the section <u>where</u> these steps are spelled out.	SAME AS NO. 30
33.	E.V. Martinez (PDCD)	1-25-85	36.10	GP-28	Add: Women Construction Owners and Executives, USA P.O. Box 91464 Long Beach, CA 90809 (818) 240-2630	SAME AS NO. 30
34.	E.V. Martinez (PDCD)	1-25-85	36.12	GP-30	Omit the word "capitalize" on the second line, after "Equal."	AGREE. WILL REVISE
35.	R. Frias (PDCD)	1-25-85	57.0	GP-30	Clarify whether this contract includes installation? This paragraph alludes to installation but scope of work does not.	THIS CLAUSE WILL BE DELETED AS WILL EVERYTHING FROM 55.0 ON

Section 57 Deleted RM 11-14-88

<u>NO.</u>	<u>REVIEWER</u>	<u>DATE</u>	<u>PARAGRAPH</u>	<u>PAGE</u>	<u>COMMENT</u>	<u>RESPONSE</u>
36.	W.J. Armento	1-25-85	44.1	GP-33	Rolling stock, etc. in heading is not correct. Devise heading to be relevant to this Procurement Contract.	IT IS SOMEWHAT CONFUSING, BUT THE ACTUAL CERTIFICATE SHOULD MAKE IT CLEAR.
37.	W.J. Armento	1-25-85	44.2	GP-33	Refers to Paragraph 43.1 which does not exist.	WILL CORRECT
38.	M. Ingram	1-28-85	55.0	GP-36	3rd Line - The referenced General Provisions are wrong - should be (56.0 through 81.0) in lieu of (48.0 through 74.0).	AGREE. UA. WILL DELETE all RA 11-14-88
39.	L. Boyden (RTD)		59.2	GP-38	This paragraph should also require some evidence indicating at least minimal capacity on the part of the Contractor to hold the District harmless as evidenced by some instrument of bonding insurance or a contingency fund.	same as NO. 38 see GP 63.0 RA 11-14-88
40.	R. Frias (PDCD)	1-25-85	58, 61, 62, 63, 64, 71, 72, 73, 74 76, 77, 79, 80, 81	GP-37 GP-39 GP-41 GP-59 GP-60 GP-61 GP-62	Does not appear these clauses are needed; please review. Clauses apply primarily to construction and not procurement/fabrication contracts.	same as NO. 38
41.	L. Boyden (RTD)		47.4	GP-36	CAL/OSHA record keeping requirements should be referred to in this paragraph. Personnel and baseline medical records are required to be kept in some cases for long periods of time.	same as NO. 38

<u>NO.</u>	<u>REVIEWER</u>	<u>DATE</u>	<u>PARAGRAPH</u>	<u>PAGE</u>	<u>COMMENT</u>	<u>RESPONSE</u>
42.	E.V. Martinez (PDCD)		66.1 67.1 67.2	GP-42 GP-43 GP-43	The word "handicap" should be included in the statements referencing discrimination.	SAME AS NO. 38
43.	W.J. Armento	1-25-85	44.2	GP-33	Last paragraph refers to steel and cement. How and where will these materials be used in the products pertaining to this contract?	SAME AS NO. 38
44.	W.J. Armento	1-25-85	58.1 58.2	GP-37 GP-38	These paragraphs pertain to construction contract and not to a procurement one. Especially when this Contractor is asked to "satisfy itself as to the character, quality and quantity of surface and subsurface materials or obstacles to be encountered, etc." Delete.	SAME AS NO. 38
45.	W.J. Armento	1-25-85	61.0 to 61.6	GP-39 GP-40	This entire section is a construction contract requirement, not applicable to A615 and should be deleted.	SAME AS NO. 38
46.	W.J. Armento	1-25-85	62.0 to 65.2	GP-41 GP-42	These articles should be deleted entirely or modified to express procurement contract requirements and not construction and installation as presently written.	SAME AS NO. 38
47.	W.J. Armento	1-25-85	70.0	GP-58	Refers to CONSTRUCTION PROJECTS. But this A615 is not a construction project.	SAME AS NO. 38
48.	W.J. Armento	1-25-85	71.0 72.0	GP-59	Delete entirely as non-applicable.	SAME AS NO. 38
49.	W.J. Armento	1-25-85	74.0	GP-60	Delete entirely. No excavation involvement.	SAME AS NO. 38

<u>NO.</u>	<u>REVIEWER</u>	<u>DATE</u>	<u>PARAGRAPH</u>	<u>PAGE</u>	<u>COMMENT</u>	<u>RESPONSE</u>
50.	W.J. Armento	1-25-85	76.0	GP-60	Delete entirely. District will make available site for delivery.	SAME AS NO 38
51.	W.J. Armento	1-25-85	79.0 to 81.2	GP-61 GP-62	Delete entirely. Not applicable since pertain to a construction contract.	SAME AS NO 38
52.	R. Lontok (PDCD)	1-25-85	Table of Contents	i	Delete section 3.7, not covered in specifications.	Agree. Will delete
53.	D.R. Fiedler	1-9-85	2.2	2-2	Delete NFPA 130. It is not referenced in specifications.	<i>del 1-14-88 sec 302-20</i> Agree. Will delete
54.	W.J. Armento	1-25-85	2.3	2-3	Temperature Range given in °F. Add °C.	Agree. Will revise
55.	W.J. Armento	1-25-85	3.1.A	3-1	Change "contract rail" to read "contact rail."	Agree. Will revise
56.	D.R. Fiedler	1-9-85	3.1.F	3-1	Safety markings are not specified.	<i>sec 2 sec 2</i> Will delete paragraph
57.	R. Hanlon	1-25-85	3.1.G	3-1	Paragraph G. Introducing another contract interface into the system seems unnecessary. It is not certain that the programmed stop antenna mounting will require any special assistance from the coverboard contractor. (Non-mandatory)	<i>sec 2 sec 2</i> Will delete paragraph
58.	W.J. Armento	1-25-85	3.2.1.A	3-2	Temperature given in °C. Add °F.	Same as No. 54
59.	B. Hansson	1-25-85	3.1	3.2	Add: "The color shall be gray. There shall be no surface voids larger than 0.030 inches in diameter."	Agree. Will add.

<u>NO.</u>	<u>REVIEWER</u>	<u>DATE</u>	<u>PARAGRAPH</u>	<u>PAGE</u>	<u>COMMENT</u>	<u>RESPONSE</u>
60.	R. Lontok (PDCD)	1-25-85	3.3	3-3	Is there a requirement for pre-formed curved protective coverboard section?	No.
61.	R. Lontok (PDCD)	1-25-85	3.3	3-3	Is there a requirement for protective coverboard section on the side approach assemble shown on drawing P-148 sheet No. 5 in Contract A162?	No.
62.	T.W. Cook	1-28-85	3.3	3-3	First sentence appears to direct a sole source or one material - process. Should be approved equal or sole source requirements indicated.	<i>Disagree. There are at least three manufacturers who use continuous pultrusion method.</i>
63.	E. Leard	1-23-85	3.3	3-3	Delete the word "pultrusion" from first sentence of first ¶. I don't know what it means and I don't think we should restrict the molding process.	<i>Disagree. "Pultrusion" is a continuous molding process utilizing glass or fibrous reinforcement in a polyester or other thermosetting resin matrix same as No. 62</i>
64.	B. Hansson	1-25-85	3.3 3.4	3-3	Ultraviolet stabilizer in resin material should not require coating.	<i>Agree. Will delete requirement for coating.</i>
65.	R. Lontok (PDCD)	1-25-85	3.4	3-3	Is a sample of the contact rail, asy one foot section, to be furnished to the coverboard supplier to insure that the support bracket fits the flange of the contact rail.	<i>No. Contact rail configuration is shown on Contract Drawings.</i>
66.	W.J. Armento	1-25-85	3.4	3-3	Bottom line, should change "support brackets" to read "coverboard."	<i>Agree. Will change</i>

<u>NO.</u>	<u>REVIEWER</u>	<u>DATE</u>	<u>PARAGRAPH</u>	<u>PAGE</u>	<u>COMMENT</u>	<u>RESPONSE</u>
67.	M. Ingram	1-28-85	3.4	3-3	The last sentence of the second paragraph more logically should be the last sentence of the first paragraph. Also, "Color...for protective support brackets." should be "Color...for protective coverboard sections."	Agree. Will revise
68.	W.J. Armento	1-25-85	3.6	3-4	See Ref. No. 5 c above.	Same as No. 5c
69.	W.J. Armento	1-25-85	End of Section	3-4	The section ends here but there are no measurement and payment clauses given for each item in this Section or anyplace else. Required.	Measurement is in Bid Form and Payment is in GPs and SPs
70.	M. Ingram	1-28-85	4.3	4-1	"14 days" should be changed to "10 days," to provide consistency with GP Article 24.1 and the District agreed to time frame of 10 days used in a similar section of the QA spec. Requirements developed for use in the major systems procurement contracts.	Will change to 30 days to allow a sufficient time for obtaining required travel authorization
71.	B. Hansson	1-25-85	4.3	4-1	Should be "not less than 30 days."	Same as 70.
72.	M. Ingram	1-28-85	4.4	4-1	Second sentence - "60 days" does not agree with Item 03-Column (e) of Table 9-1, which states "Day of Test." Calibration certificates should be submitted with the test reports.	Agree. Will revise WJ RJA 11-14-88
73.	E. Leard	1-23-85	4.2.6 4.8	4-1 4-4	Delete these paragraphs - special testing should not be required.	Agree. Will delete

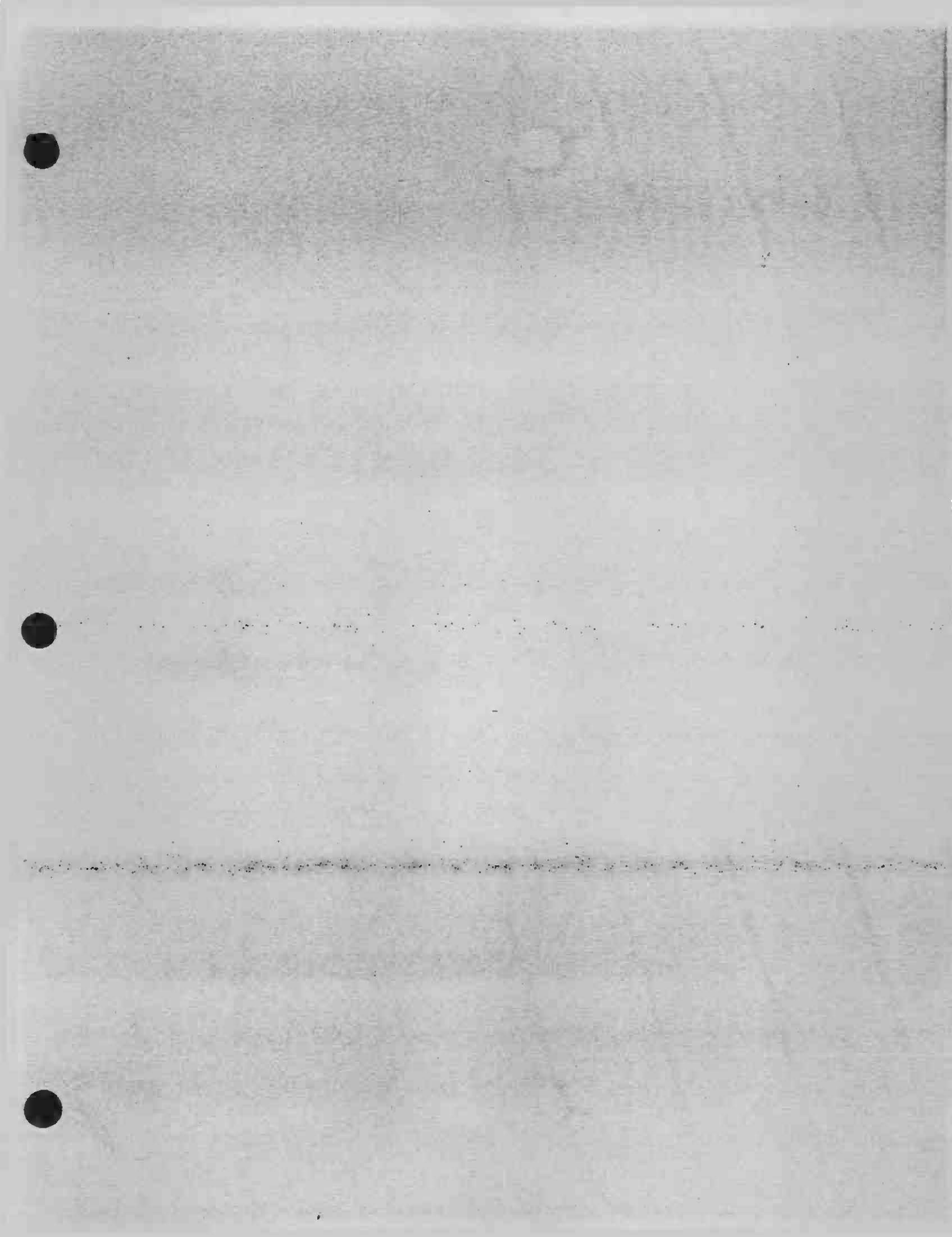
<u>NO.</u>	<u>REVIEWER</u>	<u>DATE</u>	<u>PARAGRAPH</u>	<u>PAGE</u>	<u>COMMENT</u>	<u>RESPONSE</u>
74.	M. Ingram	1-28-85	4.5.1	4-2	60 days submittal requirement for test program plan does not agree with table 9.1, column (e) which states 45 days.] These comments are applicable for A612. Will be deleted from this list ok RM 11-14-88
75.	M. Ingram	1-28-85	4.5.1	4-2	Third sentence - delete comma between "procedure and "submittal".	
76.	M. Ingram	1-28-85	4.5.3	4-2	The information to be included in test reports must be expanded to include: <ul style="list-style-type: none"> ✓ Test Procedure Reference ✓ Test Equipment Identification ✓ Test Personnel ✓ Date of Test Specified Requirements Actual Test Results Nonconformances, if any 	✓ Agree. Will add ok RM 11-14-88
77.	D.R. Fiedler	1-9-85	4.6	4-2	Testing to verify physical properties is required.	ok RM 11-14-88 Specified in 3.2.1
78.	W.J. Armento	1-25-85	4.6.1.A	4-3	Second sentence, change "lengthwise" to "lengthwise."	Will revise
79.	B. Hansson	1-25-85	4.6.1.A 4.6.1.B	4-3	Load test should include application of load also at support bracket.	Agree. Will add.
80.	M. Ingram	1-28-85	4.6.2	4-3	As written, the Elec. Insulation test is required only on the Protective Coverboard. Test should also be performed on Expansion Joints - ADD.	Disagree. Expansion joints are fabricated from coverboard sections.

<u>NO.</u>	<u>REVIEWER</u>	<u>DATE</u>	<u>PARAGRAPH</u>	<u>PAGE</u>	<u>COMMENT</u>	<u>RESPONSE</u>
81.	M. Ingram	1-28-85	4.6.3	4-3	As written, Weathering Test is required only on ONE section of Protective Coverboard. Recommend at least FIVE test samples, as used for Mechanical Load Test. A sample size of ONE is unacceptable.	Agree. Will revise. all rev 11-14-88
82.	M. Ingram	1-28-85	4.7	4-3	Add requirement for production tests to be performed in accordance with the same test procedures used for Qualification Tests.	Agree. Will add all rev 11-14-88
83.	M. Ingram	1-28-85	4.7	4-3	Add requirement for Production Tests to be performed on Expansion Joints, as well as Protective Coverboards.	Agree. Will add all rev 11-14-88
84.	M. Ingram	1-28-85	5.1	5-1	The Quality Assurance Program should also address the following in addition to A-D: <ul style="list-style-type: none"> ° Identification, control & disposition of nonconformances ° Identification of Inspection Status ° Calibration of Measuring & Test Equipment ° Organization, Authority & Responsibility ° Drawing and change control 	Agree. Will add <div style="border: 1px solid black; padding: 5px; width: fit-content;"> <p>NOT ADDRESSED Subsequent Reviewed 5-7-88 Does not indicate still open</p> </div>
85.	R. Frias (PDCD)	1-25-85	Section 5	5-1	Suggest: The <u>Contractor's</u> currently <u>approved</u> QA or QC Manual and the program meeting, as a minimum, the requirements of this section be submitted for approval.	Disagree. A written program, as specified, does not preclude submittal of QA or QC Manual. 11-14-88

<u>NO.</u>	<u>REVIEWER</u>	<u>DATE</u>	<u>PARAGRAPH</u>	<u>PAGE</u>	<u>COMMENT</u>	<u>RESPONSE</u>
86.	R. Frias (PDCD)	1-25-85	Section 5/6	N/A	Consider requiring, as part of QA program written plan, or in the management plan, the Contractor's fabrication sequence.	<i>Disagree. See no reason for requiring fabrication sequence.</i>
87.	W.J. Armento	1-25-85	7.2	7-1	SPARE PARTS LISTING. No requirements of parts given nor is there a pay item for it.	<i>Spare parts will not be procured initially, however the listing is needed for future use.</i>
88.	E. Leard	1-23-85	7.2	7-1	Revise first sentence to read "...item description and manufacturer's name and part number..." -- we don't want artificial contractor part No. and we want to buy spares direct especially if contractor goes out of business later.	<i>Agree. Will revise</i>
89.	W.E. Price	1-25-85	Section 7	7-1	Paragraph 7.2 - A statement should be included which requires substantiation of the components listed, e.g., "Each component on the list shall be verified by its usage rate, replenishment lead time, and estimated unit price."	<i>Agree. Will revise.</i>
90.	M. Ingram	1-28-85	9.1	9-1	Last line - delete "below."	<i>See Sec. 8 11-16-88 Agree. Will delete.</i>
91.	W.J. Armento	1-25-85	9.1	9-1	Do you really need "Bidders and Contractor" to comply with the requirements indicated, or only the Contractor?	<i>Agree. Will delete "Bidders"</i>
92.	W.J. Armento	1-25-85	Item 09	9-2	In Table 9-1. See Ref. No. 2087 above re: SPARE PARTS	<i>Same as NO. 87</i>

<u>NO.</u>	<u>REVIEWER</u>	<u>DATE</u>	<u>PARAGRAPH</u>	<u>PAGE</u>	<u>COMMENT</u>	<u>RESPONSE</u>
93.	M. Ingram	1-28-85	Table 9-1	9-2	Item 02 - Ref. Para. should be 5.2 Item 03 - Ref. Para. should be 4.4 Item 03 - Column (e) - see Comment No. 6 Item 04 - Ref. Para. should be 4.5.1 Item 05 - Ref. Para. should be 4.3 Item 05 - Column (e) - see Comment Comment No. 5 Item 06 - Ref. Para. should be 4.5.2 Item 07 - Ref. Para. should be 4.5.3 Item 08 - Ref. Para. should be 7.1 Item 09 - Ref. Para. should be 7.2	<i>Will revise</i> <i>Table Revised</i> <i>11-14-88</i>
94.	W. Robertson	1-25-85	Table 9-1	9-2	Item 02 - Ref. Para. 4.1.2 should be 5.2 Item 03 - Ref. Para. 4.2.1 should be 4.4 Item 04 - Ref. Para. 4.2.A should be 4.5.1 Item 05 - Ref. Para. 4.2.1 should be 4.3 Item 06 - Ref. Para. 4.2.5B should be 4.5.2 Item 07 - Ref. Para. 4.2.5C should be 4.5.3 Item 08 - Ref. Para. 5.1 should be 7.1 Item 09 - Ref. Para. 5.2 should be 7.2 Following data items should be added: Qualification Test Certificates - Ref. Paragraph 4.5.4. Management Plan Ref. Paragraph 6.2.2. Quarterly Progress Reports Ref. Paragraph 6.2.3.A. Initial Activities Report Ref. Paragraph 6.3.1.	<i>will revise</i>

<u>NO.</u>	<u>REVIEWER</u>	<u>DATE</u>	<u>PARAGRAPH</u>	<u>PAGE</u>	<u>COMMENT</u>	<u>RESPONSE</u>
95.	R. Lontok (PDCD)	1-25-85	Table 9-1	9-2	Correlate title and reference paragraph with body of specification, some do not agree.	<i>Will correlate.</i>





MEMORANDUM

DATE: March 5, 1985

TO: A. Dale
I. Shafir

FROM: T. Tanke *Tanke*

SUBJECT: Action Item #9 from Traction Power Procurement
Contract A612, A615 and A630 Prefinal Design Review

FILE NO.: S400X028
A630

Pursuant to the Action Item list issued on February 26, 1985, please find as follows the disposition of the above captioned action item.

Action Item - Review need for side coverboard adjacent to walkway areas of A-130.

Response: SCRTD Fire/Life Safety Criteria Section 2.3.4.2.4 states the following:

2.3.4.2.4 Walkway continuity shall be maintained at special track sections. Crosswalks shall be provided the full width of all trackways at both ends of special track sections. Safety walks of both trackways shall be located at the exterior walls above the contact rail coverboard. They shall have a clear width of 2 feet, 8 inches, guard rails (emphasis added), and use maximum 4% slope ramps for elevation changes, or both trackways shall be provided with walkway top-of-rail height a minimum of 3 feet 8 inches from crosswalk to crosswalk.

The Fire/Life Safety Committee has interpreted the term guard rail to be either a standard Cal OSHA approved 42" high handrail or side coverboards/wrap-around coverboard installed with the contact rail. Therefore, anywhere in the A-130 contract where the above referenced safety walkway conditions exist, a guard rail (handrail or side coverboard) must be installed. It is the option of the section designer to use either handrails or side coverboards. If handrails are not shown then I assume side coverboards will be used.

A. Dale/I. Shafir
March 5, 1985
Page 2 of 2

The current design of the A-130 contract shows elevated safety and maintenance walkways in certain areas. It is called to your attention that the last part of the last sentence in 2.3.4.2.4 states "or both trackways shall be provided with walkway top-of-rail height a minimum of 3 feet 8 inches from crosswalk to crosswalk". This is interpreted to mean that if the walkway is elevated to this height and the contact rail is next to the walkway, the guard rails are not required. Also there is a distinction between safety and maintenance walkways. The maintenance walkway begins approximately at the turnout to the yard, while the safety walkway is anywhere patrons may be required to walk in an emergency.

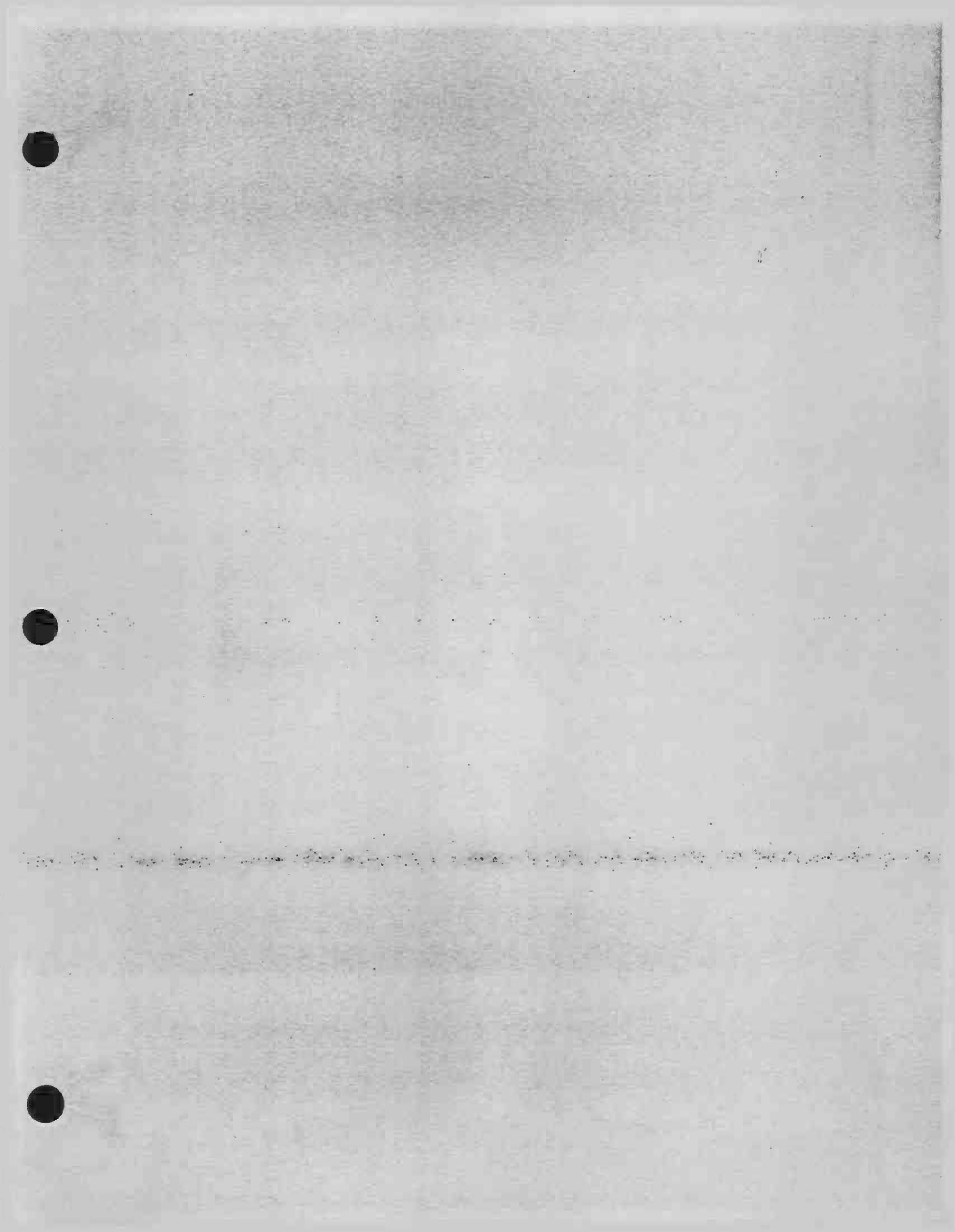
It is my personal interpretation of this criteria that side coverboards would be required in those areas mentioned in 2.3.4.2.4 where patrons may be present, but not where only Metro Rail employees/workmen are present. This would also apply to the yard design where side coverboards have not been installed per the latest design.

I cannot specifically mark those sections requiring side coverboards on the A-130 contract since it is my understanding that the walkways, crosswalks and other trainway features may be changing as a result of 85% design review comments. Once firm walkway locations have been determined, either you or myself or both of us can locate these areas.

This response will close Action Item #9 from the Traction Power Procurement Pre-final Design Review.

TT:TT:et

cc: D. Bloomfield
W. Rhine - RTD
K. Rummel
R. Wood - RTD
J. Yen
DCC (2)
Chron
Subject



POCD

600 SOUTH SPRING STREET
SUITE 120C
LOS ANGELES, CALIFORNIA 90014
(213) 489-8950

REF. NO. Contract No. 3369
CM - MR - 694

cc: D. Barry
m#
Jas
D#

**RECEIVED
SCRTD - TSD
CONSTRUCTION MANAGEMENT**

JUN 12 1985

ITEM # 255

FILE # 0615

June 11, 1985

Southern California Rapid Transit District
425 South Main Street
Los Angeles, California 90013

Attention: Mr. James A. Strosnider
Director, Construction Management

Subject: Final Design Review
Traction Power Procurement
Contract A-615 - Coverboard
File W001A630



Gentlemen:

In accordance with the requirements of paragraph 3.1.1 of the referenced contract, we have reviewed the final documents for Contract A-615, distributed with Mr. A.M. Dale's memorandum dated May 17, 1985.

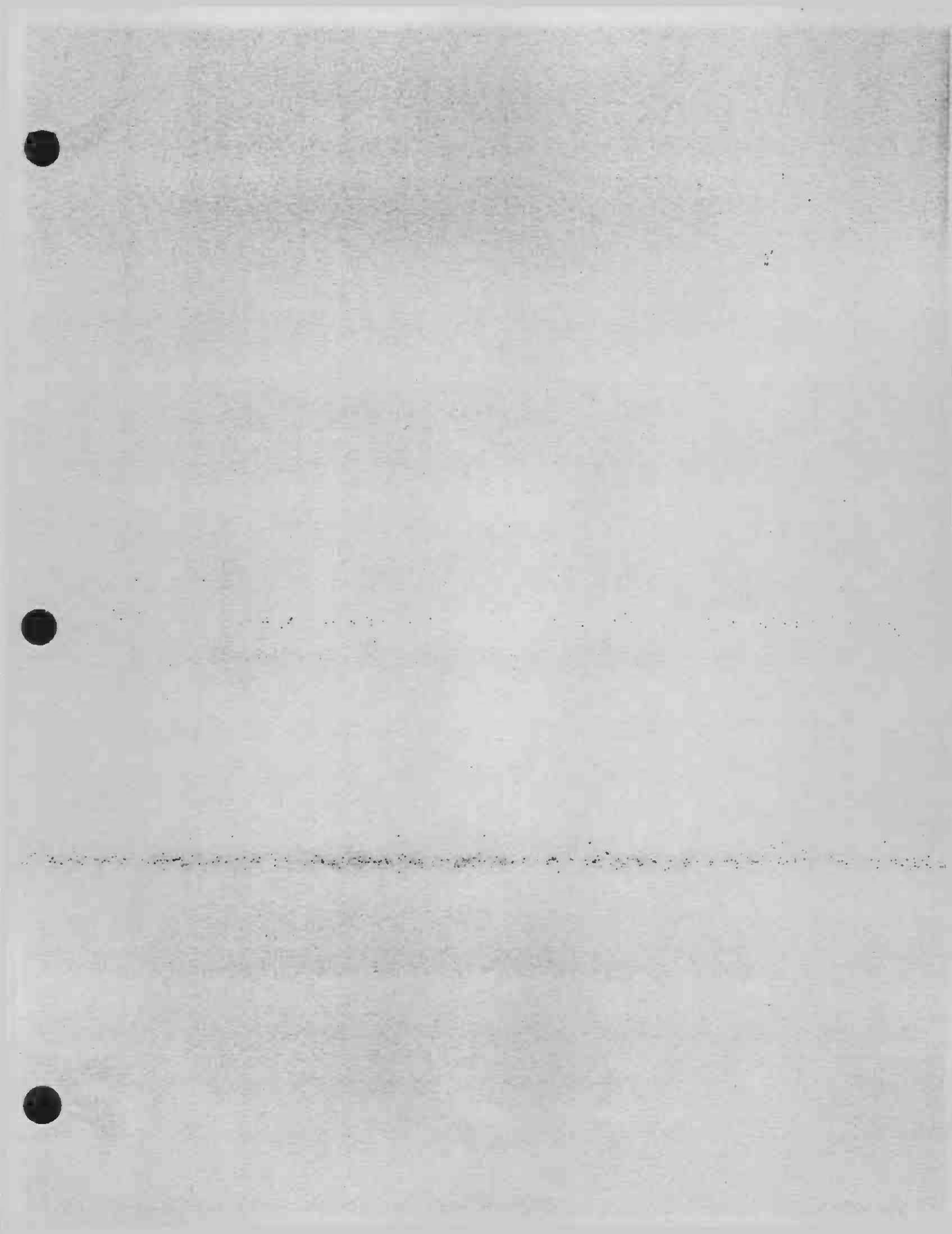
Our comments are attached.

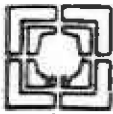
Very truly yours,

Melvin L. Polacek
Melvin L. Polacek
Construction Manager

Attachments
(As noted above)

cc: Mr. J.E. Crawley
Mr. W.J. Rhine





MEMORANDUM

REVIEW COMMENTS TRANSMITTAL

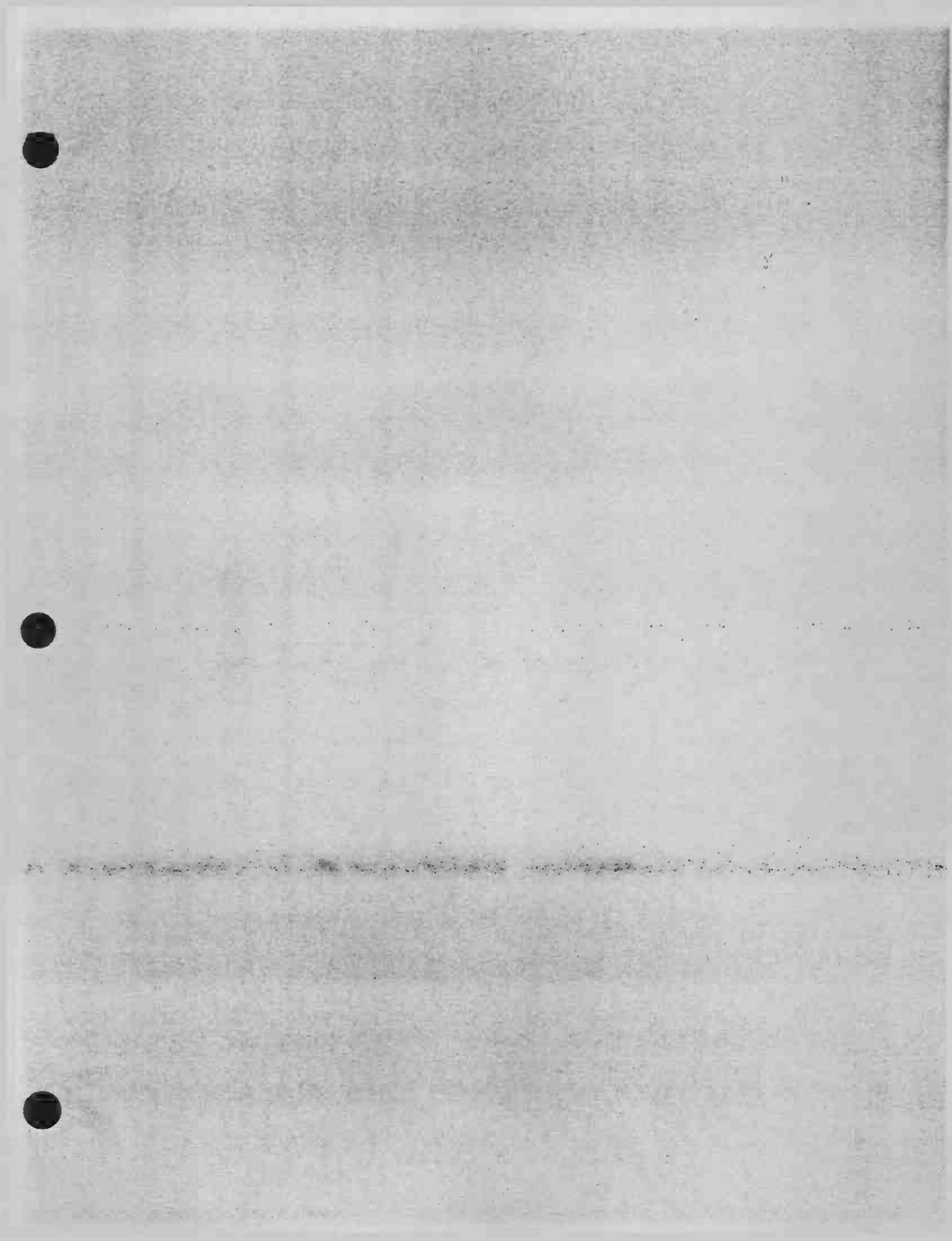
DATE: MAY 8, 1985
 TO: J. SHAFIR
 FROM: TOM TANKE *[Signature]*
 SUBJECT: DRAFT FINAL SPECIFICATIONS FOR A-612, 615 & 630
 REVIEW COMMENTS
 FILE NO: 3400 X082

In response to your memo of 4-29-1985 (date) regarding the subject mentioned above, attached are review comments by SAFETY, ASSURANCE & SECURITY.

If you have any questions, please contact J. Yen x7136 (name).

Attachments

cc:	(w/attachment)	(w/o attachment)
	K. Rummel	
	T. Cook/Dr File	
	DCC	DCC
	J. SANDERLIG	Chron
	R. WOOD	Subject
	J. YEN	File



85-044704



Rolf Jensen & Associates, Inc.

Fire Protection Engineers
Building Code Consultants

RECEIVED

JUN 11 1985

D. C. C.

Cross Ref
Section II
Design Review
Comments Dated
6-11-85

June 13, 1985

FEDERAL EXPRESS

Mr. James Yen
Metro Rail Transit Consultants
548 South Spring Street, Eleventh Floor
Los Angeles, California 90013

100% DESIGN REVIEW
A-612 CONTACT RAIL
A-165 COVERBOARD
A-630 SUBSTATION EQUIPMENT

Jim:

Our comments on the subject design review packages are enclosed.

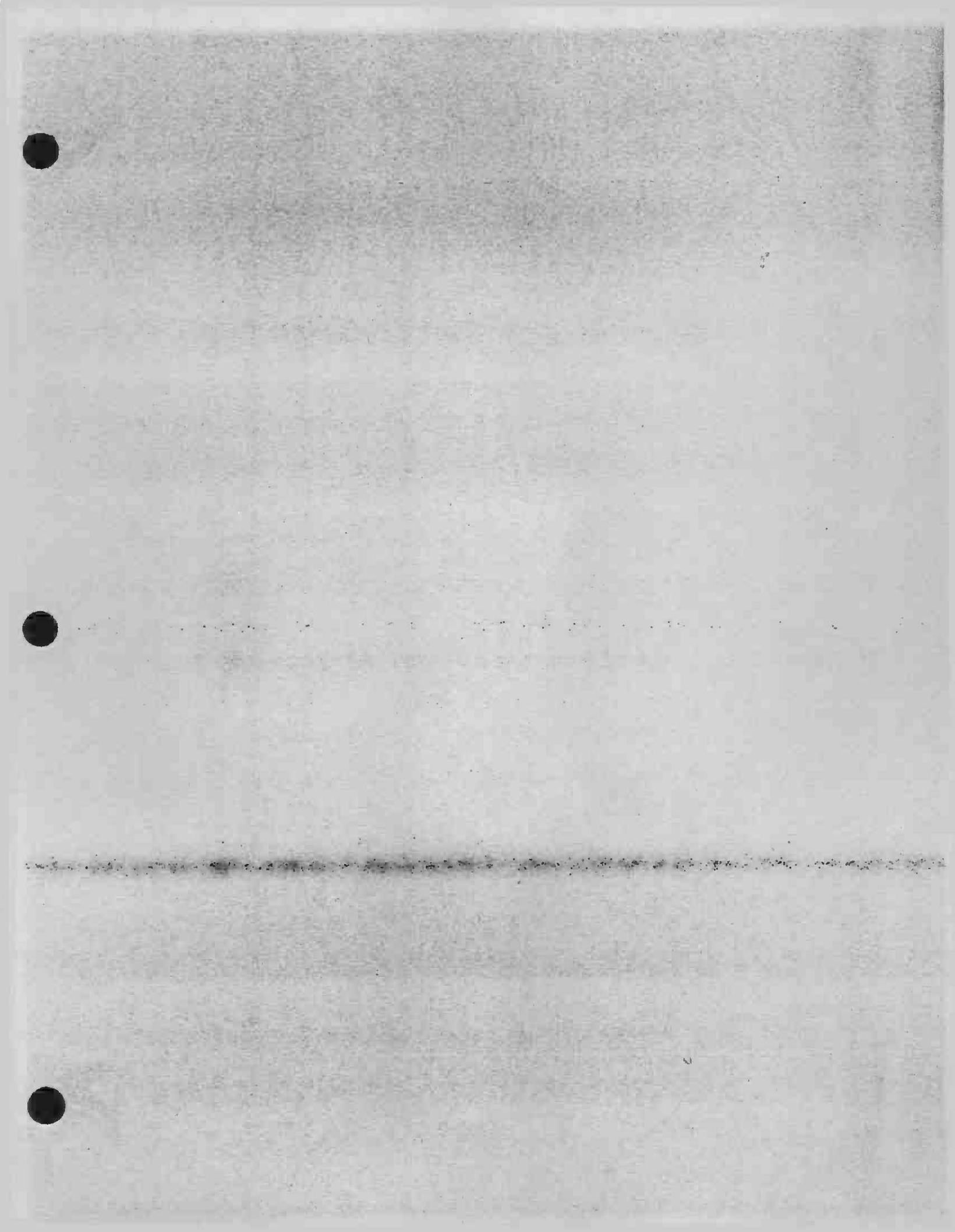
Sincerely,

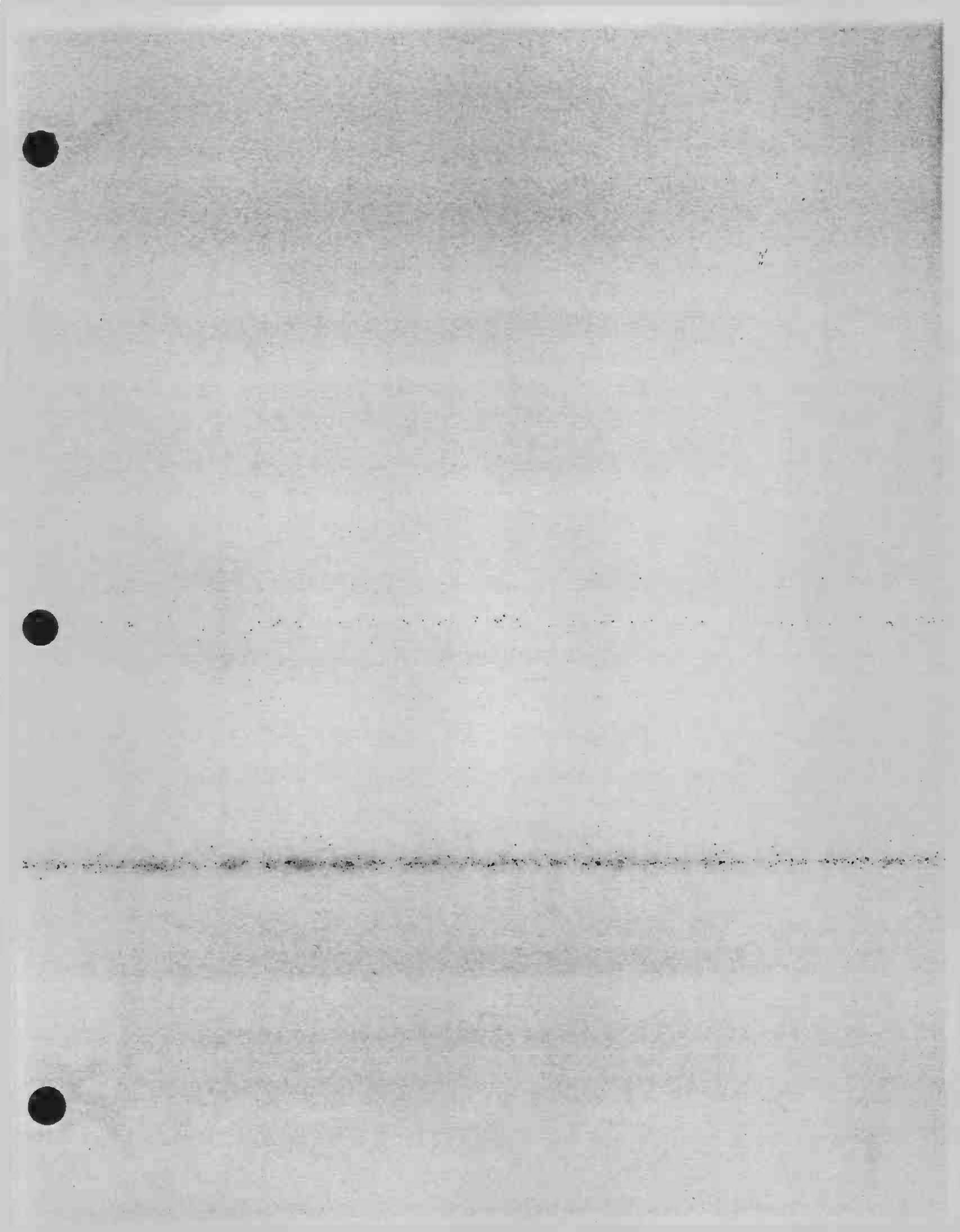
David R. Fiedler, P. E.

DRF:pkj - H3275 - Traction Power

Enclosures

cc: Mr. Daniel K. Bloomfield





SECRET

CONFIDENTIAL

Dale

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

88-04132

CONFIDENTIAL

May 24, 1985

TO: Distribution

RECEIVED

FROM: William J. Rhine *William J. Rhine*

MAY 28 1985

SUBJECT: METRO RAIL SYSTEM DESCRIPTION - REVISION 1

WJR

The attached revised Metro Rail System Description replaces the system description distributed via my memorandum of April 17, 1985. This Revision 1 version now becomes the standard to be used when a general system description is required. Users may reduce the description as deemed appropriate to the specific application, but substitutions and revisions are not condoned.

Attachment

Distribution:

- A. Dale - MRTC
- L. Elliott - Booz-Allen
- K. Rummel - MRTC

cc:

- M. Becher
- D. Gary
- E. Pollan
- J. Sandberg
- R. Wood

*Cross Reference:
Section II
Design Review Comments
Dated 6-11-88*

SYSTEM DESCRIPTION - REVISION 1 (3-22-65)

The Metro Rail System is an 18-mile rail rapid transit line planned by the Southern California Rapid Transit District (SCRTD) from downtown Los Angeles via the Wilshire District, Fairfax, and Hollywood and to the San Fernando Valley. This line is planned to be the core element of a regional rail rapid transit system. In addition to the planned 18-mile line, two future extensions of the Metro Rail System have been identified as part of the regional rail rapid transit system. While the entire mainline portion of the 18-mile line is planned as subway, the future extensions may involve surface or aerial segments as determined by design development.

The first four miles of the line have been identified as the initial operating segment because there are currently insufficient federal funds to construct either the 18-mile Metro Rail System or the 8.8-mile minimum operable segment identified in the Federal Environment Impact Statement. This initial segment, identified as MOS-1, consists of double-track mainline subway from Union Station to Wilshire/Alvarado Station with additional subway and surface track connecting to the yard southeast of Union Station. It includes all yard and shop facilities planned for the 18-mile system with the exception of part of the yard storage tracks, which will be installed as warranted by system extension and fleet expansion.

The MOS-1 line has five stations. The mainline route begins at Union Station, northeast of the Los Angeles Civic Center, and runs through the central business district, terminating on the west side at the Wilshire/Alvarado Station. The rail line is entirely in subway with line segments constructed by tunnel boring machines and stations and crossovers excavated by cut and cover construction techniques. Three double crossovers are included in the subway portion of MOS-1, one at each side of Union Station and one at the east end of the Wilshire/Alvarado Station.

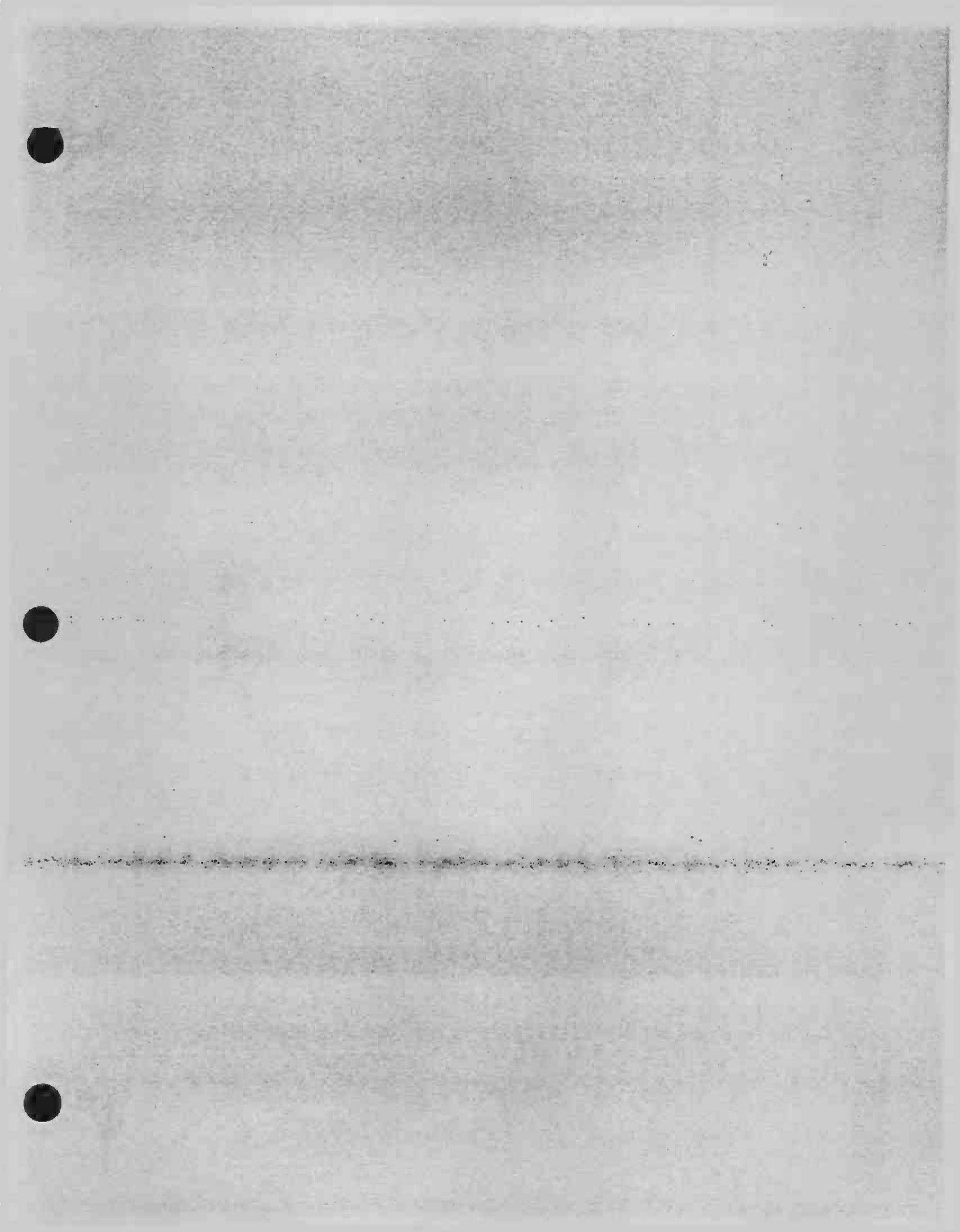
The vehicles for the system will be stainless steel, standard gauge, 75 foot long rail cars, which will be configured in dependent pairs. They will be capable of operating at speeds up to 70 miles per hour and will operate on 750 VDC power supplied via third rail. Metro Rail trains may consist of two, four, or six vehicles. The capacity of each single vehicle will be 59 seated passengers plus space for one wheelchair, up to 110 standing passengers at normal loads, and over 200 standing passengers at crush loads. The vehicle fleet for MOS-1 will consist of 30 vehicles.

-2-

MOS-1 trains will have Automatic Train Protection equipment to ensure safe speed and separation of trains. Automatic Train Operation (ATO) also will be included to regulate train speed and provide precision station stopping and train berthing verification for trains operating on the mainline in the ATO mode. System operation will be centrally controlled from the Rail Control Center, located in the Yard, using communication links with facilities and trains involving telephones, radios, CCTV and data transmission.

The five initial stations will be primarily of a double-ended design with two mezzanines, but one station, Wilshire/Alvarado, will be of the single-mezzanine design characteristic of the majority of the stations on the 18-mile line. Each mezzanine free area will have ticket vending machines and change machines and will be separated from the paid area by one or two arrays of entry/exit faregate barriers. The fare structure for MOS-1 will be based on a single zone, but fare collection equipment will have multi-zone capability to accommodate system extension. Escalators, stairs, and elevators will provide normal vertical circulation between surface, mezzanine, and platform levels. Stations will be equipped for both attended and unattended operation. Some stations will have adjacent parking facilities, pick-up/drop off areas and/or bus pull-in areas to accommodate patrons arriving by automobile or by bus.

Ridership on MOS-1 is projected to be approximately 54,000 per day. Service for MOS-1 is planned to consist of 4-car trains operating at headways of 5 minutes during peak hours, increasing to 20 minutes during evenings and weekends. However, 6-car trains operating at 2 1/2 minute headways will be required to serve projected demand for the 18-mile line.





85-04679

FLSC 85-5-158/159
CRIT 85-15

FIRE/LIFE SAFETY
COMMITTEE

RECEIVED
SCRTD - TSD
SYSTEMS DESIGN & ANALYSIS
JUN 24 1985
ITEM # 8-58
FILE #

June 18, 1985

Mr. William R. Rhine, Director
Systems Design & Analysis Dept.
Southern California Rapid
Transit District
425 South Main Street
Los Angeles, CA 90013

Dear Mr. Rhine:

A-612, 615, 630 - Traction Power - Final Design

On May 30, 1985, the Fire/Life Safety Committee (FLSC) received a transmittal from MRTC requesting review of A-612, 615, 630 - Traction Power, Final Design review, dated May 17, 1985.

After review of the above titled documents, the Fire/Life Safety Committee agrees with the proposals and have no adverse comments at this time.

Should you have any questions regarding this matter, please contact the FLSC at 972-3457.

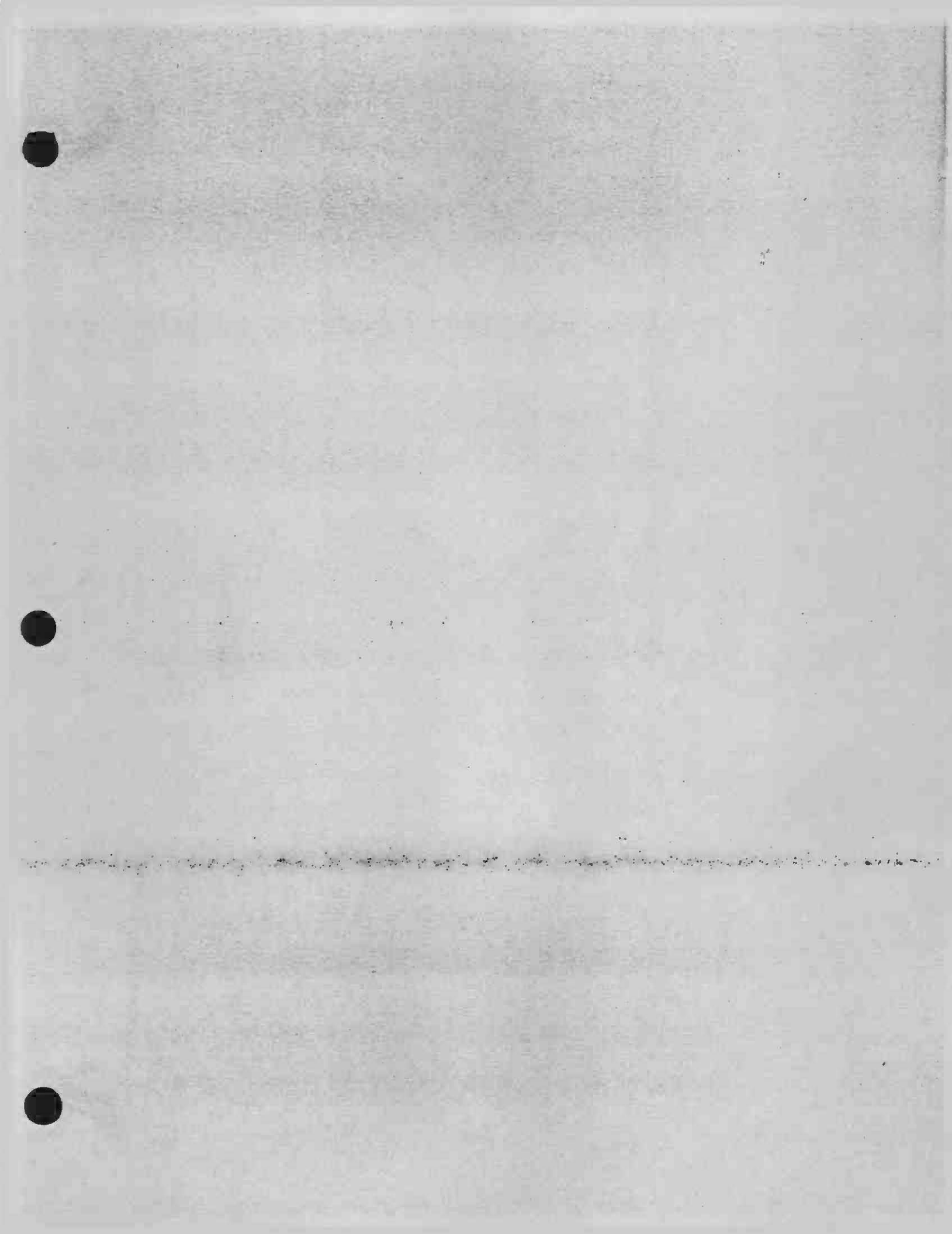
Very truly yours,

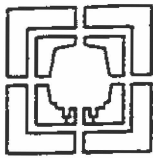
Donald E. Bartlett
Donald E. Bartlett, Battalion Chief
Los Angeles City Fire Department

Richard B. Schiehl
Richard B. Schiehl, Battalion Chief
Los Angeles County Fire Department

Roger W. Wood
Roger W. Wood, Jr.
SCRTD, Metro Rail

cc: Mr. Robert Murray
Mr. James Crawley
SCRTD, FLSC Permanent Members





MEMORANDUM

October 4, 1985

TO: Distribution

FROM: Rolland E. Cooper *RC*

SUBJECT: A-135, Union Station - Fire Life Safety
100% Design Review

FILE NO: V200A135X013

A separate design review meeting with Fire and Life Safety has been scheduled for Wednesday the 9th of October 1985, at 1:30 p.m. in the 7th floor Conference Room.

Attached is a copy of their comments and our response. Please review and reconfirm our position on each querie.

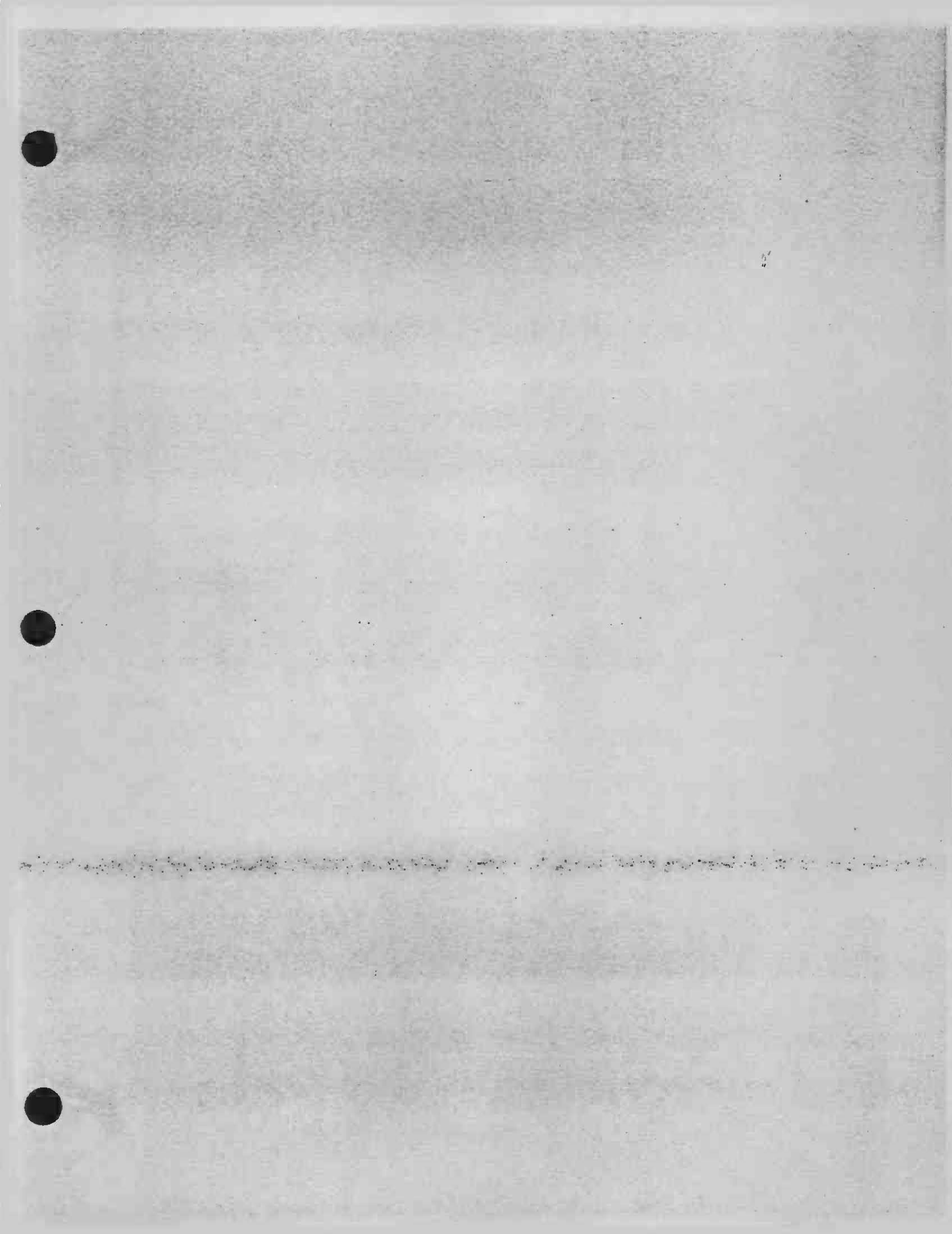
REC:djr

Attachment

Distribution:

K. N. Murthy	MRTC
H. Kivett	MRTC
T. Tanke	MRTC ✓
E. Bencze	MRTC
A. Kohan	MRTC
D. Low	SCRTD
DCC (2)	

*Ref: Section II
Comments Dated 9-18-85
RA*



Cross Ref:
Section II
Design Review
Comments Dated
5-28-86

86-02099

RECEIVED

MAY 30 1986

D.C.C.

MEMORANDUM

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
TRANSIT SYSTEMS DEVELOPMENT DEPARTMENT
SYSTEMS DESIGN AND ANALYSIS

RECEIVED BY MRTC

MAY 30 1986

SYSTEMS DESIGN DIVISION

DATE: May 29, 1986

TO: Alan Dale

FROM: William Rhine

William Rhine

SUBJECT: Contract No. A615, Coverboard. Review of Safety
Certification Specification Conformance Checklist

The Systems Design and Analysis Department has reviewed the subject contract package. Our comments are listed in the two attached review/comment sheets dated May 28, 1986. The additions listed will help clarify and strengthen the certification checklist.

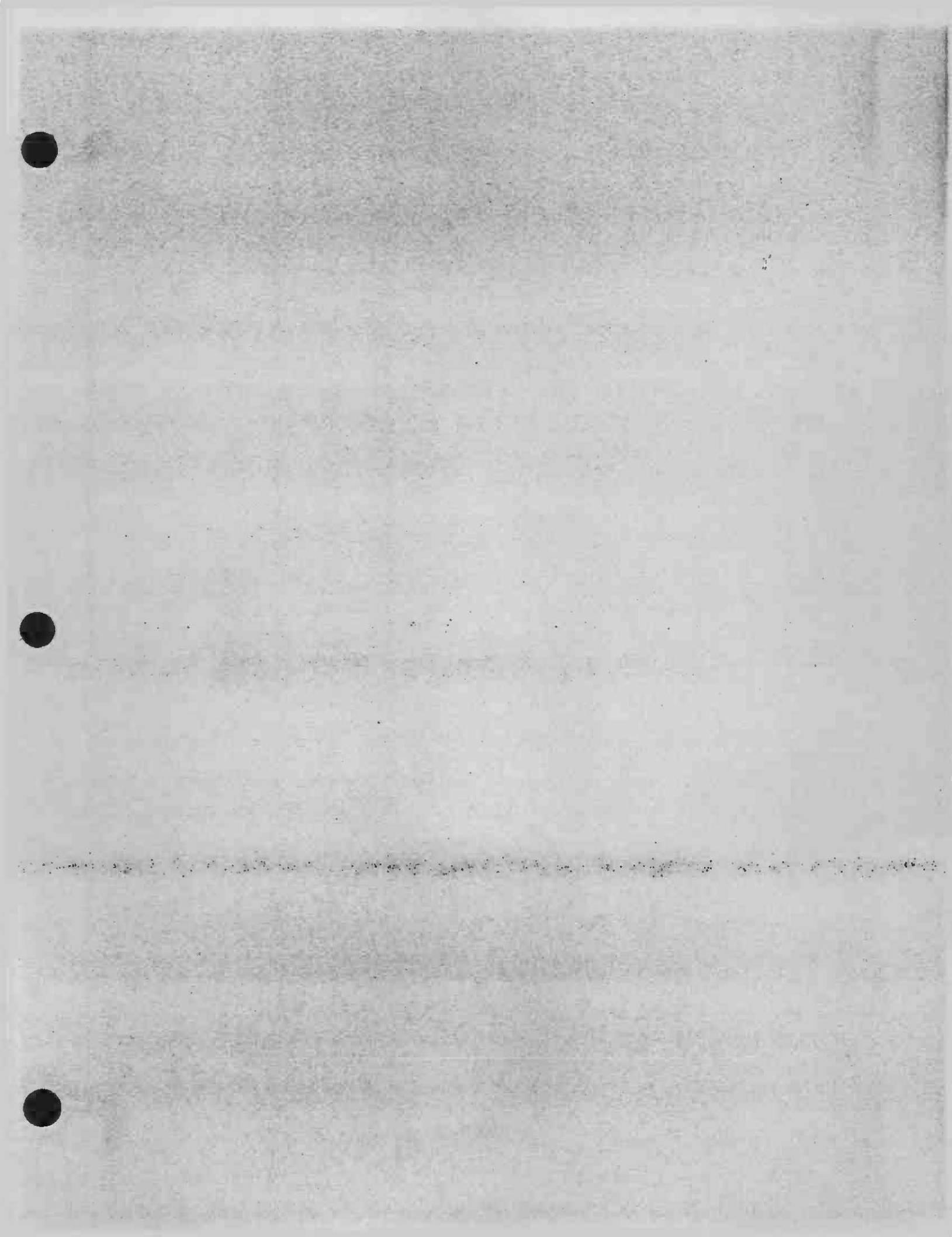
Attachment

- cc: L. Boyden
- H. Storey
- N. Brown
- M. Ingran

*Nick -
Do you or Malcolm have
a problem with this?
Alan*

*All comments ARE REASONABLE
AND HAVE BEEN INCORPORATED
into checklist.*

*Mahel
6/23/86*



M E M O R A N D U M

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT
TRANSIT SYSTEMS DEVELOPMENT DEPARTMENT
SYSTEMS DESIGN AND ANALYSIS

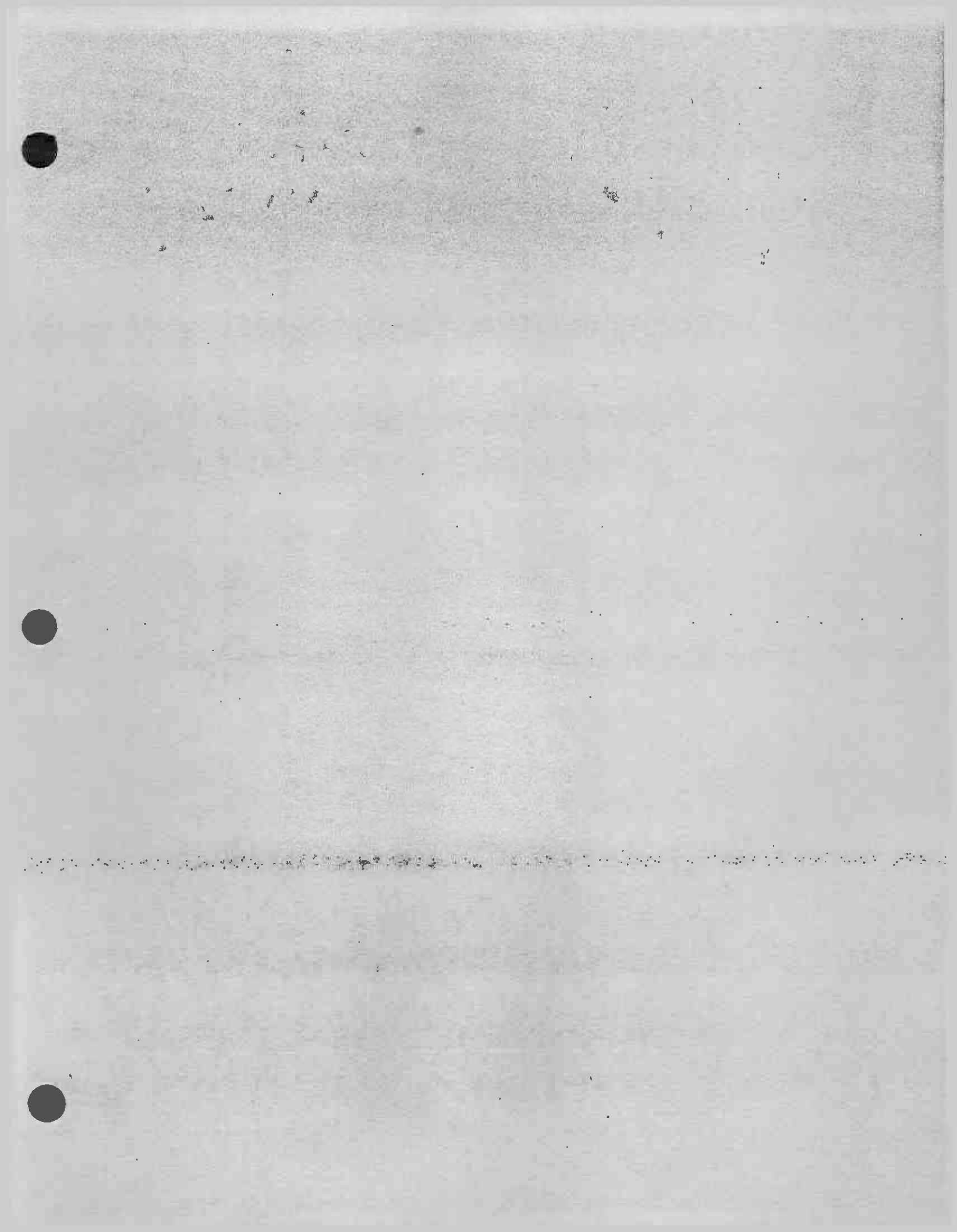
DATE: October 17, 1986
TO: J. Crawley
FROM: W. Rhine *W. Rhine*
SUBJECT: Contract A-136, Union Station, East/West Entrance Relocations

Attached is a copy of the F/LS Committee's response to an October 6, 1986 inquiry by Mr. D. Low regarding the subject entrances. Mr. Low may handle directly with Mr. H. Storey and the F/LS Committee for resolving their comments.

Attachment

cc: F/LSC
R. Cooper - MRTC
D. Low
H. Storey

*Ref. Section II
Comments dated 10-15-86
Mk*





METRO RAIL TRANSIT CONSULTANTS
DMJM/PBQD/KE/HWA

CROSS REFERENCE
See Section II
Design Review Comments
Dated:

11-30-87

87-04396

MEMORANDUM

DATE: December 11, 1987
TO: Distribution
FROM: A. M. Dale *AMD*
SUBJECT: Legal/Technical Review Comments
Traction Power Substation Equipment
Procurement Contract A630
FILE: W001630
P.5.3.1

Attached is a copy of all comments and responses received to date on the A630 pre-bid review package. Each comment has been evaluated and appropriate resolutions will be incorporated into the procurement specifications book before the Contract package sign-off commences on December 21, 1987. Any lack of agreement with the proposed comment resolutions must be brought to the attention of Geoff Penney by December 16, 1987.

AMD/GWP/lu
awf

Attachment

cc: Distribution
DCC(2)



Reviewed by MRTC
Safety, Assurance & Security
No Adverse Impact on Safety
Certification

A D D E N D U M

covering

CHANGE IN SPECIFICATIONS AND/OR PLANS

Date Issued: April 27, 1988

Addendum No: A615-1

Addendum Date: April 18, 1988

Bid No: _____

Contract: A615: PROTECTIVE COVERBOARD

INTENT

1. This addendum is issued prior to receipt of bids to provide for modifications in the Procurement Specifications Book. Acknowledgement of this addendum shall be made and cost of work included or excluded in bidder's proposal.
2. This addendum consists of the following items:

Revisions to the following Specifications Sections and the pages included:

- Information for Bidders. Pages BR-4, BR-6 and BR-10.
- General Conditions. Pages 6, 33 and 59.
- Technical Provisions. Pages TP-3-5, TP-4-i, TP-4-3, TP-4-4, TP-4-5, TP-4-6 and TP-8-2.

Specification addendum revisions are identified by the Addendum Number in the margins before and after each line modified. Pages changed due to relocation of lines or paragraphs that are not modified by addendum will not have identifying numbers, but are included to keep the Procurement Specifications Book intact and continuous. Please place the enclosed pages in your Procurement Specifications Book and remove addended pages.

Issued By: _____

A handwritten signature in dark ink, appearing to read "John E. Maddy", is written over a horizontal line.

For Maynard Z. Walters
Director
Office of Contracts
Procurement and Materiel

MZW/GP/dm