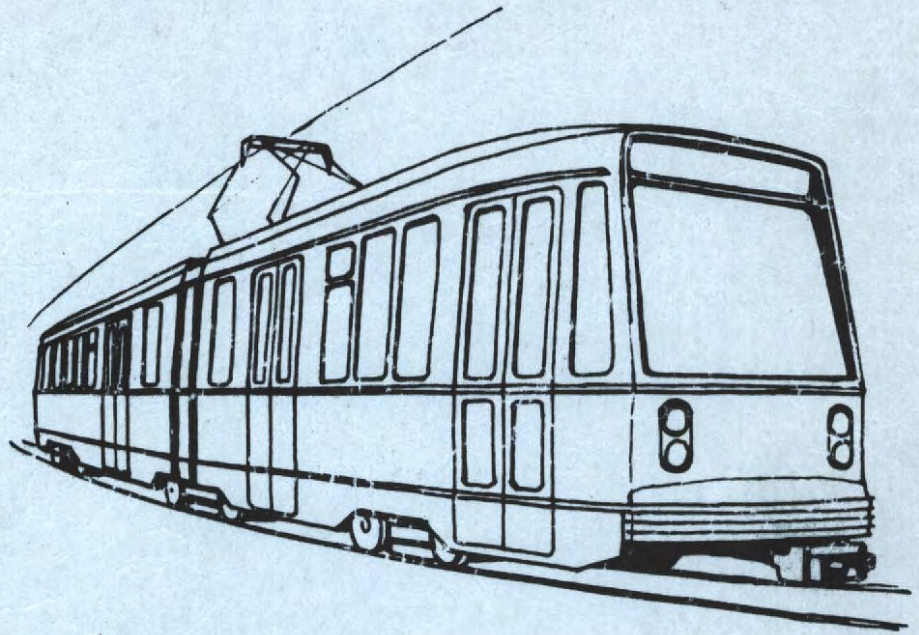


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STANDARD LIGHT RAIL VEHICLE SPECIFICATION



CONTRACT SECTION

**REVISED TO INCLUDE
ADDENDA 1 THROUGH 4**

OCTOBER 1972

**PREPARED BY THE MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
AND THE SAN FRANCISCO MUNICIPAL RAILWAY IN COOPERATION WITH OTHER
TRANSPORTATION AGENCIES AND CONSULTING ENGINEERS**

**SPONSORED BY THE UNITED STATES DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION**

CONTRACT DOCUMENTS

LIGHT RAIL VEHICLES

THE MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

and

THE SAN FRANCISCO MUNICIPAL RAILWAY IMPROVEMENT CORPORATION

The preparation of this Specification has been financed, in part, through a grant from the United States Department of Transportation Urban Mass Transportation Administration under the Urban Mass Transportation Act of 1964, as amended.

OCTOBER, 1972

This Specification describes a standard United States Light Rail Vehicle. Any changes affecting the performance parameters and/or design characteristics of this Specification must be approved by the Urban Mass Transportation Administration when such cars are to be financed in whole, or in part, by the Department of Transportation.

This Specification was developed in cooperation with the following mass transit operators, consulting engineers, and governmental agency:

MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

SAN FRANCISCO MUNICIPAL RAILWAY

SOUTHEASTERN PENNSYLVANIA TRANSPORTATION AUTHORITY

SHAKER HEIGHTS RAPID TRANSIT

PORT AUTHORITY OF ALLEGHENY COUNTY

TRANSPORT OF NEW JERSEY

EL PASO CITY LINES

TORONTO TRANSIT COMMISSION

SISTEMA DE TRANSPORTE COLECTIVO (MEXICO CITY TRANSIT)

PARSONS BRINCKERHOFF-TUDOR-BECHTEL, CONSULTANTS

LOUIS T. KLAUDER AND ASSOCIATES

* * * * *

UNITED STATES DEPARTMENT OF TRANSPORTATION
URBAN MASS TRANSPORTATION ADMINISTRATION

* * * * *

This Specification was developed from a variety of source documents: Guideline Specification for Urban Rail Cars (Boeing draft for UMTA); the IRT Rapid Transit Car Specification; the L. T. Klauder Associates Specification for the San Francisco Municipal Railway; and the MBTA Surface Rail Car Type 6 Specification. We also gratefully acknowledge the cooperation and assistance provided to us in the course of this project by the car manufacturers, major equipment suppliers, and staff representatives of the transit agencies.

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MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
SAN FRANCISCO MUNICIPAL RAILWAY IMPROVEMENT CORPORATION

INFORMATION FOR BIDDERS
AND
INVITATION TO BID

1. Organization and Procedure: 1
- a.) The Massachusetts Bay Transportation Authority (hereinafter 2
called MBTA or Party) and the San Francisco Municipal Railway Improve- 3
ment Corporation (hereinafter called SFMRIC or Party; hereinafter collec- 4
tively called Parties) have formed the Light Rail Vehicle Committee 5
(hereinafter called BSF Committee or BSFC) to invite proposals for 6
Electric Multiple-Unit Articulated Subway-Surface Light Rail Cars (here- 7
inafter called Light Rail Cars or Cars). 8
- b.) The BSFC will be the sole contact for prospective bidders 9
during the bidding process. It will coordinate and direct all manage- 10
rial, administrative, and technical processes and decisions. Except for 11
purely administrative matters, affecting one (1) Contract only, all 12
orders, decisions, interpretations, and other matters referring to the 13
Contracts shall be made through the BSFC, whose official spokesman shall 14
be the MBTA representative speaking for the Parties. 15
- c.) The following items, listed in order of precedence, will 16
make up the Contract Documents: (1) Contract, (2) Technical Specifica- 17
tion, (3) Proposal, including technical information submitted therewith, 18
(4) Information for bidders and Invitation to Bid, (5) Power of Attorney, 19
(6) Performance Bond, and (7) BSF Committee Agreement. 20
- d.) Upon selection of the lowest reliable and responsive 21
bidder, individual Contracts will be simultaneously executed with the 22

Parties. From that point forward, administrative or technical interpretations or changes applicable solely to that one (1) Party, will be the responsibility of that Party.

e.) After award of the Contracts, the BSFC will act in a coordinating capacity where the matter acted upon is of concern to all Parties. This is interpreted to mean any modification in technical specifications, deliveries, administrative or economic judgements that could affect cost, performance, physical configuration or deliveries to the Parties.

f.) Proposal documents may be obtained from the BSFC at 500 Arborway, Boston, Massachusetts 02130.

2. Invitation to Bid:

a.) Notice is hereby given that sealed proposals will be received in one (1) copy at the Office of the BSFC, c/o the Contract Administrator, Planning and Construction, Massachusetts Bay Transportation Authority, 500 Arborway, Boston, Massachusetts 02130, not later than 2:00 p.m., February 15, 1973 for furnishing and delivering of two hundred thirty (230) Light Rail Cars, with appurtenances as more fully described in the Contract Documents. One hundred fifty (150) Cars shall be delivered to the MBTA and eighty (80) Cars shall be delivered to SFMRIC, with an option to purchase up to twenty-five (25) additional MBTA Cars, up to twenty-five (25) fewer MBTA Cars and Deferred Options to purchase up to twenty-five (25) additional MBTA Cars and up to twelve (12) additional SFMRIC Cars. Such proposals will be opened publicly and announced publicly at the said hour and date at the above office.

b.) Each proposal must be enclosed in a sealed envelope marked "Proposal for Furnishing and Delivering Light Rail Cars. Proposal No.

BSF-72." The bidder shall include the official name of his company in the upper left-hand corner of said envelope.

c.) Each proposal must be complete on the prescribed forms and shall be valid for sixty (60) days from the date of bid opening.

Bidders must include prices for all items in the Proposal including Basic Bid, Add-ons, Options and Deferred Options.

d.) Bid prices for the several items of work shall be quoted in United States' Dollars and shall be total firm prices for the total duration of the Contracts. Prices shall be inclusive of all applicable taxes, duties, and transportation charges.

e.) Provision for liquidated damages and progress payments will be made.

3. Proposal Requirements:

a.) Explanations: Any explanation desired by a bidder regarding the Contract Drawings, Specifications, and other Contract Documents shall be requested in **writing** from the BSFC. Such request shall reference Proposal No. BSF-72 Light Rail Cars, and shall be directed to the BSFC, c/o the Director of Planning and Construction, MBTA, 500 Arborway, Boston, Massachusetts 02130. Oral explanations or instructions will not be binding. Addenda to the Drawings, Specifications, or other Contract Documents will state any explanation the BSFC elects to give and will be sent to all plan holders. Receipt of addenda by the bidders shall be acknowledged and shall be noted in the space provided on the Proposal Form.

b.) Technical Information: Bidders shall submit as a part of their proposal a brief but comprehensive technical description of the vehicle body and articulation construction, types of equipment offered to meet the performance requirements, general arrangement drawings, and

a conceptual rendering of the vehicle appearance in addition to a de- 79
scription of Education and Training Program as defined in Technical 80
Specification, Section 15, Paragraph 15.3.1. 81

Car performance data, including propulsion system energy 82
consumption, shall be submitted for the electrical equipment which each 83
manufacturer proposes to furnish. 84

c.) Subcontractors: Bidders must submit the names of all pos- 85
sible subcontractors or suppliers with whom the bidders could execute 86
subcontracts or purchase materials or equipment in excess of \$100,000. 87
The subcontractors or suppliers will be subject to approval of the BSFC, 88
whose approval will not be unreasonably withheld. 89

d.) Signing of Proposals: If the bidder is a corporation, the 90
Proposal shall be signed by an authorized representative of the corpora- 91
tion; if the bidder is a partnership, the Proposal shall be signed by 92
all partners or by an individual designated in a power of attorney 93
attached to the Proposal; if the bidder is a joint venture, the Proposal 94
shall be signed by the managing sponsor designated in a power of attor- 95
ney attached to the Proposal; or if the Proposal is signed by an agent 96
of the bidder other than as provided above, a power of attorney shall be 97
submitted with the Proposal. A Proposal not properly signed may be re- 98
jected as unauthorized and irregular. If requested by the BSFC, the 99
bidder shall submit evidence satisfactory to the BSFC of the authority 100
of the person signing the Proposal. 101

e.) Proposal Guarantee: The Proposal shall be accompanied by 102
one of the following forms of bidder's security: 103

A cashier's check or certified check made payable to the 104
MBTA and drawn on a United States bank whose total capital 105
funds are greater than fifty million dollars (\$50,000,000). 106

The security shall be in the amount of \$300,000. A bid will not be considered unless a bidder's security is enclosed.

f.) Irregular Proposals: Proposals may be rejected if they show such items as: any alteration of form; additions not called for; conditional bids; incomplete bids; irregularities which make the Proposal incomplete, indefinite, or ambiguous; improper markings and identifications; no acceptable Proposal guarantee; or a signature by other than an authorized person. In the event of a discrepancy between the unit prices written in words and unit prices written in figures, the written words shall govern.

g.) Withdrawal of Proposals: Any Proposal may be withdrawn at any time prior to the time fixed in the public notice for the opening of bids only by filing written request with the BSFC. The request shall be executed by the bidder or his representative. The withdrawal of a Proposal does not prejudice the right of a bidder to file a new Proposal. Proposals received after the time fixed in the public notice for the opening of bids will not be considered nor may any Proposal be withdrawn after that time.

4. Conditions for Award:

a.) The BSFC reserves, in its sole discretion, the right to reject any and all Proposals and to waive informalities and minor irregularities in Proposals received, other provisions in the Contract Documents notwithstanding.

b.) Reasonable grounds for believing that any individual, firm, partnership, corporation, or combination thereof is interested as a principal in more than one Proposal may cause the rejection of all Proposals in which such individual, firm, partnership, corporation, or combination thereof is interested.

c.) The award of Contracts shall be subject to the concurrence 135
and financial assistance of the United States Department of 136
Transportation (DOT). The Contractor will be required to comply 137
with all terms and conditions for Third-Party Contracts in Grant 138
Contracts between the United States of America and each of the 139
Parties. Any name appearing on the United States Comptroller 140
General's list of ineligible contractors for Federally financed and 141
assisted construction is not an eligible bidder. 142

d.) Award of the Contract by the San Francisco Municipal 143
Railway Improvement Corporation will be contingent upon the sale and 144
delivery of Bonds for this procurement. 145

5. Award of the Contract: 146

a.) The Contract award shall be made to the responsive 147
and responsible bidder whose Total Basic Bid - Items 1 through 5, 148
with Add-ons, is the lowest received, and shall offer the most 149
desirable form of control system, and is within the amount of 150
seventy-one (71) million dollars. For purposes of bid evaluation, 151
these control systems are, in descending order of preference: 152

1. (First Preference) Solid State Electronic (Part A) 153
2. (Second Preference) Switched Resistor (Part B) 154

b.) In the event that the lowest Total Basic Bid, with 155
Add-ons, with a Solid State Electronic Control System (Part A) 156
exceeds the amount of seventy-one (71) million dollars, the Contract 157
award shall be made to that bidder whose Total Basic Bid, with 158
Add-ons, or Option selected, with Add-ons, exclusive of Deferred Options, 159
is the lowest received, regardless of the control system offered. 160

To be responsive to this solicitation, bidders may submit	161
prices for one or more of the alternate control systems listed	162
above.	163
c.) The bidder shall enter his estimated weight for the Car	164
including Add-ons where called for on the Proposal Form.	165
d.) The bidder will submit his estimated energy consumption	166
based on simulated runs over the specified San Francisco Municipal	167
Railway ("Muni") profile under the specified test conditions, which are	168
included in the Technical Specifications at Section 2.	169
e.) The award of Contracts will be based upon the	170
recommendation of the BSFC and the approval of the Parties.	171
6. <u>Performance Bond:</u>	172
The bidder to whom the Contracts are awarded shall furnish	173
Performance Bonds in an initial amount not less than one hundred per	174
cent (100%) of each Contract price. Upon receipt of the fifth progress	175
payment for all Cars under the Contract, as provided in ARTICLE 28 of	176
the Contract, the Contractor may reduce the amount of the Bond to ten	177
per cent (10%) of the Contract price; and this amount shall continue in	178
full force and effect for the guarantee period.	179
Performance Bonds shall be on forms provided by the Parties and	180
shall be executed as to surety by a corporation or corporations	181
authorized to issue surety bonds in the States of Massachusetts and	182
California and satisfactory to the Parties.	183
All alterations, extensions of time, extra and additional work,	184
and other changes authorized by the Contract Documents may be made	185
without securing the consent of the surety or sureties on the Performance	186
Bonds.	187

7. Execution of Contract:

Within ten (10) days of the receipt of a notice of award, the bidder to whom the Contracts are awarded shall deliver to each Party the Performance Bonds required under the Contracts and shall properly execute required copies of each Contract at the offices of the Parties.

8. Failure to Execute Contract:

Failure of a bidder to whom the Contracts are awarded to execute the Contracts as provided in Paragraph No. 7 shall be just cause for annulment of the awards and forfeiture of such bidder's Proposal Guarantee, in which event the Parties reserve the right to award the Contracts to the then lowest reliable and responsive bidder.

9. Return of Proposal Guarantees:

The bidder's Proposal Guarantees will be returned within 5 days following execution of Contracts, except those of the bidders whose guarantees have been forfeited.

10. Delivery Requirements:

Time is of the essence to this Contract and only proposals which meet the following delivery schedule will be considered:

a.) The Contractor shall begin work upon receipt of the Contracts and shall complete all work within 1,200 days from the date of receipt of the Contracts. Delivery of the first six (6) Cars shall be made within 600 days from the date of receipt of the Contracts; the next seventy-seven (77) Cars to SFMRIC within 900 days from the date of receipt of the Contracts; and the remaining one hundred forty-seven (147) Cars to MBTA within 1,200 days from the date of receipt of the Contracts. The delivery rate shall not exceed 15 Cars per month for SFMRIC and 20

Cars per month for MBTA. Spare Parts shall be delivered to each Party 213
within the bid lot in sufficient quantity and balance to permit 214
effective testing of the first six (6) Cars and to support the delivered 215
production Cars. The total bid lot will be completed in conjunction with 216
delivery of the final Car in the Contracts. 217

b.) The SFMRIC Cars shall be delivered and placed on the rails 218
at the San Francisco Municipal Railway, Elktion Shops, San Francisco, 219
California. 220

c.) The MBTA Cars shall be delivered and placed on the rails 221
at the Massachusetts Bay Transportation Authority, Riverside Terminal, 222
Newton, Massachussetts, or at any alternate Boston location designated 223
by the Authority. 224

d.) Notwithstanding the foregoing, the Contractor shall bear 225
all risks of loss to each bid item until same is delivered to the 226
Parties as designated in b.) and c.) above, and accepted by the Parties 227
as designated in Article 27, herein. 228

e.) The first six (6) (or "Pilot") Cars shall precede the 229
remaining Cars at each stage of the construction and assembly, and the 230
Parties reserve the right to examine and approve each assembled and 231
completed part of the work before similar work is undertaken on the 232
remaining Cars. This procedure shall be continued until the Pilot Cars 234
are completed. The first, second and third Cars shall be constructed to 235
SFMRIC requirements, and the fourth fifth and sixth Cars shall be con- 236
structed to MBTA requirements. The first 2 Cars shall be delivered to, 237
and performance tested by the Contractor on, SFMRIC property. The next 238
4 Cars shall be delivered to, and performance tested by the Contractor 239
regarding those criteria not peculiar to SFMRIC and MBTA properties at the 240

U. S. Department of Transportation's High-Speed Ground Test Center, 241
Pueblo, Colorado. 242

After completion of these Pueblo performance tests, as 243
certified by the Parties, Car #3 will be delivered by the Contractor 244
to SFMRIC, and Cars #4, #5 and #6 will be delivered by the Contractor 245
to the MBTA. At the option of the MBTA, one MBTA Car shall be shipped 246
by the Contractor to the Boston location designated by the MBTA after 247
30 days have elapsed at the Pueblo test facility from the time of 248
delivery. 249

The Contractor shall inform in writing the Associate Admin- 250
istrator, Research, Development and Demonstration, Urban Mass Transpor- 251
tation Administration, 400 Seventh Street, S. W., Washington, D. C. 252
20591, within ninety (90) days after contract award of the date and time 253
duration for which the Pueblo, Colorado, test facilities shall be re- 254
quired. It shall be the Contractor's responsibility to alert Urban 255
Mass Transportation Administration, within that 90 day period, of any 256
necessary physical arrangements which will be required of the test 257
facility to expedite that aspect of the testing program. All necessary 258
physical adjustments to the Pueblo test facility will be performed by, 259
and at the expense of, the Urban Mass Transportation Administration. 260

It shall be the Contractor's responsibility to develop 261
test plans for the Cars at Pueblo and the MBTA/SFMRIC properties. The 262
Pueblo test plans should be developed in co-operation with Urban Mass 263
Transportation Administration and MBTA/SFMRIC. Co-ordination of 264
activities shall be the responsibility of the Contractor. 265

The pilot Cars shall be tested at Contractor's facility 266
as indicated in the Technical Specification, Section 2, Paragraph 267
2.3.1. The Contractor shall make all adjustments or changes required 268

to meet the performance levels specified. The remaining production Cars 269
shall be constructed, assembled and performance tested at the Contract- 270
or's facility in accordance with Technical Specification, Section 2, 271
Paragraph 2.3.1.10, k). No changes shall be made unless authorized in 272
writing by SFMRIC for its Cars, the MBTA for its Cars or the BSFC, 273
where both Parties are affected. 274

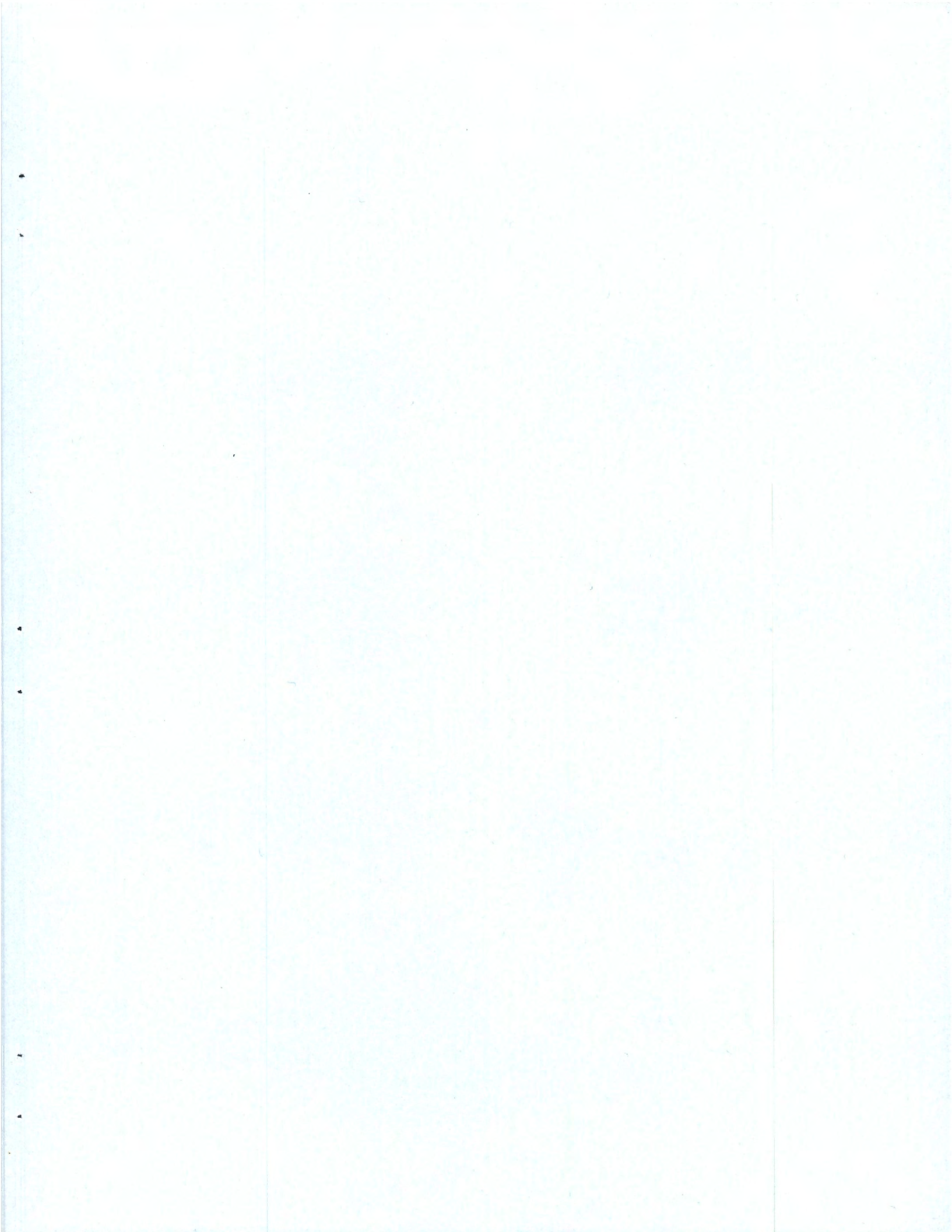
11. Taxes and Transportation Charges: 275

a.) No Federal Excise Tax will be imposed, including any tax 276
on transportation. The MBTA is exempt from Massachusetts Sales Tax and 277
will furnish the Contractor with the necessary executed tax exemption 278
certificates and certificate of exemption number. SFMRIC will be re- 279
sponsible for payment of California Sales and Use Tax. 280

b.) The Contract price shall be inclusive of all compensation 281
for all taxes, duties, and transportation charges which the Contractor 282
is required to pay, and they will be shown separately. However, if 283
Federal or State taxes are modified during the life of the Contract 284
from which the Parties are not exempt, the Contract price shall be ad- 285
justed accordingly. 286

12. Legal Requirements: 287

The Contractor shall conform to all legal requirements and 288
directives of the Commonwealth of Massachusetts and the MBTA, the State 289
of California and SFMRIC, and the Federal Government. 290



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BSF COMMITTEE AGREEMENT

Agreement made this _____ day of _____, 1972,
by and between the Massachusetts Bay Transportation Authority, a body
corporate and politic, and a political subdivision of the Commonwealth
of Massachusetts, established under the provisions of Chapter 563 of
the Acts of 1964, (MBTA), and the San Francisco Municipal Railway
Improvement Corporation, (SFMRIC), a non-profit corporation organized
and existing under and by virtue of the laws of the State of California.

RECITALS

1. MBTA and SFMRIC (hereinafter referred to as "party(ies)") desire
to form a Committee (hereinafter called "BSFC" or "BSF Committee") to
jointly solicit competitive bids for two hundred thirty (230) Light Rail
Vehicles (Cars), one hundred fifty (150) of such Cars to be used by MBTA
and eighty (80) of such Cars to be used by SFMRIC, with an option to
purchase up to thirty-seven (37) additional Cars, twenty-five (25) Cars
for MBTA and twelve (12) Cars for SFMRIC, such solicitation to be ef-
fected in the BSF Committee Information for Bidders and Invitation to
Bid, Proposal, Contracts, Performance Bond, and Technical Specifications
(the "Contract Documents").

2. The Contract Documents shall call for the execution of separate
Contracts by the successful bidder with the MBTA and SFMRIC providing,
in part, for the construction, testing, delivery, and payment for Cars
for the MBTA and SFMRIC, respectively, subject to approval of local

funds and approval of financial assistance from the Federal Department 23
of Transportation, Urban Mass Transportation Administration (UMTA). 24

3. The MBTA and SFMRIC wish to specify the relationship that shall 25
exist between them and the Car Contractor (the "Contractor") until all 26
of the Cars shall have been accepted and paid for and all obligations 27
hereunder have been fulfilled. 28

WITNESSETH: 29

NOW, THEREFORE, in consideration of the mutual covenants con- 30
tained herein, and intending to be legally bound, the MBTA and SFMRIC 31
agree as follows: 32

1. The BSF Committee: 33

The BSF Committee, consisting of two (2) members, is hereby formed. 34
Each party shall appoint one (1) member thereof. The Chairman of the 35
BSF Committee will be the MBTA designee to the Committee. All actions 36
by the Committee must be approved by both designees. 37

Except for purely administrative matters affecting one contract 38
only, all orders, decisions, interpretations, and other matters refer- 39
ring to the Contract shall be made through the BSF Committee, whose 40
official spokesman shall be the Chairman. 41

The Committee will jointly accept the bid proposals from the Car 42
Manufacturers and recommend an award to the lowest responsible and re- 43
sponsive bidder of the total amount of the two hundred thirty (230) Cars 44
and the option of up to thirty-seven (37) additional Cars. 45

Any dispute in regard to the Contract provisions of the proposal that cannot be resolved by the BSF Committee will be referred to the Department of Transportation, which will be requested to resolve such differences.

2. Award of Contract:

The MBTA and SFMRIC shall concur in the determination of the successful bidder for the construction, testing, delivery, acceptance of, and payment for the Cars pursuant to the Contract Documents. Following such determination and approval by UMTA, MBTA, and SFMRIC, each party shall promptly execute a separate Contract (collectively referred to as the "Contracts") with the Contractor, the form of Contracts to be set forth in the Contract portion of the Contract Documents.

3. Defaults:

In an instance where the lowest responsible bidder has defaulted and the BSF Committee has claimed the Bid Proposal Certified Check or Cashier's Check, the money will be apportioned to each Party, based on the proportion of Car deliveries to the total procurement.

4. Project Engineers:

After award, the Engineers for the project (the Engineers as referred to in the Contract Documents) shall be agents of the MBTA or SFMRIC, separately, who will be designated by each Party for the purpose of performing the duties of the Engineer with respect to their Cars. Without limitation of the foregoing, the Engineers shall be responsible

for securing the necessary approvals of Engineering Drawings from the 69
BSF Committee within the time limit set in the Contract Documents. 70

If there are any changes in design, material, delivery, or other 71
items that will affect the cost of the Cars, the Engineers will forward 72
their recommendations to the BSF Committee. 73

If the Engineers of each Party cannot reach agreement on changes 74
that will affect the Cars, an independent consulting engineer (accept- 75
able to both Parties) will be retained to resolve the differences; and 76
his decision will be final and binding on the Parties. 77

The cost of the consulting engineer will be borne equally by the 78
Parties. 79

5. Resident Engineers: 80

The MBTA and SFMRIC shall employ a Resident Engineer to provide 81
inspection, supervision, and coordination at the site of manufacture of 82
their Cars. The cost of the Resident Engineer shall be the responsi- 83
bility of each Party while the Engineer is engaged in activities relat- 84
ing solely to that Party's Cars. 85

6. Inspections: 86

The cost of inspections shall be borne by the Parties making them. 87

7. Change Orders: 88

Any change in the Contract Documents will be processed through 89
the BSF Committee. The Contractor will receive written notice in 90
accordance with the Contracts, and the cost thereof shall be apportioned 91

in relation to the number of Cars of each Party affected by said change. 92
Any change desired by only one Party, irrespective of the number of Cars 93
involved, shall be the financial responsibility of that Party only. No 94
change order which adversely affects any Party (whether by additional 95
expense, foreseeable delay in delivery, physical or performance config- 96
uration, or otherwise) shall be effected without written consent of the 97
Party(ies) affected. If a technical change is proposed by any one Party 98
on its behalf, which affects the cost, configuration, performance, or 99
delivery of the other Party's Cars, that Party must be prepared to make 100
appropriate adjustments to the other Party before written approval will 101
be given by the BSF Committee. 102

8. Duty; Indemnification: 103

Each party shall have no responsibility to the other except as 104
specified in this Agreement. Members of the BSF Committee shall not be 105
liable hereunder for any mistake of judgment or in any event whatsoever 106
except for damages caused by bad faith, willful misfeasance, or gross 107
negligence in the performance of their duties, or reckless disregard of 108
its obligations hereunder. Each Party shall indemnify the other Party 109
and hold it harmless against any and all losses, costs, claims and 110
liabilities which the Party may suffer or incur arising out of this 111
Agreement or relating to the Cars, insofar as such losses, costs, claims, 112
or liabilities relate to its Cars. 113

9. Modifications in Writing: 114

No modification or change in any term or condition of this Agree- 115
ment shall be effective unless made in writing signed by the Parties. 116

10. Board Voted Authority:

Attached and made a part of this Agreement are Board Votes from the MBTA and SFMRIC authorizing the Parties to carry out the terms of this Agreement and designating the individual representing their Party as the BSF Committee member.

11. Period of Agreement:

This Agreement shall be in full force and effect until the guarantee periods, as set forth in the Contract Documents, have expired.

IN WITNESS WHEREOF, the Parties hereto have executed this Agreement as of the date and year first above mentioned.

(SEAL) MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
Attest:

BY: _____

(SEAL) SAN FRANCISCO MUNICIPAL RAILWAY IMPROVEMENT CORPORATION
Attest:

BY: _____

Approved as to form:

General Counsel

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PROPOSAL TO
THE BSF COMMITTEE
500 Arborway
Boston, Massachusetts 02130

REPRESENTING THE
MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
and the
SAN FRANCISCO MUNICIPAL RAILWAY IMPROVEMENT CORPORATION

PROPOSAL FOR: Furnishing and Delivering Light Rail Cars

PROPOSAL NO: BSF-72

NAME OF BIDDER: _____

BUSINESS ADDRESS: _____

ADDRESS WHERE NOTIFICATION SHOULD BE SENT: _____

The undersigned, as Bidder, declares that only persons interested in this Bid as Principals are those named herein; that this Bid is made without collusion with any other person, firm, or corporation; that this Bidder has received and has carefully examined the Contract Documents on file with and available from the BSF Committee as specified in the Information for Bidders and Invitation to Bid.

The Bidder shall show all prices in words and numerals expressed in United States' Dollars. These prices shall be the total prices delivered and placed on the rail system of the Massachusetts Bay Transportation Authority in Boston, Massachusetts, or the San Francisco Municipal Railway in San Francisco, California.

PROPOSAL BSF-72

PART A

SOLID STATE ELECTRONIC

The undersigned proposes to furnish Light Rail Cars in accordance with the Contract Documents for Proposal No. BSF-72, to which this Proposal form is attached, at the following prices, subject to the terms and conditions of the Contract Documents:

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
1.	230	150 MBTA and 80 SFMRIC Basic Light Rail Cars, Complete in accordance with Contract Documents At _____ Each				
2.	LOT	Spare Parts - MBTA At _____ Per Lot				
3.	LOT	Transportation Charges - Spare Parts - MBTA At _____ Per Lot				
4.	LOT	Spare Parts - SFMRIC At _____ Per Lot				
5.	LOT	Transportation Charges - Spare Parts - SFMRIC At _____ Per Lot				
<u>Total Basic Bid - Items 1 through 5</u>						

ADD-ONS - MBTA

The items listed on this page are features unique to the operation of the MBTA Cars and will be added to the Basic Bid in an amount based upon the quantity of cars selected at time of contract award.

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	
			Dollars	Cents
M-1	125 - 175	Delivery and transportation charges to Boston, Massachusetts, including unloading At _____ Per Car		
M-2a	125 - 130	Air Conditioning and Heating Systems At _____ Per Car Set		
M-2b	131 - 136	Air Conditioning and Heating Systems At _____ Per Car Set		
M-2c	137 - 142	Air Conditioning and Heating Systems At _____ Per Car Set		
M-2d	143 - 149	Air Conditioning and Heating Systems At _____ Per Car Set		
M-2e	150 - 156	Air Conditioning and Heating Systems At _____ Per Car Set		

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	
			Dollars	Cents
M-2f	157 - 162	Air Conditioning and Heating Systems At _____ Per Car Set		
M-2g	163 - 168	Air Conditioning and Heating Systems At _____ Per Car Set		
M-2h	169 - 175	Air Conditioning and Heating Systems At _____ Per Car Set		
M-3	125 - 175	Coupler Adapters At _____ Per Car		
M-4	125 - 175	Movable Side Mirrors At _____ Per Car Set		
M-5	6	Trolley Poles for Pilot Cars At _____ Each		

ADD-ONS - SFMRIC

The items listed on this page are features unique to the operation of the SFMRIC Cars and will be added to the Basic Bid.

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
S-1	80	Delivery and transportation charges to San Francisco, California, including unloading At _____ Per Car				
S-2	80	California Sales and Use Tax for basic rail cars, add-ons and spare parts At _____ Per Car				
S-3	80	Movable Steps and Controls At _____ Per Car Set				
S-4	80	Differential in Price for Destination Sign Features as specified At _____ Per Car Set				
S-5	80	Automatic Speed Control At _____ Per Car Set				
S-6	80	Passenger Door Push Bars At _____ Per Car Set				
S-7	160	Additional Sanding Devices At _____ Each				
Total Add-Ons - SFMRIC						

OPTIONS

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	
			Dollars	Cents
O-1a	205 - 210	125 to 130 MBTA and 80 SFMRIC Light Rail Cars complete in accordance with contract documents (in lieu of Item No. 1, Page C-2) At _____ Each		
O-1b	211 - 216	131 to 136 MBTA and 80 SFMRIC Light Rail Cars complete in accordance with contract documents (in lieu of Item No. 1, Page C-2) At _____ Each		
O-1c	217 - 222	137 to 142 MBTA and 80 SFMRIC Light Rail Cars complete in accordance with contract documents (in lieu of Item No. 1, Page C-2) At _____ Each		
O-1d	223 - 229	143 to 149 MBTA and 80 SFMRIC Light Rail Cars complete in accordance with contract documents (in lieu of Item No. 1, Page C-2) At _____ Each		
O-1e	231 - 236	151 to 156 MBTA and 80 SFMRIC Light Rail Cars complete in accordance with contract documents (in lieu of Item No. 1, Page C-2) At _____ Each		

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE Dollars Cents	
O-1f	237 - 242	157 to 162 MBTA and 80 SFMRIC Light Rail Cars complete in accordance with contract documents (in lieu of Item No. 1, Page C-2) At _____ Each		
O-1g	243 - 248	163 to 168 MBTA and 80 SFMRIC Light Rail Cars complete in accordance with contract documents (in lieu of Item No. 1, Page C-2) At _____ Each		
O-1h	249 - 255	169 to 175 MBTA and 80 SFMRIC Light Rail Cars complete in accordance with contract documents (in lieu of Item No. 1, Page C-2) At _____ Each		

DEFERRED OPTIONS

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	
			Dollars	Cents
0-2	1 - 2	Diagnostic Test Equipment, to be selected within 30 days following date of Notice of Award At _____ Each		
0-3a	125 - 130	125 to 130 Wiring Harnesses for Diagnostic Test Equipment - MBTA Cars to be selected within 30 days following date of Notice of Award At _____ Each		
0-3b	131 - 136	131 to 136 Wiring Harnesses for Diagnostic Test Equipment - MBTA Cars to be selected within 30 days following date of Notice of Award At _____ Each		
0-3c	137 - 142	137 to 142 Wiring Harnesses for Diagnostic Test Equipment - MBTA Cars to be selected within 30 days following date of Notice of Award At _____ Each		
0-3d	143 - 149	143 to 149 Wiring Harnesses for Diagnostic Test Equipment - MBTA Cars to be selected within 30 days following date of Notice of Award At _____ Each		

DEFERRED OPTIONS

PART A

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE Dollars Cents	
O-3e	150 - 156	150 to 156 Wiring Harnesses for Diagnostic Test Equipment - MBTA Cars to be selected within 30 days following date of Notice of Award At _____ Each		
O-3f	157 - 162	157 to 162 Wiring Harnesses for Diagnostic Test Equipment - MBTA Cars to be selected within 30 days following date of Notice of Award At _____ Each		
O-3g	163 - 168	163 to 168 Wiring Harnesses for Diagnostic Test Equipment - MBTA Cars to be selected within 30 days following date of Notice of Award At _____ Each		
O-3h	169 - 175	169 to 175 Wiring Harnesses for Diagnostic Test Equipment - MBTA Cars to be selected within 30 days following date of Notice of Award At _____ Each		
O-4	80	Wiring Harnesses for Diagnostic Test Equipment - SFMRIC Cars to be selected within 30 days following date of Notice of Award At _____ Each		

DEFERRED OPTIONS

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE Dollars Cents	
O-5a	1 - 12	<p>1 to 12 additional MBTA Light Rail Cars complete in accordance with contract documents including Add-Ons - MBTA to be selected within 110 days following date of acceptance of Pilot Cars (Total number of additional cars selected not to result in exceeding contract total of 175 MBTA Cars.)</p> <p>At _____ Each</p>		
O-5b	13 - 25	<p>13 to 25 additional MBTA Light Rail Cars complete in accordance with contract documents including Add-Ons - MBTA to be selected within 110 days following date of acceptance of Pilot Cars (Total number of additional cars selected not to result in exceeding contract total of 175 MBTA Cars.)</p> <p>At _____ Each</p>		
O-6	1 - 12	<p>1 to 12 additional SFMRIC Light Rail Cars complete in accordance with contract documents including Add-Ons - SFMRIC to be selected within 110 days following date of acceptance of Pilot Cars (Total number of additional cars selected not to result in exceeding contract total of 92 SFMRIC Cars.)</p> <p>At _____ Each</p>		

DEFERRED OPTIONS

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	
			Dollars	Cents
O-7a	1 - 12	1 to 12 additional Wiring Harnesses for Diagnostic Test Equipment - MBTA Cars to be selected within 110 days following date of acceptance of Pilot Cars At _____ Each		
O-7b	13 - 25	13 to 25 additional Wiring Harnesses for Diagnostic Test Equipment - MBTA Cars to be selected within 110 days following date of acceptance of Pilot Cars At _____ Each		
O-8	1 - 12	1 to 12 additional Wiring Harnesses for Diagnostic Test Equipment - SFMRIC Cars to be selected within 110 days following date of acceptance of Pilot Cars At _____ Each		

DELIVERY SCHEDULE

The bidder will state in the space provided, the estimated delivery schedule of the Cars to the Parties' property or the U. S. Department of Transportation's High-Speed Ground Test Center, Pueblo, Colorado, in the number of calendar days after receipt of a properly executed Contract.

GROUP I:

2 Pilot Cars - SFMRIC	Number of Days	_____
4 Pilot Cars - Pueblo, Colorado	Number of Days	_____

GROUP II:

77 SFMRIC Cars	Number of Days to Start	_____
	Rate of Delivery per Month	_____
	Number of Days to Completion	_____

GROUP III:

147 MBTA Cars	Number of Days to Start	_____
	Rate of Delivery per Month	_____
	Number of Days to Completion	_____

The Rate of Delivery per Month as stated above shall be applicable to the total number of MBTA Cars selected by option at time of Award.

MBTA - SPARE PARTS LISTING

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
1	2	Propulsion Controller and Resistor Assemblies, complete At _____ Each				
2	12	Traction Motors, complete with coupling attached At _____ Each				
3	50	Traction Motor Brushes (if a DC Motor) At _____ Per Set				
4	L.S.	4 Each Type - Traction Power Contactors At _____ Lump Sum	X			
5	12	Motor/Gear Coupling Units, Complete At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
6	12	Friction Brake Actuators At _____ Each				
7	L.S.	25 Each Type - Friction Brake Discs At _____ Lump Sum	X			
8	25	Friction Brake Disc Caliper Units, Complete At _____ Each				
9	L.S.	100 Pairs Each Type - Friction Brake Disc Pads At _____ Lump Sum	X			
10	6	Track Brake Units, complete At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
11	100	Track Brake Wear Plates At _____ Each				
12	2	Inductive and Resistive Motor Shunts (if required) At _____ Per Car Set				
13	2	Line Filters (if required) At _____ per Car Set				
14	12	Trucks, complete, including motor, gears, etc., (if identical, otherwise 2:1 ratio of quantities outer to center) At _____ Each				
15	12	Wheel and Axle Assemblies (including gear boxes and journals) At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
16	50	Wheel Tires At _____ Each				
17	6	Coupler Assemblies (including mechanical head, electric portion, centering device, uncoupling actuator, draft gear, stops, carrying bar, and necessary hoses and cables with connectors) At _____ Each				
18	4	Electric Portion (including cables and cover assembly, if provided) of coupler At _____ Each				
19	4	Drum Switches (if used) At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
20	4	Mechanical Portion of Coupler At _____ Each				
21	4	Air Compressors and Governors At _____ Each Set				
22	2	Air Tanks with Valves At _____ Per Car Set				
23	2	Sander Assemblies At _____ Per Car Set				
24	4	Hydraulic Pumps (if installed) At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
25	4	Hydraulic Reservoir/Control Units (if installed) At _____ Each Unit				
26	4	Motor-Generator Sets, Motor-Alternator Sets, or Static Inverters, Complete At _____ Each Set				
27	40	Lighting Inverter Ballast Units At _____ Each Unit				
28	8	Static Control Cards, Complete Sets for each type of equipment used on car At _____ Per Car Set				
29	8	Windshield Wiper and Washer Assemblies At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
31	4	Radio/P.A. Communications Systems including Control box, handset and car body speakers At _____ Per Car Set				
32	L.S.	4 Each Type - Incandescent Lighting Fixtures At _____ Lump Sum	X			
33	4	Batteries At _____ Per Car Set				
34	12	Windshield Wiper Blades (if not standard automotive blade) At _____ Per Car Set				
35	L.S.	4 Each Type - Circuit Breakers At _____ Lump Sum	X			
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
36	L.S.	4 Each Type - Fuses At _____ Lump Sum	 			
37	6	Gongs (Gong/Horn Package) At _____ Each				
38	6	Horns (If separate) At _____ Each				
39	6	Passenger Station Stop Request Signal Switches At _____ Per Car Set				
40	6	Passenger Station Stop Request Signals At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
41	6	Pantograph Power Collection Assemblies and sleet scrapers At _____ Each Set				
42	30	Pantograph Shoe Assemblies, Complete At _____ Each				
43	100	Pantograph Shoe Inserts At _____ Each				
44	2	Air Conditioning Compressor/ Condenser Units, Complete At _____ Each				
45	4	Air Conditioning Evaporator Units, Complete At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
46	2	Air Conditioning Compressor/ Condenser Motors At _____ Each				
47	4	Air Conditioning Evaporator Motors At _____ Each				
49	6	Strip Heaters, Sidewall At _____ Per Set				
50	2	Door Operators incl. Linkages and Release Mechanisms At _____ Per Car Set				
51	4	Door Control Units At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
55	6	Center Double Door Panels (including glass and glazing) At _____ Per Pair				
56	6	Front Double Door Panels (including glass and glazing) At _____ Each				
58	6	Windshield and Front Destination Sign Components At _____ Per Set				
59	36	Side Windows At _____ Each				
60	6	Operator's Cab Window and Sash At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
61	24	Windscreens, interior At _____ Each				
62	2	Light Diffusers, Lens Assemblies, interior At _____ Per Car Set				
63	12	Headlight Assemblies At _____ Each				
64	12	Stop Light Assemblies At _____ Each				
65	L.S.	24 Each Type - Marker Light Assemblies and Door Open Lights At _____ Lump Sum	 			
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
66	4	Cab Enclosure Door Windows At _____ Per Set				
67	14	Seat Frames At _____ Each				
68	2	Seat Cushions, Both Bottoms and Backs At _____ Per Car Set				
69	6	Operator's Cab Seats At _____ Each				
70	2	Destination Sign Systems, Front, Complete At _____ Per Box				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
71	4	Destination Sign Systems, Side, Complete At _____ Per Box				
72	6	Destination Sign Curtains, Front At _____ Each				
73	6	Destination Sign Curtains, Side At _____ Each				
75	2	Reverser Assemblies, Complete (if used) At _____ Each				
76	2	Master Controller Assemblies, Complete At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
77	L.S.	2 Each Type - Foot Pedal Assemblies, Complete At _____ Lump Sum	 			
78	L.S.	24 Each Type - Console Control Switches, Complete At _____ Lump Sum				
79	2	Instrument Pods (including gauges, light) Complete At _____ Each				
80	2	Speedometers Complete At _____ Each				
81	2	Windshield Demister Assemblies, Complete At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
82	2	Auxiliary Cab Heaters, (unless combined with Demister) At _____ Each				
83	2	Cab Enclosing Doors and Hardware At _____ Per Set				
84	2	Sun Visors At _____ Each				
85	L.S.	4 Each Type - Mirrors (interior and exterior) At _____ Lump Sum	 			
86	2	Skirting Panels, exterior At _____ Per Car Set				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
87	2	Rub Rail (with inserts), exterior At _____ Per Car Set				
88	2	Articulation Diaphragm Components At _____ Per Car Set				
89	6	Specialized Tools not normally found in Mechanic's or Electrician's Tool Kits Such as Lug Crimping Tools, Motor/Gear Coupling Puller, Including Hand Tools and Shop Tools At _____ Per Set				
90	6	Wheel Gauges At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
91	6	Coupler Gauges At _____ Each				
92	6	Flooring, Articulation, Fitted At _____ Per Section				
93	L.S.	500 feet Each Type - Flooring, Standard Roll Widths At _____ Lump Sum				
94	L.S.	12 Sets Each Type - Hoses with Fittings, if Pre-Fab At _____ Lump Sum				
95	L.S.	6 Sets Each Type - Cables with Connectors, if Pre-Fab At _____ Lump Sum				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
96	L.S.	1,000 Feet Each Type - Cable, Power At _____ Lump Sum	X			
97	L.S.	1,000 Feet Each Type - Multi-Conductor Cable, Control At _____ Lump Sum				
98	L.S.	1,000 Feet Each Type - Cable, Control/Signal, Shielded At _____ Lump Sum				
99	1	Door Weather Seal Strip At _____ Per Car Set				
100	2	Air Spring Components At _____ Per Car Set				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
101	2	Truck Safety Bars At _____ Per Car Set				
102	L.S.	1,000 Feet Each Type - Wire, Control At _____ Lump Sum	X			
103	L.S.	250 Feet Each Type - Glazing At _____ Lump Sum				
104	1	Hydraulic Press or Ring Gas Torch for Assembly of Resilient Wheels as Appropriate At _____ Per Unit				
TOTAL - MBTA SPARE PARTS						

SFMRIC - SPARE PARTS LISTING

PART A

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
1	2	Propulsion Controller and Resistor Assemblies, complete At _____ Each				
2	6	Traction Motors, complete with coupling attached At _____ Each				
3	12	Traction Motor Brushes (if a DC Motor) At _____ Per Set				
4	L.S.	4 Each Type - Traction Power Contactors At _____ Lump Sum	X			
5	6	Motor/Gear Coupling Units, Complete At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
6	6	Friction Brake Actuators At _____ Each				
7	L.S.	6 Each Type - Friction Brake Discs At _____ Lump Sum	X			
8	6	Friction Brake Disc Caliper Units, Complete At _____ Each				
9	L.S.	24 Pairs Each Type - Friction Brake Disc Pads At _____ Lump Sum	X			
10	6	Track Brake Units, Complete At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
11	24	Track Brake Wear Plates At _____ Each				
12	2	Inductive and Resistive Motor Shunts (if required) At _____ Per Car Set				
13	2	Line Filters (if required) At _____ Per Car Set				
14	6	Trucks, complete, including motor, gears, etc., (if identical, otherwise 2:1 ratio of quantities outer to center) At _____ Each				
15	6	Wheel and Axle Assemblies (including gear boxes and journals) At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
16	24	Wheel Tires At _____ Each				
17	4	Coupler Assemblies (including mechanical head, electric portion, centering device, uncoupling actuator, draft gear, stops, carrying bar, and necessary hoses and cables with connectors) At _____ Each				
18	4	Electric Portion (including cables and cover assembly, if provided) of coupler At _____ Each				
19	4	Drum Switches (if used) At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
20	4	Mechanical Portion of Coupler At _____ Each				
21	4	Air Compressors and Governors At _____ Each Set				
22	2	Air Tanks with Valves At _____ Per Car Set				
23	1	Sander Assemblies At _____ Per Car Set				
24	4	Hydraulic Pumps (if installed) At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
25	4	Hydraulic Reservoir/Control Units (if installed) At _____ Each Unit				
26	4	Motor-Generator Sets, Motor-Alternator Sets, or Static Inverters, Complete At _____ Each Set				
27	40	Lighting Inverter Ballast Units At _____ Each Unit				
28	2	Static Control Cards, Complete Sets for each type of equipment used on car At _____ Per Car Set				
29	4	Windshield Wiper and Washer Assemblies At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
30	2	ASC Sub-Systems At _____ Per Car Set				
31	2	Radio/P.A. Communications Systems including Control box, handset and car body speakers At _____ Per Car Set				
32	L.S.	4 Each Type - Incandescent Lighting Fixtures At _____ Lump Sum	 			
33	2	Batteries At _____ Per Car Set				
34	12	Windshield Wiper Blades (if not standard automotive blade) At _____ Per Car Set				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
35	L.S.	4 Each Type - Circuit Breakers At _____ Lump Sum	 			
36	L.S.	4 Each Type - Fuses At _____ Lump Sum				
37	2	Gongs (Gong/Horn Package) At _____ Each				
38	2	Horns (If separate) At _____ Each				
39	2	Passenger Station Stop Request Signal Switches At _____ Per Car Set				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
40	2	Passenger Station Stop Request Signals At _____ Each				
41	3	Pantograph Power Collection Assemblies At _____ Each				
42	5	Pantograph Shoe Assemblies, Complete At _____ Each				
43	15	Pantograph Shoe Inserts At _____ Each				
48	4	Ventilation Fans with Motors At _____ Each Set				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
49	6	Strip Heaters, Sidewall At _____ Per Set				
50	2	Door Operators incl. Linkages and Release Mechanisms At _____ Per Car Set				
51	4	Door Control Units At _____ Each				
52	2	High/Low Level Step Oper- ators Including Linkages At _____ Per Car Set				
53	4	Step Control Units At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
54	2	Passenger Touch Bars At _____ Per Car Set				
55	6	Center Double Door Panels (including glass and glazing) At _____ Per Pair				
56	6	Front Double Door Panels (in- cluding glass and glazing) At _____ Each				
57	L.S.	2 Each Type - Changeable Steps At _____ Lump Sum	X			
58	6	Windshield and Front Desti- nation Sign Components At _____ Per Set				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT		
			Dollars	Cents	Dollars	Cents	
		BROUGHT FORWARD					
59	36	Side Windows At _____ Each					
60	6	Operator's Cab Window and Sash At _____ Each					
61	24	Windscreens, interior At _____ Each					
62	2	Light Diffusers, Lens Assemblies, interior At _____ Per Car Set					
63	12	Headlight Assemblies At _____ Each					
CARRIED FORWARD							

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
64	12	Stop Light Assemblies At _____ Each				
65	L.S.	24 Each Type - Marker Light Assemblies, ASC Lights and Door Open Lights At _____ Lump Sum	 			
66	4	Cab Enclosure Door Windows At _____ Per Set				
67	12	Seat Frames At _____ Each				
68	2	Seat Cushions, Both Bottoms and Backs At _____ Per Car Set				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
69	2	Operator's Cab Seats At _____ Each				
70	2	Destination Sign Systems, Front, Complete At _____ Per System				
71	4	Destination Sign Systems, Side, Complete At _____ Per System				
72	2	Destination Sign Curtains, Front At _____ Each				
73	4	Destination Sign Curtains, Side At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
74	2	Destination Sign Control Units, Complete At _____ Each				
75	2	Reverser Assemblies, Complete (if used) At _____ Each				
76	2	Master Controller Assemblies, Complete At _____ Each				
77	L.S.	2 Each Type - Foot Pedal Assemblies, Complete At _____ Lump Sum	X			
78	L.S.	24 Each Type - Console Control Switches, Complete At _____ Lump Sum				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
79	2	Instrument Pods (including gauges, lights) Complete At _____ Each				
80	2	Speedometer, Cab Signal Displays, Complete At _____ Each				
81	2	Windshield Demister Assemblies, Complete At _____ Each				
82	2	Auxiliary Cab Heaters, (unless combined with Demister) At _____ Each				
83	2	Cab Enclosing Doors and Hardware At _____ Per Set				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
84	2	Sun Visors At _____ Each				
85	L.S.	4 Each Type - Mirrors (interior and exterior) At _____ Lump Sum	X			
86	2	Skirting Panels, exterior At _____ Per Car Set				
87	2	Rub Rail (with inserts), exterior At _____ Per Car Set				
88	2	Articulation Diaphragm Components At _____ Per Car Set				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
Brought Forward						
89	2	Specialized Tools not normally found in Mechanic's or Electrician's Tool Kits Such as Lug Crimping Tools, Motor/Gear Coupling Puller, Including Hand Tools and Shop Tools At _____ Per Set				
90	2	Wheel Gauges At _____ Each				
91	2	Coupler Gauges At _____ Each				
92	6	Flooring, Articulation, Fitted At _____ Per Section				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
93	L.S.	500 Feet Each Type - Flooring, Standard Roll Widths At _____ Lump Sum				
94	L.S.	6 Sets Each Type - Hoses with Fittings, if Pre-Fab At _____ Lump Sum				
95	L.S.	6 Sets Each Type - Cables with Connectors, if Pre-Fab At _____ Lump Sum				
96	L.S.	1,000 Feet Each Type - Cable, Power At _____ Lump Sum				
97	L.S.	1,000 Feet Each Type - Multi-Conductor Cable, Con- trol At _____ Lump Sum				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
98	L.S.	1,000 Feet Each Type - Cable, Control/Signal, Shielded At _____ Lump Sum	 			
99	1	Door Weather Seal Strip At _____ Per Car Set				
100	2	Air Spring Components At _____ Per Car Set				
101	2	Truck Safety Bars At _____ Per Car Set				
102	L.S.	1,000 Feet Each Type - Wire, Control At _____ Lump Sum	 			
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE Dollars Cents	AMOUNT Dollars Cents		
BROUGHT FORWARD						
103	L.S.	250 Feet Each Type - Glazing At _____ Lump Sum	 <table border="1" style="width: 100%; height: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;"></td> <td style="width: 50%;"></td> </tr> </table> 			
104	1	Hydraulic Press or Ring Gas Torch for Assembly of Resilient Wheels as Appropriate At _____ Per Unit				
TOTAL - SFMRIC SPARE PARTS						

SUBCONTRACTORS OR SUPPLIERS

List the possible subcontractors or suppliers whose total material, supplies or equipment will be in excess of \$100,000, for the 230 Cars:

APPARATUS:

MANUFACTURER:

DESCRIPTION:

SUBCONTRACTORS OR SUPPLIERS
(continued)

APPARATUS:

MANUFACTURER:

DESCRIPTION:

SUBCONTRACTORS OR SUPPLIERS
(continued)

APPARATUS:

MANUFACTURER:

DESCRIPTION:

WEIGHT AND ENERGY
CONSUMPTION DATA

1. Estimated Average Weight of Basic
Light Rail Car (Item No. 1, Page C-2)

lbs/car

2. Estimated Average Weight of
Add-Ons - MBTA excluding Item M-5,
Pilot Car Trolley Poles

lbs/car

3. Estimated Average Weight of
Add-Ons - SFMRIC

lbs/car

4. Estimated Propulsion Energy
Consumed @ AW2

watt hours/car mile

PROPOSAL BSF-72

PART B

SWITCHED RESISTOR

The undersigned proposes to furnish Light Rail Cars in accordance with the Contract Documents for Proposal No. BSF-72, to which this Proposal form is attached, at the following prices, subject to the terms and conditions of the Contract Documents:

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
1.	230	150 MBTA and 80 SEMRIC Basic Light Rail Cars, Complete in accordance with Contract Documents At _____ Each				
2.	LOT	Spare Parts - MBTA At _____ Per Lot				
3.	LOT	Transportation Charges - Spare Parts - MBTA At _____ Per Lot				
4.	LOT	Spare Parts - SEMRIC At _____ Per Lot				
5.	LOT	Transportation Charges - Spare Parts - SEMRIC At _____ Per Lot				
		<u>Total Basic Bid - Items 1 through 5</u>				

ADD-ONS - MBTA

The items listed on this page are features unique to the operation of the MBTA Cars and will be added to the Basic Bid in an amount based upon the quantity of cars selected at time of contract award.

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	
			Dollars	Cents
M-1	125 - 175	Delivery and transportation charges to Boston, Massachusetts, including unloading At _____ Per Car		
M-2a	125 - 130	Air Conditioning and Heating Systems At _____ Per Car Set		
M-2b	131 - 136	Air Conditioning and Heating Systems At _____ Per Car Set		
M-2c	137 - 142	Air Conditioning and Heating Systems At _____ Per Car Set		
M-2d	143 - 149	Air Conditioning and Heating Systems At _____ Per Car Set		
M-2e	150 - 156	Air Conditioning and Heating Systems At _____ Per Car Set		

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	
			Dollars	Cents
M-2f	157 - 162	Air Conditioning and Heating Systems At _____ Per Car Set		
M-2g	163 - 168	Air Conditioning and Heating Systems At _____ Per Car Set		
M-2h	169 - 175	Air Conditioning and Heating Systems At _____ Per Car Set		
M-3	125 - 175	Coupler Adapters At _____ Per Car		
M-4	125 - 175	Movable Side Mirrors At _____ Per Car Set		
M-5	6	Trolley Poles for Pilot Cars At _____ Each		

ADD-ONS - SFMRIC

The items listed on this page are features unique to the operation of the SFMRIC Cars and will be added to the Basic Bid.

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
S-1	80	Delivery and transportation charges to San Francisco, California, including unloading At _____ Per Car				
S-2	80	California Sales and Use Tax for basic rail cars, add-ons and spare parts At _____ Per Car				
S-3	80	Movable Steps and Controls At _____ Per Car Set				
S-4	80	Differential in Price for Destination Sign Features as specified At _____ Per Car Set				
S-5	80	Automatic Speed Control At _____ Per Car Set				
S-6	80	Passenger Door Push Bars At _____ Per Car Set				
S-7	160	Additional Sanding Devices At _____ Each				
Total Add-Ons - SFMRIC						

OPTIONS

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	
			Dollars	Cents
O-1a	205 - 210	125 to 130 MBTA and 80 SFMRIC Light Rail Cars complete in accordance with contract documents (in lieu of Item No. 1, Page C-59) At _____ Each		
O-1b	211 - 216	131 to 136 MBTA and 80 SFMRIC Light Rail Cars complete in accordance with contract documents (in lieu of Item No. 1, Page C-59) At _____ Each		
O-1c	217 - 222	137 to 142 MBTA and 80 SFMRIC Light Rail Cars complete in accordance with contract documents (in lieu of Item No. 1, Page C-59) At _____ Each		
O-1d	223 - 229	143 to 149 MBTA and 80 SFMRIC Light Rail Cars complete in accordance with contract documents (in lieu of Item No. 1, Page C-59) At _____ Each		
O-1e	231 - 236	151 to 156 MBTA and 80 SFMRIC Light Rail Cars complete in accordance with contract documents (in lieu of Item No. 1, Page C-59) At _____ Each		

OPTIONS

PART B

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE Dollars Cents	
O-1f	237 - 242	157 to 162 MBTA and 80 SFMRIC Light Rail Cars complete in accordance with contract documents (in lieu of Item No. 1, Page C-59) At _____ Each		
O-1g	243 - 248	163 to 168 MBTA and 80 SFMRIC Light Rail Cars complete in accordance with contract documents (in lieu of Item No. 1, Page C-59) At _____ Each		
O-1h	249 - 255	169 to 175 MBTA and 80 SFMRIC Light Rail Cars complete in accordance with contract documents (in lieu of Item No. 1, Page C-59) At _____ Each		

DEFERRED OPTIONS

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	
			Dollars	Cents
0-2	1 - 2	Diagnostic Test Equipment, to be selected within 30 days following date of Notice of Award At _____ Each		
0-3a	125 - 130	125 to 130 Wiring Harnesses for Diagnostic Test Equipment - MBTA Cars to be selected within 30 days following date of Notice of Award At _____ Each		
0-3b	131 - 136	131 to 136 Wiring Harnesses for Diagnostic Test Equipment - MBTA Cars to be selected within 30 days following date of Notice of Award At _____ Each		
0-3c	137 - 142	137 to 142 Wiring Harnesses for Diagnostic Test Equipment - MBTA Cars to be selected within 30 days following date of Notice of Award At _____ Each		
0-3d	143 - 149	143 to 149 Wiring Harnesses for Diagnostic Test Equipment - MBTA Cars to be selected within 30 days following date of Notice of Award At _____ Each		

DEFERRED OPTIONS

PART B

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	
			Dollars	Cents
O-3e	150 - 156	150 to 156 Wiring Harnesses for Diagnostic Test Equipment - MBTA Cars to be selected within 30 days following date of Notice of Award At _____ Each		
O-3f	157 - 162	157 to 162 Wiring Harnesses for Diagnostic Test Equipment - MBTA Cars to be selected within 30 days following date of Notice of Award At _____ Each		
O-3g	163 - 168	163 to 168 Wiring Harnesses for Diagnostic Test Equipment - MBTA Cars to be selected within 30 days following date of Notice of Award At _____ Each		
O-3h	169 - 175	169 to 175 Wiring Harnesses for Diagnostic Test Equipment - MBTA Cars to be selected within 30 days following date of Notice of Award At _____ Each		
O-4	80	Wiring Harnesses for Diagnostic Test Equipment - SEMRIC Cars to be selected within 30 days following date of Notice of Award At _____ Each		

DEFERRED OPTIONS

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	
			Dollars	Cents
O-5a	1 - 12	1 to 12 additional MBTA Light Rail Cars complete in accordance with contract documents including Add-Ons - MBTA to be selected within 110 days following date of acceptance of Pilot Cars (Total number of additional cars selected not to result in exceeding contract total of 175 MBTA Cars.) At _____ Each		
O-5b	13 - 25	13 to 25 additional MBTA Light Rail Cars complete in accordance with contract documents including Add-Ons - MBTA to be selected within 110 days following date of acceptance of Pilot Cars (Total number of additional cars selected not to result in exceeding contract total of 175 MBTA Cars.) At _____ Each		
O-6	1 - 12	1 to 12 additional SFMTRIC Light Rail Cars complete in accordance with contract documents including Add-Ons - SFMTRIC to be selected within 110 days following date of acceptance of Pilot Cars (Total number of additional cars selected not to result in exceeding contract total of 92 SFMTRIC Cars.) At _____ Each		

DEFERRED OPTIONS

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE	
			Dollars	Cents
O-7a	1 - 12	1 to 12 additional Wiring Harnesses for Diagnostic Test Equipment - MBTA Cars to be selected within 110 days following date of acceptance of Pilot Cars At _____ Each		
O-7b	13 - 25	13 to 25 additional Wiring Harnesses for Diagnostic Test Equipment - MBTA Cars to be selected within 110 days following date of acceptance of Pilot Cars At _____ Each		
O-8	1 - 12	1 to 12 additional Wiring Harnesses for Diagnostic Test Equipment - SFMRIC Cars to be selected within 110 days following date of acceptance of Pilot Cars At _____ Each		

DELIVERY SCHEDULE

The bidder will state in the space provided, the estimated delivery schedule of the Cars to the Parties' property or the U. S. Department of Transportation's High-Speed Ground Test Center, Pueblo, Colorado, in the number of calendar days after receipt of a properly executed Contract.

GROUP I:

2 Pilot Cars - SEMRIC	Number of Days	_____
4 Pilot Cars - Pueblo, Colorado	Number of Days	_____

GROUP II:

77 SEMRIC Cars	Number of Days to Start	_____
	Rate of Delivery per Month	_____
	Number of Days to Completion	_____

GROUP III:

147 MBTA Cars	Number of Days to Start	_____
	Rate of Delivery per Month	_____
	Number of Days to Completion	_____

The Rate of Delivery per Month as stated above shall be applicable to the total number of MBTA Cars selected by option at time of Award.

MBTA - SPARE PARTS LISTING

PART E

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
1	2	Propulsion Controller and Resistor Assemblies, complete At _____ Each				
2	12	Traction Motors, complete with coupling attached At _____ Each				
3	50	Traction Motor Brushes (if a DC Motor) At _____ Per Set				
4	L.S.	4 Each Type - Traction Power Contactors At _____ Lump Sum	X			
5	12	Motor/Gear Coupling Units, Complete At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
6	12	Friction Brake Actuators At _____ Each				
7	L.S.	25 Each Type - Friction Brake Discs At _____ Lump Sum	X			
8	25	Friction Brake Disc Caliper Units, Complete At _____ Each				
9	L.S.	100 Pairs Each Type - Friction Brake Disc Pads At _____ Lump Sum	X			
10	6	Track Brake Units, complete At _____ Each				
CARRIED OFF						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
11	100	Track Brake Wear Plates At _____ Each				
12	2	Inductive and Resistive Motor Shunts (if required) At _____ Per Car Set				
13	2	Line Filters (if required) At _____ Per Car Set				
14	12	Trucks, complete, including motor, gears, etc., (if identical, otherwise 2:1 ratio of quantities outer to center) At _____ Each				
15	12	Wheel and Axle Assemblies (including gear boxes and journals) At _____ Each				

CALLED 1 0

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
16	50	Wheel Tires At _____ Each				
17	6	Coupler Assemblies (including mechanical head, electric portion, centering device, uncoupling actuator, draft gear, stops, carrying bar, and necessary hoses and cables with connectors) At _____ Each				
18	4	Electric Portion (including cables and cover assembly, if provided) of coupler At _____ Each				
19	4	Drum Switches (if used) At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
20	4	Mechanical Portion of Coupler At _____ Each				
21	4	Air Compressors and Governors At _____ Each Set				
22	2	Air Tanks with Valves At _____ Per Car Set				
23	2	Sander Assemblies At _____ Per Car Set				
24	4	Hydraulic Pumps (if installed) At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
25	4	Hydraulic Reservoir/Control Units (if installed) At _____ Each Unit				
26	4	Motor-Generator Sets, Motor-Alternator Sets, or Static Inverters, Complete At _____ Each Set				
27	40	Lighting Inverter Ballast Units At _____ Each Unit				
28	8	Static Control Cards, Complete Sets for each type of equipment used on car At _____ Per Car Set				
29	8	Windshield Wiper and Washer Assemblies At _____ Each				
CARRIED FORWARD						

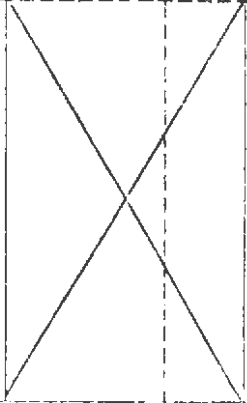
ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
31	4	Radio/P.A. Communications Systems including Control box, handset and car body speakers At _____ Per Car Set				
32	L.S.	4 Each Type - Incandescent Lighting Fixtures At _____ Lump Sum	X			
33	4	Batteries At _____ Per Car Set				
34	12	Windshield Wiper Blades (if not standard automotive blade) At _____ Per Car Set				
35	L.S.	4 Each Type - Circuit Breakers At _____ Lump Sum	X			
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
36	L.S.	4 Each Type - Fuses At _____ Lump Sum	 			
37	6	Gongs (Gong/Horn Package) At _____ Each				
38	6	Horns (If separate) At _____ Each				
39	6	Passenger Station Stop Request Signal Switches At _____ Per Car Set				
40	6	Passenger Station Stop Request Signals At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
41	6	Pantograph Power Collection Assemblies and sleet scrapers At _____ Each Set				
42	30	Pantograph Shoe Assemblies, Complete At _____ Each				
43	100	Pantograph Shoe Inserts At _____ Each				
44	2	Air Conditioning Compressor/ Condenser Units, Complete At _____ Each				
45	4	Air Conditioning Evaporator Units, Complete At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
46	2	Air Conditioning Compressor/ Condenser Motors At _____ Each				
47	4	Air Conditioning Evaporator Motors At _____ Each				
49	6	Strip Heaters, Sidewall At _____ Per Set				
50	2	Door Operators incl. Linkages and Release Mechanisms At _____ Per Car Set				
51	4	Door Control Units At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
55	6	Center Double Door Panels (including glass and glazing) At _____ Per Pair				
56	6	Front Double Door Panels (including glass and glazing) At _____ Each				
58	6	Windshield and Front Destination Sign Components At _____ Per Set				
59	36	Side Windows At _____ Each				
60	6	Operator's Cab Window and Sash At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT & BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
61	24	Windscreens, interior At _____ Each				
62	2	Light Diffusers, Lens Assemblies, interior At _____ Per Car Set				
63	12	Headlight Assemblies At _____ Each				
64	12	Stop Light Assemblies At _____ Each				
65	L.S.	24 Each Type - Marker Light Assemblies and Door Open Lights At _____ Lump Sum				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
66	4	Cab Enclosure Door Windows At _____ Per Set				
67	14	Seat Frames At _____ Each				
68	2	Seat Cushions, Both Bottoms and Backs At _____ Per Car Set				
69	6	Operator's Cab Seats At _____ Each				
70	2	Destination Sign Systems, Front, Complete At _____ Per Box				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT		
			Dollars	Cents	Dollars	Cents	
		BROUGHT FORWARD					
71	4	Destination Sign Systems, Side, Complete At _____ Per Box					
72	6	Destination Sign Curtains, Front At _____ Each					
73	6	Destination Sign Curtains, Side At _____ Each					
75	2	Reverser Assemblies, Complete (if used) At _____ Each					
76	2	Master Controller Assemblies, Complete At _____ Each					
CARRIED FORWARD							

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
77	L.S.	2 Each Type - Foot Pedal Assemblies, Complete At _____ Lump Sum	 	 		
78	L.S.	24 Each Type - Console Control Switches, Complete At _____ Lump Sum				
79	2	Instrument Pods (including gauges, light) Complete At _____ Each				
80	2	Speedometers Complete At _____ Each				
81	2	Windshield Demister Assemblies, Complete At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
82	2	Auxiliary Cab Heaters, (unless combined with Demister) At _____ Each				
83	2	Cab Enclosing Doors and Hardware At _____ Per Set				
84	2	Sun Visors At _____ Each				
85	L.S.	4 Each Type - Mirrors (interior and exterior) At _____ Lump Sum	X			
86	2	Skirting Panels, exterior At _____ Per Car Set				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
87	2	Rub Rail (with inserts), exterior At _____ Per Car Set				
88	2	Articulation Diaphragm Components At _____ Per Car Set				
89	6	Specialized Tools not normally found in Mechanic's or Electrician's Tool Kits Such as Lug Crimping Tools, Motor/Gear Coupling Puller, Including Hand Tools and Shop Tools At _____ Per Set				
90	6	Wheel Gauges At _____ Each				
CARRIED FORWARD						

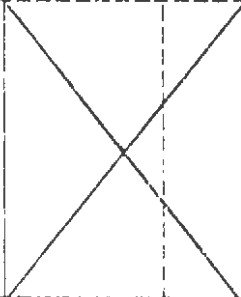
ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
91	6	Coupler Gauges At _____ Each				
92	6	Flooring, Articulation, Fitted At _____ Per Section				
93	L.S.	500 feet Each Type - Flooring, Standard Roll Widths At _____ Lump Sum				
94	L.S.	12 Sets Each Type - Hoses with Fittings, if Pre-Fab At _____ Lump Sum				
95	L.S.	6 Sets Each Type - Cables with Connectors, if Pre-Fab At _____ Lump Sum				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE Dollars Cents	AMOUNT Dollars Cents
BROUGHT FORWARD				
96	L.S.	1,000 Feet Each Type - Cable, Power At _____ Lump Sum	X	
97	L.S.	1,000 Feet Each Type - Multi-Conductor Cable, Control At _____ Lump Sum	X	
98	L.S.	1,000 Feet Each Type - Cable, Control/Signal, Shielded At _____ Lump Sum	X	
99	1	Door Weather Seal Strip At _____ Per Car Set		
100	2	Air Spring Components At _____ Per Car Set		
CARRIED FORWARD				

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
101	2	Truck Safety Bars At _____ Per Car Set				
102	L.S.	1,000 Feet Each Type - Wire, Control At _____ Lump Sum	X			
103	L.S.	250 Feet Each Type - Glazing At _____ Lump Sum				
104	1	Hydraulic Press or Ring Gas Torch for Assembly of Resilient Wheels as Appropriate At _____ Per Unit				
TOTAL - MBTA SPARE PARTS						

SFMRIC - SPARE PARTS LISTING

PART B

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
1	2	Propulsion Controller and Resistor Assemblies, complete At _____ Each				
2	6	Traction Motors, complete with coupling attached At _____ Each				
3	12	Traction Motor Brushes (if a DC Motor) At _____ Per Set				
4	L.S.	4 Each Type - Traction Power Contactors At _____ Lump Sum				
5	6	Motor/Gear Coupling Units, Complete At _____ Each				
CARRIED TO.						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
6	6	Friction Brake Actuators At _____ Each				
7	L.S.	6 Each Type - Friction Brake Discs At _____ Lump Sum	 			
8	6	Friction Brake Disc Caliper Units, Complete At _____ Each				
9	L.S.	24 Pairs Each Type - Friction Brake Disc Pads At _____ Lump Sum	 			
10	6	Track Brake Units, Complete At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT		
			Dollars	Cents	Dollars	Cents	
		BROUGHT FORWARD					
11	24	Track Brake Wear Plates At _____ Each					
12	2	Inductive and Resistive Motor Shunts (if required) At _____ Per Car Set					
13	2	Line Filters (if required) At _____ Per Car Set					
14	6	Trucks, complete, including motor, gears, etc., (if identical, otherwise 2:1 ratio of quantities outer to center) At _____ Each					
15	6	Wheel and Axle Assemblies (including gear boxes and journals) At _____ Each					
CARRIED FORWARD							

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT		
			Dollars	Cents	Dollars	Cents	
		BROUGHT FORWARD					
16	24	Wheel Tires At _____ Each					
17	4	Coupler Assemblies (including mechanical head, electric portion, centering device, uncoupling actuator, draft gear, stops, carrying bar, and necessary hoses and cables with connectors) At _____ Each					
18	4	Electric Portion (including cables and cover assembly, if provided) of coupler At _____ Each					
19	4	Drum Switches (if used) At _____ Each					
CARRIED FORWARD							

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
20	4	Mechanical Portion of Coupler At _____ Each				
21	4	Air Compressors and Governors At _____ Each Set				
22	2	Air Tanks with Valves At _____ Per Car Set				
23	1	Sander Assemblies At _____ Per Car Set				
24	4	Hydraulic Pumps (if installed) At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
25	4	Hydraulic Reservoir/Control Units (if installed) At _____ Each Unit				
26	4	Motor-Generator Sets, Motor-Alternator Sets, or Static Inverters, Complete At _____ Each Set				
27	40	Lighting Inverter Ballast Units At _____ Each Unit				
28	2	Static Control Cards, Complete Sets for each type of equipment used on car At _____ Per Car Set				
29	4	Windshield Wiper and Washer Assemblies At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
30	2	ASC Sub-Systems At _____ Per Car Set				
31	2	Radio/P.A. Communications Systems including Control box, handset and car body speakers At _____ Per Car Set				
32	L.S.	4 Each Type - Incandescent Lighting Fixtures At _____ Lump Sum	X			
33	2	Batteries At _____ Per Car Set				
34	12	Windshield Wiper Blades (if not standard automotive blade) At _____ Per Car Set				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
35	L.S.	4 Each Type - Circuit Breakers At _____ Lump Sum	 			
36	L.S.	4 Each Type - Fuses At _____ Lump Sum				
37	2	Gongs (Gong/Horn Package) At _____ Each				
38	2	Horns (If separate) At _____ Each				
39	2	Passenger Station Stop Request Signal Switches At _____ Per Car Set				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
40	2	Passenger Station Stop Request Signals At _____ Each				
41	3	Pantograph Power Collection Assemblies At _____ Each				
42	5	Pantograph Shoe Assemblies, Complete At _____ Each				
43	15	Pantograph Shoe Inserts At _____ Each				
48	4	Ventilation Fans with Motors At _____ Each Set				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
49	6	Strip Heaters, Sidewall At _____ Per Set				
50	2	Door Operators incl. Linkages and Release Mechanisms At _____ Per Car Set				
51	4	Door Control Units At _____ Each				
52	2	High/Low Level Step Operators Including Linkages At _____ Per Car Set				
53	4	Step Control Units At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
54	2	Passenger Touch Bars At _____ Per Car Set				
55	6	Center Double Door Panels (including glass and glazing) At _____ Per Pair				
56	6	Front Double Door Panels (including glass and glazing) At _____ Each				
57	L.S.	2 Each Type - Changeable Steps At _____ Lump Sum	X			
58	6	Windshield and Front Destination Sign Components At _____ Per Set				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
59	36	Side Windows At _____ Each				
60	6	Operator's Cab Window and Sash At _____ Each				
61	24	Windscreens, interior At _____ Each				
62	2	Light Diffusers, Lens Assemblies, interior At _____ Per Car Set				
63	12	Headlight Assemblies At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
64	12	Stop Light Assemblies At _____ Each				
65	L.S.	24 Each Type - Marker Light Assemblies, ASC Lights and Door Open Lights At _____ Lump Sum	 			
66	4	Cab Enclosure Door Windows At _____ Per Set				
67	12	Seat Frames At _____ Each				
68	2	Seat Cushions, Both Bottoms and Backs At _____ Per Car Set				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
69	2	Operator's Cab Seats At _____ Each				
70	2	Destination Sign Systems, Front, Complete At _____ Per System				
71	4	Destination Sign Systems, Side, Complete At _____ Per System				
72	2	Destination Sign Curtains, Front At _____ Each				
73	4	Destination Sign Curtains, Side At _____ Each				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
74	2	Destination Sign Control Units, Complete At _____ Each				
75	2	Reverser Assemblies, Complete (if used) At _____ Each				
76	2	Master Controller Assemblies, Complete At _____ Each				
77	L.S.	2 Each Type - Foot Pedal Assemblies, Complete At _____ Lump Sum				
78	L.S.	24 Each Type - Console Control Switches, Complete At _____ Lump Sum				
CARRIED TO						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
79	2	Instrument Pods (including gauges, lights) Complete At _____ Each				
80	2	Speedometer, Cab Signal Displays, Complete At _____ Each				
81	2	Windshield Demister Assemblies, Complete At _____ Each				
82	2	Auxiliary Cab Heaters, (unless combined with Demister) At _____ Each				
83	2	Cab Enclosing Doors and Hardware At _____ Per Sct				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
84	2	Sun Visors At _____ Each				
85	L.S.	4 Each Type - Mirrors (interior and exterior) At _____ Lump Sum	X			
86	2	Skirting Panels, exterior At _____ Per Car Set				
87	2	Rub Rail (with inserts), exterior At _____ Per Car Set				
88	2	Articulation Diaphragm Components At _____ Per Car Set				
CARRIED FOR						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
89	2	Specialized Tools not normally found in Mechanic's or Electrician's Tool Kits Such as Lug Crimping Tools, Motor/Gear Coupling Puller, Including Hand Tools and Shop Tools At _____ Per Set				
90	2	Wheel Gauges At _____ Each				
91	2	Coupler Gauges At _____ Each				
92	6	Flooring, Articulation, Fitted At _____ Per Section				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT	
			Dollars	Cents	Dollars	Cents
BROUGHT FORWARD						
93	L.S.	500 Feet Each Type - Flooring, Standard Roll Widths At _____ Lump Sum	X			
94	L.S.	6 Sets Each Type - Hoses with Fittings, if Pre-Fab At _____ Lump Sum				
95	L.S.	6 Sets Each Type - Cables with Connectors, if Pre-Fab At _____ Lump Sum				
96	L.S.	1,000 Feet Each Type - Cable, Power At _____ Lump Sum				
97	L.S.	1,000 Feet Each Type - Multi-Conductor Cable, Con- trol At _____ Lump Sum				
CARRIED FORWARD						

ITEM NO.	QUANTITY	ITEM WITH UNIT BID PRICE WRITTEN IN WORDS	UNIT PRICE Dollars Cents	AMOUNT Dollars Cents
BROUGHT FORWARD				
98	L.S.	1,000 Feet Each Type - Cable, Control/Signal, Shielded At _____ Lump Sum	X	
99	1	Door Weather Seal Strip At _____ Per Car Set		
100	2	Air Spring Components At _____ Per Car Set		
101	2	Truck Safety Bars At _____ Per Car Set		
102	L.S.	1,000 Feet Each Type - Wire, Control At _____ Lump Sum	X	
CARRIED FORWARD				

ITEM NO.	QUANTITY	ITEM WITH UNIT AND PRICE WRITTEN IN WORDS	UNIT PRICE		AMOUNT		
			Dollars	Cents	Dollars	Cents	
		BROUGHT FORWARD					
103	L.S.	250 Feet Bach Type - Glazing At _____ Lump Sum	 				
104	1	Hydraulic Press or Ring Gas Torch for Assembly of Resilient Wheels as Appropriate At _____ per Unit					
TOTAL - SPECIFIC DRAWING PARTS							

SUBCONTRACTORS OR SUPPLIERS

List the possible subcontractors or suppliers whose total material, supplies or equipment will be in excess of \$100,000, for the 230 Cars:

APPARATUS:

MANUFACTURER:

DESCRIPTION:

SUBCONTRACTORS OR SUPPLIERS
(continued)

APPARATUS:

MANUFACTURER:

DESCRIPTION:

SUBCONTRACTORS OR SUPPLIERS
(continued)

APPARATUS:

MANUFACTURER:

DESCRIPTION:

WEIGHT AND ENERGY
CONSUMPTION DATA

1. Estimated Average Weight of Basic
Light Rail Car (Item No. 1, Page C-59)

lbs/car

2. Estimated Average Weight of
Add-Ons - MDTA excluding Item M-5,
Pilot Car Trolley Poles

lbs/car

3. Estimated Average Weight of
Add-Ons - SFMRTC

lbs/car

4. Estimated Propulsion Energy
Consumed @ AV2

watt hours/car mile

Accompanying this Proposal is a cashier's or certified check in the amount of \$300,000 made payable to the MBTA, drawn on a United States Bank whose total capital funds are greater than \$50,000,000.

The undersigned in submitting a bid for performing the work by Contract, hereby certifies that he has or will meet the standards of affirmative compliance with the Fair Employment Practices requirements of the Contract Documents.

Accompanying this Proposal is a technical description of the proposed vehicle and a list of all possible subcontractors or suppliers with whom the bidder intends to purchase materials or equipment costing in excess of \$100,000.

The names of all persons interested in the foregoing Proposal as Principals are as follows:

_____	_____
_____	_____
_____	_____

Receipt of the following attached addenda is hereby acknowledged:

ADDENDA NUMBERS: _____

(1) Signature of Bidder

Dated: _____, 1973

NOTES: (1) The Proposal should be signed as provided in the Information for Bidders (Paragraph 3(d)). If the bidder is a partnership or joint venture, he shall submit a power of attorney in the form attached, executed by all partners or venturers.

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INFORMATION FOR CONTRACT BSF-72

As previously stated, the bidder who is awarded the Contracts will enter into two separate agreements, one with the MBTA and the other with SFMRIC. However, for the purposes of simplification, the BSF Committee has combined these two Contracts into one Contract Form.

Wherever the words Massachusetts Bay Transportation Authority appear followed by an asterisk, for all intent and purpose, the bidder can substitute the San Francisco Municipal Railway Improvement Corporation; and wherever the initials MBTA appear followed by an asterisk, the bidder can substitute SFMRIC.

For the bidder's information, the San Francisco Municipal Railway Improvement Corporation is a non-profit operation organized and existing under and by virtue of the laws of the State of California.

CONTRACT

AGREEMENT made this _____ day of _____, 1972,
by and between the Massachusetts Bay Transportation Authority*, a body
corporate and politic, and a political subdivision of the Commonwealth
of Massachusetts, hereinafter called "MBTA*," and

hereinafter called "Contractor."

The Parties hereto, intending to be legally bound, hereby agree
as follows:

ARTICLE 1 -- Definitions:

Wherever in this Section the following terms, or pronouns used in
their stead, occur, they shall have the meaning here given:

(a.) "Boston-San Francisco Committee" ("BSFC" or "BSF Committee"):
shall mean those persons who shall be the agents of the MBTA and the
San Francisco Municipal Railway Improvement Corporation (SFMRIC) and
designated as Committee Members by the MBTA and SFMRIC.

(b.) "Subcontractor": shall mean persons, firms or corporations
having a direct contract with the Contractor to perform a portion of the
work specified, but not including those who merely furnish materials.

(c.) "Plans": shall mean the Contract Drawings accompanying the Contract Documents, and such detail and supplementary Drawings as may be furnished by the MBTA* from time to time.

(d.) Wherever in the Contract Documents the words: "directed," "required," "permitted," "ordered," "designated," "prescribed," or words of like import are used, it shall be understood that the direction, requirement, permission, order, designation, or prescription of the MBTA* is intended; and, similarly, the words: "approved," "acceptable," "satisfactory," or words of like import shall mean approved by, or acceptable to, or satisfactory to the MBTA*.

(e.) "Work": shall mean all the matters and things herein agreed to be furnished or done by or on the part of the Contractor.

(f.) "Inspector": shall mean the representative(s) of the MBTA* assigned to the inspection of materials and workmanship under the Contract Documents.

(g.) "Notice": shall mean a written notice.

(h.) "Supplier": shall mean persons, firms or corporations who furnish materials for the Contract, but who do not work such material to a special design according to the Contract Documents.

ARTICLE 2 -- Scope of the Work:

The Contractor shall provide all the labor, materials and services and agrees to perform in a good and first-class workmanlike manner, in accordance with the terms of the Contract Documents, and to the approval

and acceptance of the MBTA*, all of the work shown in the Contract Documents. 43 44

The Contract Documents for this Contract are listed on Page A-1 of the Information for Bidders and Invitation to Bid. 45 46

All correspondence, drawings, data or other written communications pertaining to this Contract shall be in the English language using the English system of weights and measures. All monies expressed shall be in United States' dollars. All conversations between bidders, the Contractor, and the MBTA* shall be in English. 47 48 49 50 51

Applicable USAS standards shall be used for information processing, drawings, symbols and abbreviations. 52 53

The Cars may be constructed to metric dimensions; however, all correspondence and drawings shall show the metric dimensions properly identified as metric, with the equivalent English units shown in parentheses beside or below. Mixed English and metric construction of any Car will be permitted at the replaceable component level, providing mounting hardware shall be English. Replaceable components will be considered to be those elements which in the course of normal maintenance are removed from the vehicle as a unit for repair or discarding. English dimensions shall be expressed in fractions of an inch, inches and fractions for less than one foot; feet, inches and fractions of an inch for dimensions greater than one foot, or in decimal inches. 54 55 56 57 58 59 60 61 62 63 64

Briefly described, the work to be performed by the Contractor is to design, construct, test, deliver, and guarantee Electric Multiple-Unit Articulated Subway-Surface Light Rail Cars, hereinafter called "Light Rail Vehicles," or "Cars," in accordance with the Contract Documents. 65 66 67 68

ARTICLE 3 -- Obligations of the Contractor: 69

The Contractor shall furnish all labor and materials, plant, power 70
tools and transportation necessary or proper for the performance and com- 71
pletion of the work in the manner and within the time herein specified. 72
The Contractor shall also furnish a production schedule for the work in 73
form and substance satisfactory to the MBTA*, which shall have sufficient 74
detail for designating major mileposts of engineering, materials, pro- 75
curement, and manufacturing. This schedule shall be kept current 76
throughout the performance of the work. 77

The Contractor shall perform at its own expense all of the items 78
set forth as its responsibility under this Contract and shall pay all 79
fees, permits and royalties, shall pay for patented appliances, products, 80
or processes, and shall pay all expenses incidental to the performance of 81
the Contract and to the procurement of any of the aforementioned items. 82

The Contractor shall assume risk of loss or damage arising out of 83
the work and shall construct and complete the work in accordance with 84
the Contract Documents to the satisfaction of the MBTA*. 85

ARTICLE 4 -- Changes in Contract: 86

No modification or change in this Contract shall be made except 87
by written instrument duly authorized by the MBTA* in accordance with 88
the BSF agreement; provided, however, this provision shall not limit or 89
affect the right to prescribe in writing changes and variations in the 90
work as elsewhere provided in the Contract Documents. 91

ARTICLE 5 -- Changes in Design or Specifications:

92

If changes in approved design of any portion of the work or the 93
requirements of the Specifications are deemed necessary by the MBTA* in 94
accordance with the BSF Agreement, it may order, in writing, alterations 95
to, or changes in, the work covered by the Contract Documents; and the 96
Contractor shall comply with such orders. Additional work required for 97
any such change is hereinafter called "extra work." 98

If such changes increase the cost of the work to the Contractor, 99
additional compensation for such cost will be allowed by the MBTA*. 100
Appropriate adjustment in the delivery schedule, Car weight, energy con- 101
sumption, and performance shall be made to the extent required prior to 102
any change in the work ordered or approved by the MBTA*. Failure by the 104
Contractor to obtain, in writing, any revision of the delivery schedule, 105
Car weight, energy consumption, or performance shall result in the for- 106
feiture of its right to any price, weight, delivery, energy consumption, 107
or performance adjustment. 108

If such changes diminish the cost of the work to the Contractor, 109
the amount of such diminution may be deducted by the MBTA*; however, 110
only fifty per cent (50%) of such diminution may be deducted by the 111
MBTA*, if the cost of saving was first conceived and recommended, in 112
writing, by the Contractor. No changes shall be made except upon writ- 113
ten orders from the MBTA* in accordance with the BSF Agreement author- 114
izing such changes and fixing the method of compensation or deduction 115
therefor. 116

If extra work should be performed as a result of any change, the Contractor's compensation shall be increased by agreement, in writing, between the MBTA* and the Contractor. In the event that an agreement cannot be reached, the Contractor's compensation shall be increased by the following amounts only, in accordance with the remaining provisions of this Article 5:

(a.) An amount equal to the actual net cost in money of the plant and engineering labor performed by the Contractor's own employees required for such extra work, plus one hundred per cent (100%) of such net cost; and

(b.) An amount equal to the actual net cost in money of materials required for such extra work, plus fifteen per cent (15%) of such net cost.

As used in this Article (and in this Article only):

"Plant and engineering labor": means foremen, laborers and mechanics directly employed in manufacturing the Cars at the Contractor's plant and other technical employees of the Contractor directly employed in preparing or checking the design of the Cars;

"Cost of plant labor and engineering labor": means the proper proportion of wages actually paid to and received by such plant and engineering labor plus a proper portion of: (a.) Premiums actually paid by the Contractor for Workmen's Compensation Insurance and Employer's Liability Insurance upon the basis of such wages, or if the Contractor self-insures Workmen's Compensation, an appropriate allowance in lieu of such premiums; (b.) Vacation allowances and union dues and assessments which the Contractor actually pays pursuant to contractual obligation upon the basis of such wages; and (c.) Taxes actually paid by

the Contractor pursuant to law upon the basis of such wages; 143

"Materials": include specialty equipment and all materials and 144
equipment which are purchased by the Contractor from an approved suppli- 145
er for use in the Cars; and means temporary and consumable materials 146
as well as permanent materials; and 147

"Cost of materials": means the price (including taxes actually 148
paid by the Contractor pursuant to law upon the basis of such materials) 149
for which such materials are sold for cash by the manufacturers or 150
producers thereof, or by regular dealers therein, whether or not such 151
materials are purchased directly from the manufacturer, producer, or 152
dealer (or if the Contractor is the manufacturer or producer thereof, 153
the reasonable internal price to the Contractor for such manufacture and 154
production), plus the reasonable cost of delivering such materials to 155
the construction site in the event that the price paid to the manufac- 156
turer, producer, or dealer does not include delivery, and, in case of 157
temporary materials, less their salvage value, if any. 158

In computing the Contractor's compensation insofar as it is based 159
upon extra work, no consideration shall be given to any items of cost or 160
expense not expressly set forth above, it being expressly agreed that 161
the percentage additions hereinbefore provided cover the cost of admini- 162
stration, overhead, superintendence, taxes (other than those enumerated 163
above), profit to the Contractor, small tools, and all other items of 164
cost and expense to the Contractor. 165

Whenever any extra work is performed, the Contractor shall, at 166
the end of each week, furnish to the MBTA's* Engineer the following: 167

(a.) Daily time slips showing the name and number of each employ-168
ee employed thereon, the character of his duties, and the wages to be 169

paid him; 170

(b.) A memorandum showing the rates and amounts of Workmen's 171
Compensation Insurance premiums and state and Federal taxes based on 172
such wages; 173

(c.) Vacation allowances and union dues and assessments which 174
the Contractor actually pays pursuant to contractual obligation upon the 175
basis of such wages; and 176

(d.) A memorandum showing the amount and character of the mate- 177
rials furnished in the performance of extra work, from whom they were 178
purchased, and the amount paid or to be paid therefor. 179

Such daily time slips and memoranda are for the purpose of en- 180
abling the MBTA* to determine the amounts to be paid to the Contractor; 181
and, accordingly, the failure of the Contractor to furnish them with 182
respect to any particular labor, equipment, and materials shall consti- 183
tute a conclusive and binding determination on its part that such labor, 184
equipment, and materials are not extra work, and shall constitute a 185
waiver by the Contractor of claims for payment upon that basis. 186

ARTICLE 6 -- Approval of Contractor's Drawings and Data: 187

The MBTA* will return drawings approved, or with required changes 188
noted, within thirty (30) days after acknowledged receipt or via 'special 189
delivery, return receipt requested' mail. The period of time for com- 190
pletion of this Contract and the time of delivery of items under this 191
Contract will be exclusive of all time in excess of thirty (30) days 192
after receipt of the Contractor's drawings by the MBTA*. However, no 193
extension of Contract time will be allowed for revision of Contractor's 194
drawings which have been disapproved; and such disapproved drawings 195
shall be resubmitted and will be reviewed and returned to the Contractor 196

within thirty (30) days after receipt of these resubmitted drawings. 197

All technical data, test schedules, test results, progress sche- 198
dules and reports, drawing lists, samples, and other data submitted by 199
the Contractor and requiring review and approval by the MBTA* will be 200
handled in accordance with the above provisions. 201

Approval of the Contractor's drawings shall not relieve the 202
Contractor of any responsibility, including, but not limited to, respon- 203
sibility for accuracy of dimensions and details. The Contractor shall 204
remain responsible for agreement and conformity of its drawings and data 205
to the Contract Drawings and Specifications. 206

ARTICLE 7 -- Access to Work and Records: 207

The BSF Committee and/or the MBTA*, its Engineer, its inspectors 208
assistants, and subordinates shall have access, at any time during the 209
Contractor's working hours, to the premises used by the Contractor or 210
to any plant or place where materials, work, or any part thereof, is 211
being made, performed, or stored, subject to security clearance if 212
required. 213

Access, at any time during working hours, shall also be granted 214
for inspection of all records and documents of the Contractor and its 215
suppliers, relating to any labor, materials, plant, and equipment used 216
in the performance of extra work. 217

Access shall be given or obtained both before and after comple- 218
tion of this Contract for duration of guarantee period. 219

Authorized representatives of the U. S. Department of Transpor- 220
tation and the Comptroller General of the United States shall also have 221
the same access as stated above. 222

ARTICLE 8 -- Local Representation: 223

Commencing with delivery of first Car to the MBTA*, the Contractor 224
shall have competent technical personnel within North America available 225
to assist the MBTA* within 72 hours, after being requested, during the 226
guarantee period, at no cost to the MBTA*. 227

ARTICLE 9 -- Guarantees: 228

The Contractor shall guarantee: 229

(a.) The structure of the Car body underframe, support brackets, 230
and the truck frames, axles, and the traction gear drives of the propul- 231
sion equipment for a period of five (5) years from date Cars are deli- 232
vered to and accepted by the MBTA*. 233

(b.) All other parts, except Spare Parts, for a period of two 234
(2) years from the date Cars are placed in service by the MBTA*. 235

(c.) Spare Parts for two (2) years from date of installation 236
with guarantee to terminate five (5) years from date of delivery and 237
acceptance of the last Car. 238

The Contractor shall guarantee against defects existing when the 239
Cars are accepted, or defects caused by faulty design, poor workmanship, 240
or poor material. If, in the judgment of the MBTA*, any part or parts 241
thereof prove defective either in design, materials, or workmanship 242
during the period of guarantee, they shall be repaired or replaced by 243
the Contractor as determined by the Engineer without expense to the 244
MBTA*. It shall be understood that during the period of the guarantee(s) 245
the Contractor shall reimburse the MBTA* for all costs of labor and 246
material incurred by the MBTA*, for the removal and replacement of de- 247
fective parts, alterations, repairs, tests, and adjustments made to 248
obtain proper Car performance and that replaced items will be guarante- 249

ed for the remainder of the guarantee period. 250

All Car parts or material caused to be damaged as the result of 251
a defect in, or malfunction of, other Car parts or material, shall be 252
repaired or replaced as determined by the Engineer at the expense of the 253
Contractor. This expense shall include the overhead burdens, the cost 254
of parts, material charges, and labor charges, which shall be at the 255
MBTA's (or San Francisco Municipal Railway's) prevailing rates, requir- 256
ed for the removal and the replacement of and/or the reinstallation of 257
the damaged parts and materials. 258

For the purpose of the guarantee(s), it shall be understood that 259
the date that a Car is placed in service shall not post-date its final 260
acceptance by more than three (3) months. 261

ARTICLE 10 -- Examination and Inspection of Work: 262

All work done and all materials furnished under this Contract 263
shall be in full accordance with the Contract Documents and shall be 264
subject to thorough inspection. The MBTA's* Engineer shall be furnish- 265
ed with every reasonable facility for ascertaining whether the work com- 266
plies with the requirements of this Contract; but the inspection of the 267
work shall not relieve the Contractor of any of its obligations to ful- 268
fill its Contract as herein prescribed. The MBTA's* Engineer's inspec- 269
tions of the work shall be made promptly so as to avoid delay in 270
performance of the work. 271

ARTICLE 11 -- Trade Names and Alternatives: 272

For convenience in designation on the Contract Drawings or in the 273
Specifications, certain articles or materials to be incorporated in the 274
work may be designated by trade names or the names of manufacturers and 275
their catalog information, followed in each instance by the words "or 276

equal." Except in those instances where the product is designated to 277
match others in use, the use of an alternative article or material which 278
the Contractor represents to be of at least equal quality and of the re- 279
quired characteristics for the purpose intended will be permitted sub- 280
to the following restrictions: 281

(a.) The burden of proof as to the quality and suitability of 282
alternatives shall be upon the Contractor; and it shall furnish all 283
information required at no additional cost to the MBTA*. 284

(b.) Where use of an alternative material involves redesign or 285
changes to other parts of the work, the cost and the time required to 286
effect such redesign or changes will be considered in evaluating the 287
suitability of the alternative material. No additional cost will be 288
paid by the MBTA* as a result of the Contractor's selecting or using 289
alternative material. 290

(c.) No test nor action relating to the approval of substitute 291
materials will be made until the request for substitution has been made 292
in writing by the Contractor and has been accompanied by complete data 293
as to the quality of the materials proposed. Such request shall be made 294
in ample time to permit approval without delaying the work. 295

(d.) Whenever classification, rating, or other certification by 296
a body, such as UL, NEMA, or AREA, is a part of the Specification for 297
any material, proposals for use of alternative material shall be accom- 298
panied by reports from the listed or equivalent independent testing 299
laboratory indicating compliance with the Specifications' requirements. 300

(e.) The cost of all testing required to prove equality of the 301
material proposed shall be borne by the Contractor. 302

ARTICLE 12 -- Patent Indemnity: 303

The Contractor shall assume all costs arising from the use of 304

patented materials, equipment, devices, or processes not furnished, 305
specified or called for in the Technical Specifications, by the MBTA*, 306
used on or incorporated in the work, and shall indemnify and save harm- 307
less the MBTA* and its duly authorized representatives from all suits at 308
law, all actions of every nature for or on account of the use of any 309
patented materials, equipment, devices, or processes other than those 310
furnished by the MBTA* or those specified or called for in the Technical 311
Specifications. Without prejudice to the generality of the foregoing, 312
the Contractor shall defend any such action entirely at its own cost and 313
expense provided that the MBTA* and its duly authorized representatives 314
give their co-operation in such defense. In the event that such mater- 315
ials, equipment, devices, or processes are held to constitute an in- 316
fringement, and in case their use be enjoined, the Contractor shall, at 317
its option and entirely at its expense, but in consultation with the 318
MBTA*, elect one of the following alternatives: 319

(a.) Secure for the MBTA* the right to continue using such ma- 320
terials, equipment, devices, or processes by procuring a license or 321
licenses, or otherwise; 322

(b.) Replace such materials, equipment, devices, or processes 323
with non-infringing materials, equipment, devices, or processes to the 324
MBTA's* satisfaction; or 325

(c.) Modify the materials, equipment, devices, or processes to 326
the MBTA's* satisfaction and so that they become non-infringing; or 327

(d.) Remove the enjoined materials, equipment, devices, or pro- 328
cesses and refund the sums paid therefor without prejudice to any other 329
rights of the MBTA*. 330

ARTICLE 13 -- Indemnification: 331

The Contractor hereby assumes all risk and responsibility and 332

shall indemnify and save the MBTA* harmless from any and all claims, 333
suits, demands, and causes of action of any kind or nature whatsoever, 334
and expenses incidental thereto, including, but not limited to counsel 335
fees, for the loss of life or property of or injury or damage to the 336
person or property of any person or corporation whatsoever, (including 337
but without limitation of the foregoing, the person or property of the 338
Contractor, or its subcontractors, the MBTA*, or their respective 339
officers, agents, or employees), caused by the Contractor in the manu- 340
facture, testing, inspection, or repair of any of the Cars, or any part 341
thereof, or occurring during shipment of the Cars from the Contractor, 342
or as a result of defective parts whether occurring prior to or after 343
acceptance of such car by the MBTA* from the Contractor and whether 344
occurring on or off the premises; provided that this indemnification 345
shall not apply to loss, injury or damage caused by the MBTA*. 346

The Contractor's obligation to indemnify the MBTA* shall remain 347
in effect until the expiration of five (5) years from the date of 348
acceptance of the last car. 349

The Contractor shall further assume all liability for loss by 350
reason of neglect or violation of Federal, state, or local laws, ordi- 351
nances, or regulations, and all work necessary to conform to said laws, 352
ordinances, and regulations included in this Contract. 353

The Contractor agrees that all or so much of any monies due him 354
under this Contract as may be considered as necessary by the MBTA* may 355
be retained until all suits for claims covered by the foregoing indem- 356
nity provision have been settled and satisfactory evidence to that 357
effect furnished; provided, however, that no monies shall be retained by 358
the MBTA* for such claims to the extent that insurance proceeds shall be 359
available therefor. 360

The MBTA* may also require the Contractor to continue its bond or any part thereof, as security against any such unsatisfied claim for a time not exceeding the time when such claim would be legally barred.

ARTICLE 14 -- Claims and Disputes:

Should the Contractor disagree with any decision, order, instruction, notice, act, or omission of the MBTA* in accordance with the BSF Agreement, it may, within ten (10) days after receipt or occurrence of the same, submit to the MBTA* a written notice of potential claim, stating its objections thereto. Such notice shall indicate the basis of the stated objections and the nature and estimated amount of any adjustment in compensation, extension of the date or dates of delivery, or other contractual changes which the Contractor believes will or may be due.

Decisions, orders, instructions, notices, and acts or omissions of the MBTA* in accordance with the BSF Agreement shall be final and conclusive on the Contractor if it fails to submit a notice of potential claim with respect thereto in the manner and within the time specified; and such failure shall constitute a waiver of all claims in connection therewith, whether direct or consequential in nature.

It is the intention of this Article that differences arising under and by virtue of the Contract shall be brought to the attention of the MBTA* in accordance with the BSF Agreement at the earliest possible time in order that such matters may be settled, if possible, or other appropriate action taken. It is also the intention of this Article to defer, in the absence of special notice by the MBTA* in accordance with the BSF Agreement, the presentation of claims and the commencement of any legal action by the Contractor against the MBTA* on a matter required to be covered by written notice of potential claim until after the MBTA* has inspected and accepted the Cars in accordance with ARTICLE 27

of this Contract. Such special notice eliminating this deferment shall 389
consist of a written notice by the MBTA* in accordance with the BSF 390
Agreement to the Contractor that, pursuant to this Article, the MBTA* 391
has elected to consider the potential claim as a present claim and to 392
deny it. 393

ARTICLE 15 -- Equal Employment Opportunity: 394

The Contractor shall not discriminate against any employee or 395
applicant for employment because of race, religion, color, sex or 396
national origin. The Contractor shall take affirmative actions to in- 397
sure that applicants are employed, and that employees are treated during 398
their employment, without regard to their race, religion, color, sex, or 399
national origin. Such actions shall include, but not be limited to, the 400
following: employment, upgrading, demotion, or transfer; recruitment, 401
or recruitment advertising; layoff, or termination; rates of pay, or 402
other forms of compensation; and selection for training, including ap- 403
prenticeship. 404

ARTICLE 16 -- Prohibited Interests: 405

No member of the Board of Directors, officer or employee of the 406
MBTA*, and no member of the governing body, officer or employee of any 407
city or county within the external boundaries of the Commonwealth of 408
Massachusetts (or City and County of San Francisco), during his tenure 409
or for one year thereafter, shall have any interest, direct or indirect, 410
in this Contract or the proceeds thereof. 411

No member of, or delegate to, the Congress of the United States 412
shall be admitted to any share or part of this Contract or to any bene- 413
fit arising therefrom. 414

ARTICLE 17 -- Members and Employees of the BSFC and MBTA* Not Liable: 415

No claim shall be made by the Contractor against any member, of- 416
ficer, agent, or employee of the BSF Committee or the MBTA* personally 417
by reason of this Contract or any of its provisions. 418

ARTICLE 18 -- Legal Address of Contractor: 419

Any notice or communication to the Contractor shall be deemed 420
served if delivered to the Contractor or to the address named in the 421
Proposal, or if deposited in the Post Office, postage prepaid, addressed 422
to the Contractor at either of the above addresses; and the date of 423
service shall be the date of such delivery, or, if mailed, two days after 424
such mailing; provided, however, that any notice of default shall be 425
sent by certified mail. 426

ARTICLE 19 -- Time of Starting and Completing of Work: 427

Time is of the essence to this Contract. The Contractor shall 428
begin work within ten (10) days of receipt of the executed Contracts. 429
The Contractor shall complete the work in accordance with the time 430
schedule set forth in its Proposal as measured from the date of the 431
executed contracts. 432

ARTICLE 20 -- Liquidated Damages: 433

Operation of the Cars as scheduled is of paramount importance to 434
the MBTA*. In executing this Contract, the Contractor agrees that the 435
MBTA* will actually sustain damages, hereinafter fixed, if certain pro- 436
visions of the Contract are not strictly adhered to. 437

The Contractor further agrees with the MBTA* that from the nature 438
of the case it would be impracticable or extremely difficult to fix the 439
actual damages. 440

(a.) Weight Factor: Liquidated damages shall be claimed 441
by the MBTA* when the weight of the Car, fully equipped, as shown 442
by the weight ticket for each Car, less equipment furnished by the MBTA* 443
is in excess of the reference Car weight of 69,000 lbs. and adjusted 444
for changes as ordered. Liquidated damages of two dollars (\$2.00) 445
for every pound per Car in excess of the reference Car weight or 446
adjusted weight shall be taken as a credit against the price of each 447
Car by the MBTA*. To allow for manufacturing tolerances, no liquidated 448
damages will be assessed for the first 1,000 pounds per Car in excess 449
of the reference Car weight. 450

(b.) Delivery Factor: The amount of agreed liquidated 451
damages to be deducted per calendar day from the Contract price for 452
failure to complete delivery of the Cars as specified herein shall 453
be fifty dollars (\$50.00) per day per Car. These liquidated damages 454
shall be applied to each Car for each and every day it is delayed 455
beyond the delivery time schedule provided in the Contractor's 456
Proposal. 457

(c.) Energy Consumption: Liquidated damages shall also 458
be claimed for failure to meet the watt hours per car mile quoted 459
in the Proposal. The energy consumption of the propulsion system 460
will be verified during the acceptance tests described in Section 2 461
of the Technical Specifications and will be compared with the estimate 462
listed in the Proposal Form. If the energy required per car mile 463
for the actual performance requirements of the test runs exceeds the 464
estimate, an amount equal to eleven dollars and twenty cents (\$11.20) 465
for each watt hour per car mile in excess of 500 watt hours per car 466
mile more than the estimate will be subtracted from the Contract unit 467
price for each Car delivered. 468

(d.) Performance Factor: Liquidated damages shall also be 469

claimed in the event that any Car or number of Cars fail to pass the 470
performance tests specified and they shall be considered unacceptable. 471
The MBTA* shall make no payment on such unacceptable Cars until the 472
conditions are corrected. 473

Where liquidated damages are claimed, the MBTA* may take as 474
a credit against the price of each such Car fifty dollars (\$50) per day 475
per Car. If the Car does not meet standards, but can be put into revenue 476
service pending correction, the credit against the price of the Car will 477
be twenty dollars (\$20) per day commencing with the day said Car is made 478
available to the Contractor for correction until performance is achieved. 479

(e.) Accrued Liquidated Damages: There shall be deducted from 480
any money due or to become due to the Contractor at the time of final 481
payment a sum representing the accrued liquidated damages. Such deduc- 482
tions shall not be considered a penalty, but as the agreed monetary 483
damages sustained by the MBTA* because the Contractor was unable to pro- 484
vide Cars which fully met the service standards required. Should the 485
money due to the Contractor be insufficient to cover such agreed liquida- 486
ted damages, then the Contractor forthwith shall pay the remainder to the 487
MBTA*. In any event, the total liquidated damages for each Car shall not 488
exceed ten per cent (10%) of the contract price of each Car. 489

ARTICLE 21 -- Delay and Suspension of Work: 490

The MBTA* in accordance with the ESF Agreement has the authority 491
to delay commencement of work and to delay or suspend any portion thereof 492
for such period or periods as it may deem necessary because of conditions 493
beyond the control of the MBTA* or the Contractor, or beyond the control 494
of the MBTA* and the Contractor, for failure to carry out pro- 495

visions of the Contract Documents; for failure to carry out orders; for 496
causes and conditions considered unsuitable for the prosecution of the 497
manufacturing of the Cars; for acts of third persons not a party to the 498
Contract; or for any other cause, condition, or reason determined to be 499
in the best public interest. 500

Upon receipt of written order of the MBTA* in accordance with the 501
BSF Agreement, the Contractor shall immediately delay commencement of the 502
work or delay or suspend any portion thereof in accordance with said 503
order. No work shall be suspended or delayed without the prior written 504
approval or order of the MBTA* in accordance with the BSF Agreement. The 505
work shall be resumed when conditions so warrant or deficiencies have 506
been corrected and the conditions of the Contract Documents satisfied as 507
ordered or approved in writing by the MBTA*. 508

ARTICLE 22 -- Claim for Delay or Suspension of the Work: 509

The Contractor hereby agrees that it shall have no claim for dam- 510
ages of any kind on account of any delay of commencement of the work or 511
any delay or suspension for any portion thereof except as provided. 512

Provided, however, that, if the MBTA* in accordance with the BSF 513
Agreement in its judgment shall determine that the performance of all, 514
or any major portion, of the work is suspended, delayed, or interrupted 515
for an unreasonable period of time by an act of the MBTA* in accordance 516
with the BSF Agreement in the administration of the Contract, or by the 517
MBTA's*, in accordance with the BSF Agreement, failure to act as re- 518
quired by the Contract Documents within the time specified in the Con- 519

tract Documents (or if no time is specified, within a reasonable time) 520
and without the fault or neglect of the Contractor, an adjustment will 521
be made by the MBTA* for any increase in actual costs of performance of 522
the Contract (excluding profit and overhead) necessarily caused by the 523
period of such suspension, delay, or interruption. No adjustment will 524
be made if the performance by the Contractor would have been prevented 525
by other causes even if the work would not have been so suspended, de- 526
layed, or interrupted by the MBTA* in accordance with the BSF Agreement. 527

No claim will be allowed for the MBTA's*, in accordance with the 528
BSF Agreement, failure to act as required by the Contract Documents 529
within the time specified in the Contract Documents (or if no time is 530
specified, then a reasonable time) for any cost incurred more than two 531
(2) weeks before the Contractor shall have notified the MBTA*, in writ- 532
ing, of its claim due to the MBTA's* failure to act. 533

The Contractor shall submit, in writing, not later than ten (10) 534
days after termination of such suspension, delay, or interruption, the 535
amount of the claim and a breakdown of how the amount was computed in 536
accordance with the terms of the Contract Documents, except no allowance 537
for overhead and profit will be allowed. 538

Any dispute concerning whether the delay or suspension is unrea- 539
sonable or any other question of fact arising under this paragraph will 540
be determined by the MBTA* in accordance with the BSF Agreement; and such 541
determination and decision, in case any question shall arise, will be a 542
condition precedent to the right of the Contractor to receive any money 543
pursuant to this Article 22. 544

The Contractor further agrees that the sole allowance for any such 545
delay or suspension, other than as provided, is an extension of time. 546

ARTICLE 23 -- Determination and Extension of Contract Time for Completion: 547

It is an essential part of this Contract that the Contractor shall 548
perform fully, entirely, and in an acceptable manner, the work required 549
within the time stated in the Proposal, except that the Contract time 550
for completion shall be adjusted as follows: 551

(a.) In case the commencing of the work is delayed or any part 552
thereof is delayed or suspended by the MBTA* in accordance with the BSF 553
Agreement, except for reasons caused by the fault or neglect of the Con- 554
tractor, the Contractor will be granted an extension of time in which to 555
complete the work or any portion of the work required under the Contract 556
Documents equivalent to the duration of the delay less a reasonable peri-557
od of time within which it could have done necessary preliminary work. 558

(b.) When delay occurs due to reasonable causes beyond the con- 559
trol and without the fault or neglect of the Contractor, the time for 560
completion of the work shall be extended in whatever amount is determin- 561
ed by the MBTA* in accordance with the BSF Agreement to be equitable. 562

(c.) Each change order as issued will include a statement of 563
additional time, if any, that is agreed upon by the Contractor and the 564
MBTA* as required for the completion of this Contract by reason of this 565
change order, and no other time allowance on account of the performance 566
of the work covered by such change order will be allowed. 567

(d.) No injunction, strike, or interference of public authority 568
shall be grounds for such extension unless and until the Contractor shall 569

give the MBTA* notice of the injunction or other cause of delay, with 570
copies of the injunction or other orders and of the papers upon which 571
the same shall have been granted; and no extension shall be granted ex- 572
cept for the delay occasioned after giving of such notice. Nor will any 573
extensions be granted in any case unless the Contractor shall prove to 574
the satisfaction of the MBTA* in accordance with the BSF Agreement all 575
the facts which entitle it to such extension. 576

The MBTA* shall be accorded the right to intervene or to become 577
a party to any suit or proceeding in which any such injunction shall be 578
obtained and to move to dissolve the same, or otherwise, as the MBTA* 579
deems proper. If necessary, counsel to the MBTA* may be authorized by 580
the Contractor to appear for that purpose as counsel or attorney for it. 581

No extension of time will be granted for any delay or suspension 582
of the work due to the fault of the Contractor, nor if a request for an 583
extension of time on account of delay due to any of the aforesaid causes 584
is not filed within ten (10) days of the date of the commencement of the 585
delay, nor if the request is based on any claim that the Contract period 586
as originally established was inadequate. 587

ARTICLE 24 -- Passing of Title and Risk of Loss: 588

Title to and risk of loss or damage with respect to materials and 589
equipment covered by the Contract Documents shall pass to the MBTA* only 590
after the MBTA* accepts the materials and equipment. 591

ARTICLE 25 -- Assigning or Subcontracting: 592

The Contractor shall give its personal attention to the fulfill- 593
ment of the Contract and shall keep the work under its control. 594

The Contractor shall not sublet, sell, transfer, assign, or otherwise dispose of the Contract or any portion thereof, or of its right, title, or interest therein, if the cost exceeds \$100,000, without written consent of the MBTA* in accordance with the BSF Agreement. No subcontractors, or transfer of contract, shall in any case release the Contractor of its liability under the Contract and bonds.

Any consent to sublet any part of the work shall not be construed to be an approval of the said subcontract or of any of its terms, but shall operate only as an approval of the making of a subcontract between the Contractor and subcontractor. The subcontractor shall look only to the Contractor for the payment of any claims of any nature whatsoever arising out of the said subcontract, and said subcontractor agrees, as a condition of the granting by the MBTA* of the consent to the making of said subcontract, that he shall make no claim whatsoever against the MBTA*, its members, or agents for any work performed or thing done by reason of said subcontract, or for any other cause whatsoever that may arise by reason of the relationship created between the Contractor and the subcontractor by the subcontract.

A subcontractor will be recognized only in the capacity of an employee or agent of the Contractor.

The Contractor shall direct the attention of its subcontractors to the requirements of all Federal, state, and municipal laws, ordinances, rules, and regulations as they apply.

ARTICLE 26 -- Abandonment or Default by Contractor:

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If the work to be done under this Contract is abandoned by the Contractor; or if the performance of the Contract is unnecessarily or unreasonably delayed by the Contractor; or if the Contractor is violating any material term of the Contract Documents or is not executing the same in good faith or in accordance with the terms thereof; or if the Contractor shall become insolvent or be declared bankrupt or commit any act of bankruptcy or insolvency, the MBTA* in accordance with the BSF Agreement may give notice, in writing, to the Contractor and its surety of such delay, neglect, or default, specifying the same; and, if the Contractor shall not proceed to cure the delay, neglect, or default within a period of ten (10) days after such notice, then the MBTA* in accordance with the BSF Agreement, because of such delay, neglect, or default, and the Contractor's failure to comply with such notice, shall have full power and authority to:

(a.) Declare the Contractor to be in default; and the MBTA* in accordance with the BSF Agreement may thereupon notify the Contractor, by written notice, to discontinue all work or any part thereof under this Contract; and thereupon the Contractor shall discontinue the work or such part thereof, and the MBTA* shall have the right, as the MBTA* in accordance with the BSF Agreement may determine, to contract for the completion of the work or such part thereof, to procure other materials, plant, tools, appliances, equipment, supplies, and property for the completion of the work or such part thereof, and to charge the expense of said labor and materials, plant, tools, appliances, equipment, supplies,

and property to the Contractor.

643

The expense so charged may be deducted and paid by the MBTA* 644
out of such monies as may be due or may at any time thereafter become 645
due to the Contractor under and by virtue of this Contract; and the Con- 646
tractor shall, upon completion of the work or such part thereof or from 647
time to time during the course of the completion of the work or such 648
part thereof, as the MBTA* may require, forthwith pay to the MBTA*, with 649
interest, the excess, if any, of the cost to the MBTA* of the completion 650
of the work or such part thereof, over the amount payable to the Contrac-651
tor for the same work and materials under the terms of this Contract; 652
provided, however, that the Contractor shall not be liable to the MBTA* 653
for any damages incurred solely by reason of the fault of a new contrac- 654
tor engaged by the MBTA* in accordance with the BSF Agreement; and the 655
completion of the work or such part thereof by the MBTA* shall not re- 656
lease or discharge the Contractor from liability for the remainder of 657
the work hereunder, and when any particular part of the work is being 658
carried on by the MBTA* by contract, or otherwise, under the provisions 659
of this Paragraph (a.), the Contractor, unless it shall have been di- 660
rected to discontinue all work, shall continue the remainder of the work 661
in conformity with the terms of this Contract and in such manner not to 662
hinder or interfere with other contractors of the MBTA* or with persons 663
or workmen employed, as above provided by the MBTA* by contract, or 664
otherwise, to do any part of the work or to complete the same under the 665
provisions of this Paragraph (a.); or 666

(b.) Declare this Contract at an end except as to the liability 667
of the Contractor hereinafter in this paragraph provided for, and the 668

MBTA* shall thereupon have the right to contract for the completion of 669
the work, to procure other materials, plant, tools, appliances, equip- 670
ment, supplies, and property for the completion of the same. And in 671
case the expense of the MBTA* of completing the work (including the ex- 672
pense of procuring other materials, plant, tools, appliances, equipment, 673
supplies, and property) shall exceed the amount which would have been 674
payable to the Contractor for the same work and materials under this 675
Contract if the Contract had been completed by the Contractor, he shall, 676
upon the completion of the work or from time to time during the course 677
of the completion of the work as the MBTA* may require, pay the amount 678
of such excess, with interest, to the MBTA*. And the Contractor shall 679
also pay to the MBTA* the amount of any claim for which the MBTA* may 680
be liable for injury to persons or property occurring on account of any 681
work, done by the Contractor under this Contract, by reason of the neg- 682
ligence, fault, or default of the Contractor or for infringement of 683
patents or for any neglect, fault, or default of the Contractor all as 684
hereinabove set forth and shall also pay to the MBTA* the amount of any 685
other expense, including legal fees, which the MBTA* may incur or be 686
liable for, and the amount of any payment which the MBTA* may be re- 687
quired to make, and the amount of any loss or damage which the MBTA* may 688
incur, or suffer, by reason of any neglect, fault, or default of the 689
Contractor; and 690

(c.) The MBTA* may also proceed as it shall deem proper upon the 691
bonds or other security in its possession; and 692

(d.) The MBTA* may also bring any suit or proceeding for specific performance or for injunction or to recover damages or to obtain any other relief or for any other purpose proper under this Contract.

ARTICLE 27 -- Inspection and Acceptance:

The MBTA*, after delivery of its Cars on the rails at MBTA* and after notification by the Contractor that said Cars are ready for inspection and testing, will, within thirty (30) days therefrom notify the Contractor of its acceptance or rejection.

ARTICLE 28 -- Contract Price and Payments:

The bidder is informed that ARTICLE 28, Contract Price and Payments, is divided into two parts: Item A. -- MBTA Contract, and Item B. -- SFMRIC Contract.

A. The MBTA shall pay to the Contractor a lump sum not to exceed \$ _____, plus or minus all approved change orders and minus liquidated damages, if any.

It is expressly understood that the MBTA shall be under no obligation whatsoever for any excess costs arising from changes, modifications, or extra work orders not specifically approved in writing by the MBTA in accordance with the BSF Agreement.

The MBTA will make payment to the Contractor as indicated below, within thirty (30) days after receipt of properly prepared invoices. Taxes, duties, and transportation charges shall be listed separately on all invoices. Spare Parts will be paid for within thirty (30) days after receipt of each shipment.

Payment will be made to the Contractor as follows for each Car: 717

(a.) Five per cent (5%) of the total Contract price will be paid 718
upon submittal to and approval by the MBTA of the basic engineering and 719
production schedules. 720

(b.) Twenty per cent (20%) of the Contract price for each Car 721
will be paid upon receipt of the Car shell at the Contractor's plant and 722
the placing of this shell into the production line. 723

(c.) Thirty per cent (30%) of the Contract price for each Car 724
will be paid upon completion of the underfloor equipment installation 725
through a shop station to be mutually agreed upon with the MBTA. 726

(d.) Twenty-five per cent (25%) of the Contract price for each 727
Car will be paid upon completion of the manufacturing cycle at the Con- 728
tractor's plant and approval by the MBTA for shipment to the MBTA. 729

(e.) Ten per cent (10%) of the Contract price for each Car will 730
be paid upon satisfactory completion of required performance tests and 731
the acceptance of the Car on the MBTA's property. 732

(f.) The final ten per cent (10%) of the total Contract price 733
will be paid in one final payment after all testing has been completed 734
and all Cars accepted by the MBTA. Adjustment for delivery, weight, 735
energy consumption, and performance will be made at the time of final 736
payment. 737

B. SFMRIC shall pay to the Contractor a lump sum not to exceed 738
\$ _____, plus or minus all approved change orders and minus 739
liquidated damages, if any. 740

The Contractor shall, for the payment of all sums due under this Contract, look solely to the monies in the Equipment Fund provided by SFMRIC from the sales of its (Lease-Rental) Series C Bonds and from a grant from the Federal Government under the Urban Mass Transportation Act of 1964 as amended not exceeding the lump sum specified above.

It is expressly understood that SFMRIC shall be under no obligation whatsoever for any excess costs arising from changes, modifications, or extra work orders not specifically approved in writing by SFMRIC in accordance with the BSF Agreement and in no event for the payment of any funds in excess of the money then on hand in said Equipment Fund and available for such use.

SFMRIC will make payment to the Contractor as indicated below, within thirty (30) days after receipt of properly prepared invoices. Spare Parts will be paid for within thirty (30) days after receipt of each shipment. Taxes, duties, and transportation charges shall be listed separately on all invoices. Payment of the Contract unit or lump sum price shall constitute full compensation for labor, tools, materials, equipment and incidentals, and for doing the work required to complete the respective item.

Payment will be made to the Contractor as follows for each Car:

(a.) Five per cent (5%) of the total Contract price will be paid upon submittal to and approval by SFMRIC of the basic engineering and production schedules.

(b.) Twenty per cent (20%) of the Contract price for each Car will be paid upon receipt of the Car shell at the Contractor's plant and the placing of this shell into the production line.

(c.) Thirty per cent (30%) of the Contract price for each Car 767
will be paid upon completion of the underfloor equipment installation 768
through a shop station to be mutually agreed upon with SFMRIC. 769

(d.) Twenty-five per cent (25%) of the Contract price for each 770
Car will be paid upon completion of the manufacturing cycle at the Con- 771
tractor's plant and approval by SFMRIC for shipment to SFMRIC. 772

(e.) Ten per cent (10%) of the Contract price for each Car will 773
be paid upon satisfactory completion of required performance tests and 774
the acceptance of the Car on SFMRIC's property. 775

(f.) The final ten per cent (10%) of the total Contract price to 776
be paid in one final payment after all testing has been completed and all 777
Cars accepted by SFMRIC. Adjustment for delivery, weight, and perform- 778
ance will be made at the time of final payment. 779

IN WITNESS WHEREOF, this Contract has been executed, in and by 780
authority of a Vote of the Board of Directors of the MBTA*, and attested 781
by the Secretary, and the Contractor has caused its corporate seal to 782
be hereunto affixed and these presents to be executed by its 783
and attested by its 784
by virtue of a Vote, duly voted by its Board of Directors, the day and 785
year first above written. 786

(SEAL) MASSACHUSETTS BAY TRANSPORTATION AUTHORITY* 787
Attest: 788

_____ By: _____ 789

(SEAL) CONTRACTOR 790
Attest: 791

_____ By: _____ 792

Approved as to form: 793

_____ 794
General Counsel 795

PERFORMANCE BOND

KNOW ALL MEN BY THESE PRESENTS, that

with an office at

(hereinafter sometimes called "Principal"), as Principal,
and

(hereinafter sometimes called "Surety"), as Surety,
are jointly and severally held and firmly bound unto

its successors and assigns (hereinafter sometimes called "Obligee"),
in the just summ of

(\$) lawful
money of the United States of America, for the payment of which well
and truly to be made, the Principal and the Surety bind themselves,
jointly and severally, firmly by these presents.

WHEREAS, a certain Contract, dated
has been or is about to be entered into between

and the Principal (therein called "Contractor"), wherein the
Principal agrees to design, construct, complete and guarantee
the work shown on the Drawings and described in the Specifications
for Electric Multiple-Unit Articulated Subway-Surface Light Rail
Vehicles, which Contract is hereby referred to and made part hereof,
as fully and to the same extent as though herein copied at length.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH
that if the Principal

- (a) shall well and faithfully keep, fulfill and perform all and singular the terms, conditions, and provisions of said Contract on the part of the Principal to be kept, fulfilled, and performed at the time and in the manner in said Contract specified, including, without limitation, the terms, conditions, and provisions relating to warranty and guarantee by Contractor; and
- (b) shall promptly make full payment for all labor performed and materials and services supplied in connection with the construction and work comprehended by said Contract; and
- (c) shall complete all design, construction, and work comprehended by said Contract within the time therein specified, free and clear of all liens for labor and materials, or otherwise; and
- (d) shall fully indemnify and save harmless the Obligees from any and all costs, damages and expenses (including attorney's fees) that the Obligees may suffer or incur by reason of any failure or defect on the part of the Principal,

then this obligation shall be void; otherwise, it shall be and remain
in full force and effect; provided, however, that the amount of the
obligation of Principal and Surety hereunder shall be reduced to the
sum of (\$)

upon acceptance by _____ of the last Electric Multiple-Unit Articulated Subway-Surface Light Rail Vehicles provided by Principal under the aforesaid Contract with _____, and will remain in effect until the expiration of five (5) years from the date of such acceptance.

FURTHER, the Principal and the Surety, intending to be legally bound hereunder, jointly and severally agree as follows:

1. Any and all alterations which may be made in the terms of said Contract or in the work to be done thereunder, or the giving by the Obligee of any extension of time for the performance of said Contract, or any forbearance, whatsoever, on the part of either the Obligee or the Principal to the other shall not in any way nor to any extent, whatsoever, release the Principal and the Surety, or either of them, from any liability hereunder, notice to the Surety of all such alterations, extensions and forbearance being hereby waived.

2. The Surety shall make no defense to or under this Bond except such as may be made by the Principal to a direct action upon said Contract by _____.

3. The undertakings and the obligations of the Principal and the Surety under this Bond shall extend to and be binding upon their respective personal representatives, successors and assigns, as the case may be.

IN WITNESS WHEREOF, the Principal and the Surety, respectively, have caused these presents to be duly executed

under seal, this
1972

day of

A.D.,

(SEAL)

By _____
(Principal)

(SEAL)

By _____
(Attorney-in-Fact)

Surety

Witness _____

