

**ORIGINAL**Decision No. 92479

DEC 2 - 1980

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Investigation On the Commission's )  
 Own Motion Into The Safety )  
 Appliances And Procedures Of The )  
 San Francisco Bay Area Rapid )  
 Transit District. )

Case No. 9867  
 (Filed September 15, 1980)  
 (Tunnel Phase)

SIXTEENTH INTERIM OPINION AND ORDER

On January 17, 1979 a fire occurred in the San Francisco Bay Area Rapid Transit District's (BART) transbay tube requiring the temporary closure of the tube to revenue service. On January 19, 1979 the Commission issued Decision No. 89902 which required the continued closure of the tube until certain conditions were met by BART. On April 4, 1979 the Commission issued Decision No. 90144 which permitted the resumption of revenue service through BART's transbay tube but required BART to accomplish a number of tasks related to fire safety. In particular, Ordering Paragraph 3 of that decision provides:

- "3. Within 180 days of the effective date of this order, BART shall submit to this Commission recommended actions and the proposed timetable for reducing the fire risks associated with fiberglass reinforced plastic materials used in the floors, ceilings and sidewalls linings of BART cars; such timetable shall provide for the reduction of fire hazard from these sources in at least 20 percent of the BART cars operating in the transbay tube and Berkeley Hills Tunnel not later than one year from the effective date of this order."

As a result of that order, BART has filed several documents with the Commission concerning its plans for "fire hardening."<sup>1/</sup> These include: (1) a report dated October 3, 1979 concerning BART's car fire hardening program, (2) a petition dated March 20, 1980 to extend time for compliance with Decision No. 90144, (3) a BART vehicle fire hardening program plan dated July 9, 1980, and (4) this petition on September 15, 1980 for a further extension of time.

In its March 20 petition for an extension of time, BART discussed the close relationship between the fire hazard potential of vehicle components such as floors, ceilings, and sidewall linings, and the fire risk from potential ignition sources aboard BART vehicles. Work on reducing the fire risk from such sources is proceeding; the current status of eight such projects for the entire fleet is shown in Appendix A. (Exhibit A to this petition.) BART claims that the most important link in the fire propagation chain inside its cars is the polyurethane seat material; therefore, it has been the main concern of BART, and a seat replacement program will be completed shortly.

BART cites in this petition its concern with establishing a reliable testing program. This has taken more time than expected but is now under way and information from the tests will form the basis for a recommended design of a fire hardened vehicle. The recommended design will then be tested in a full-scale fire test of a BART vehicle mock-up. This will be done during November and December 1980 by McDonnell-Douglas Corporation, BART's consultant on the project. As a result of the additional time required to

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<sup>1/</sup> A euphemism for the reduction of fire hazards in BART cars.

conduct more extensive tests than first contemplated, a situation partly resulting from the elimination of coating materials as a possible solution to the liner fire problem, BART is unable to meet the time schedule set forth in its March 20 petition. BART claims that after completion of the full-scale test and necessary analyses, it will present to the Commission, by January 15, 1981, a description of the final design of the fire-hardened cars and the schedule for fleet-wide installation of that design. At that time BART will petition for a further modification of Ordering Paragraph 3 of Decision No. 90144 to establish a firm program and timetable for fire hardening its fleet. Therefore, BART requests the Commission to issue an order modifying Ordering Paragraph 3 of Decision No. 90144 accordingly.

On October 2, 1980 the Commission staff filed a response and recommendations on BART's request. The staff claims that BART's fire hardening of cars is a much more complex task than the replacement of seats. It will require long-term planning and testing and changes and modifications from time to time. BART and the staff have met several times this year to discuss the fire hardening program and clarify and work out disagreements on the plans and implementation schedule BART proposes.

The staff makes the following recommendations to the Commission concerning this petition:

1. The request for an extension of time should be granted.
2. The Commission should permit and direct the staff to hire an expert consultant to evaluate the BART fire hardening program and to report its findings to the staff and the Commission. The cost of such a consultant should be paid for by BART pursuant to Section 29047 of the Public Utilities Code.

3. Because the fire hardening program has proven more complex and long-term than the staff or anyone contemplated in Decision No. 90144, the Commission should hold public hearings on BART's fire hardening program. It further recommends that such hearings start after BART has submitted its plans for the program in January 1981. This would require hearings some time in the spring of 1981.

Based on the representations of BART and the Commission staff as outlined herein, we find that BART's request to modify Ordering Paragraph 3 of Decision No. 90144 is reasonable and we conclude that it should be granted. ✓

Further hearings in this case may be scheduled as required.

The staff recommendation concerning hiring a consultant should be dealt with administratively by the Executive Director.

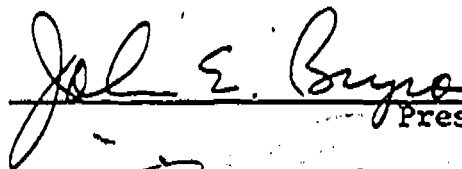
The effective date of this order will be the date hereof because we will require a report from BART by January 15, 1981. |

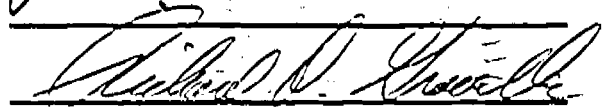
IT IS ORDERED that Ordering Paragraph 3 of Decision No. 90144 dated April 4, 1979 is amended as follows:

- "3. By January 15, 1981 BART shall submit to this Commission recommended actions and a proposed plan and timetable for reducing the fire risks associated with fiberglass reinforced plastic materials used in the floors, ceilings, and sidewall linings of BART cars; the filing shall include a description of the final design of a fire-hardened car and the schedule for fleetwide installation of that design for vehicles which are operated in the transbay tube and the Berkeley Hills Tunnel.

The effective date of this order is the date hereof.

Dated DEC 2 - 1980, at San Francisco, California. ✓

  
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President

  
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Commissioners

Commissioner Vernon L. Sturgeon, being necessarily absent, did not participate in the disposition of this proceeding.

Commissioner Claire T. Dedrick, being necessarily absent, did not participate in the disposition of this proceeding.

APPENDIX A  
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EXHIBIT A

STATUS OF PROJECTS TO REDUCE IGNITION POTENTIAL

1. PC 302 - Dynamic Brake in Propulsion  
Modify propulsion system control logic to prevent failure resulting in overheating dynamic brake resistors. Design complete, Federal grant application for funds filed January, 1980. UMTA approval now expected in September 1980.
2. PC 305 - Collector Paddle Change Out  
Change out all collector paddles with paddles having proper breaking characteristics. Complete.
3. PC 306 - R-5 Resistor Cover  
Install heat shield on the R-5 resistor. Complete.
4. PC 309 - Current Collector Safety Bracket  
Install safety bracket on 1000 V DC collector cable at collector bracket assembly. Design and Procurement complete. Installation 97% complete.
5. Mod. 3327 - Evaporator Heater Frame Support Bracket  
Modify evaporator heater supports and connectors to prevent electrical shorting. Design and procurement complete. Installation 6% complete.
6. Collector Shoe Fuse  
Evaluate and revise 1000 V DC collector assembly fusing. Funding for consultant approved. Scope and contract presently in final review by consultant.

APPENDIX A  
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1 7. Grounding Torpedo Air Tanks

2 The torpedo air tanks do not presently provide a ground  
3 path for electrical shorts that is sufficient to consistently  
4 trigger ground fault protection. A re-design of the air  
5 valve at one end of the tank to allow mounting of a ground  
6 strap will solve the problem. Design is complete. Federal  
7 grant application for funds filed January, 1980. UMTA  
8 approval now expected in September, 1980.

9 8. Undercar Heat Shielding

10 Install steel heat shields over truck areas, particularly  
11 friction brake discs, to reduce the potential for fire from  
12 truckmounted heat sources. Design is complete for truck  
13 shielding and prototype installation has begun. In addition,  
14 design is in progress on a method for installing a protective  
15 insulator over the brake grid resistors. Federal grant  
16 application for funds filed January, 1980. UMTA approval  
17 expected in September, 1980.