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PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

Consumer Protection & Safety Division
Safety & Reliability Branch
Rail Transit Safety Section

RESOLUTION ST- 60
Date: May 8, 2003

R E S O L U T I O N

RESOLUTION GRANTING SAN FRANCISCO MUNICIPAL RAILWAY AUTHORITY TO DEVIATE FROM CERTAIN OVERHEAD CLEARANCE REQUIREMENTS OF GENERAL ORDER 26-D, SECTION 14 – ELECTRICAL CONSTRUCTION, FOR THE CONSTRUCTION, AND OPERATION OF ITS PROPOSED THIRD STREET LIGHT RAIL LINE ACROSS AND IN THE VICINITY OF CONVENTIONAL RAILROAD TRACKS.

Summary

This resolution grants San Francisco Municipal Railway's (MUNI) request for authority to deviate from certain overhead clearance requirements of General Order (GO) 26-D. It specifically authorizes reduced overhead clearance of MUNI contact wires of its proposed Third Street light rail line above conventional railroad tracks and conventional railroad operations at prescribed locations. The resolution also grants authority to deviate from certain requirements of GO 95 as referenced in GO 26-D.

Authority granted in this resolution is separate from and dependent on any subsequent Commission decision authorizing MUNI to construct its Third Street Line, at grade, across the conventional railroad tracks specified in this document.

The Project

MUNI's Third Street Light Rail Project, Phase One, will extend light rail train service 5.4 miles from the existing line near the Caltrain Station at Fourth and King Streets, southerly along the Third Street Corridor, to the San Francisco City and County line near Sunnydale Avenue. The Commission's staff (staff) has

been involved in the safety oversight of Phase One since 1998, during MUNI's conceptual engineering, preliminary engineering, and final design processes. Phase One of MUNI's Third Street Light Rail Project is currently scheduled to begin service in 2005.

The project includes four proposed at grade crossings of conventional railroad freight lead tracks and one additional location where conventional railroad tracks would cross under parts of MUNI's overhead traction power system. Overhead clearance requirements for conventional railroads are specified in General Order 26-D but are inconsistent with the design of MUNI's light rail system.

Background

By letter dated December 16, 2001, MUNI requested authority to deviate from clearance requirements of General Order 26-D, Section 14 Electrical Construction at four locations crossing three single-track conventional railroad freight leads in the construction and operation of its Third Street light rail line. Those four specific locations are:

- The Illinois Street Lead located in Illinois Street at 25th Street;
- The Illinois Street Lead located in Illinois Street at Cesar Chavez Street;
- The Grain Terminal Lead near Cargo Way at Third Street and;
- The Carroll Avenue Lead at the intersection of Carroll Avenue and Third Street.

Each of the locations cited by MUNI are proposed at grade crossings of conventional railroad freight lead tracks along MUNI's Third Street Extension.

By letter of December 2, 2002, MUNI requested additional authority to deviate from the requirements of General Order 26-D, Section 14 - Electrical Construction over conventional railroad tracks along Illinois Street between 18th and 19th Streets. MUNI tracks at this location are not being proposed to cross the conventional railroad tracks. However, parts of MUNI's overhead traction power system would encroach on the overhead clearance of the adjacent conventional railroad tracks.

General Order 26-D establishes overhead and side clearance requirements for conventional railroads and street railroads. General Order 26-D references

General Order 95 to establish the specific clearance requirements for overhead trolley contact conductors. General Order 95 addresses rules for overhead electric line construction. General Order 95's rules 74 and 77 specify the clearance requirements for overhead trolley contact conductors and trolley span wires.

General Order 26-D, Section 14, Electrical Construction, requires that such trolley contact conductors provide an overhead clearance of at least twenty-two (22) feet, six (6) inches above top of rail on tracks where conventional railroads are operated. MUNI's light rail vehicles are designed and equipped to operate on tracks with an overhead trolley contact conductor height that is not more than nineteen (19) feet above top of rail.

MUNI reported investigating the possibility of retrofitting taller pantographs on its light rail vehicles to be able to provide the contact wire height required by GO 26-D. However, structural considerations and the size of its fleet would make this option prohibitively expensive.

To support the deviation request, MUNI also included the following observations:

1. The three industrial freight leads are lightly used with maximum operating speeds of 10 miles per hour.

2. As the eastern waterfront of the city redevelops, public land use plans and private development trends strongly point to above freight train frequency and lengths remaining constant.

3. To serve the growing residential and office concentrations on Third Street, MUNI streetcars will have peak headways of six minutes in each direction – 240 train movements between 6:00 AM and 6:00 PM.

4. At 19', MUNI's overhead wire would accommodate standard Association of American Railroad (AAR) Plate C cars with a maximum height of 15'-6".

5. The 19' contact wire height would also accommodate larger AAR Plate E and Plate F cars.

6. Conventional railroad cars taller than a Plate C car cannot get to the proposed crossings on Third Street since they cannot be moved north of the Caltrain Bayshore Station due to the clearance restrictions in tunnels 1, 2, 3, and 4.
7. Conventional railroad double stack container cars would be accommodated if necessary and if they could reach the proposed crossings, under a "special moves" provision negotiated with the freight railroad with MUNI temporarily removing the wire.

8. Roof access ladders have been removed from most freight cars.

9. Rule 1.21 of the General Code of Operating Procedures prohibits employees from being on top of moving freight cars.

10. Railroads in eastern cities in the United States currently operate through rail corridors where OCS wires are at 19'-0" and Conrail has a standard engineering drawing establishing 19'-0" as a minimum wire height in electrified territory.

11. Conventional railroads routinely operate on track with impaired or restricted clearances that are described in the Railroad Timetables.

The Union Pacific Railroad (UP) currently operates trains over the tracks that would be affected by the reduced overhead clearances being proposed. MUNI and the Commission's staff have met and discussed this issue with UP representatives. UP has indicated that it is agreeable to the reduced overhead clearance subject to implementation and maintenance of appropriate safety and service mitigations.

The United Transportation Union (UTU) represents UP employees who operate trains over the conventional railroad tracks that MUNI has identified in its request for authority to deviate from requirements of GO 26-D. Staff and MUNI have met and discussed MUNI's proposal with representatives of the UTU. The UTU has indicated that it is agreeable to the reduced overhead clearances subject to implementation and maintenance of the appropriate safety mitigations.

The Port of San Francisco (Port) owns conventional railroad tracks that MUNI would cross with the overhead traction power system at reduced clearance. The Port also owns tracks that serve customers who receive and ship freight rail cars

that could be affected by the proposed reduced overhead clearances. The Port has indicated that it is agreeable to the reduced overhead clearance subject to implementation and maintenance of the appropriate safety and service mitigations.

The Federal Railroad Administration (FRA) exercises primary safety jurisdiction over conventional railroads. With some exceptions, States are generally precluded from imposing safety requirements in areas of safety already addressed by the FRA or safety requirements that would impose an undue burden on railroads. The FRA has not addressed safety matters related to overhead clearances adjacent to conventional railroad tracks. There is no reason evident that the proposed reduced clearances would impose an undue burden on the affected railroad's operation.

Proposed Hazard Mitigations

In its request for authority to deviate from requirements of GO 26-D, MUNI proposed that conventional freight railroad operations can safely occur in San Francisco, with the overhead trolley contact conductor height reduced to 19 feet above top of rail, by establishing appropriate safety mitigations.

Staff generally agreed with MUNI's proposals to mitigate hazards associated with the reduced overhead clearances. However, staff had additional safety concerns and proposed modifications and additional conditions for this project. MUNI and staff reached agreement on the following hazard mitigations:

1. MUNI should provide and maintain warning signage for trains or other rail equipment approaching each of the reduced overhead clearance locations on conventional railroad tracks, which would be authorized along its Third Street Line.

2. The warning signage provided and maintained by MUNI should be consistent with the standards, rules, and procedures of each conventional railroad operating over tracks that would be subject to the reduced overhead clearances.

3. The warning signage design, installation, and maintenance plans should be submitted, by MUNI, to the Commission's staff for review and approval prior to installation.

4. Each affected conventional railroad operating past the proposed reduced overhead clearance should issue appropriate written directives to its affected employees. The written directives should identify the location of the reduced overhead clearance and reference the appropriate safety rules and procedures to preclude employees from being endangered by the reduced overhead clearance.

5. The approved warning signage should be complete and installed prior to the creation of any reduced overhead clearances above any of the specified conventional railroad tracks. Each conventional railroad's written directives identifying the location of the reduced overhead clearances with reference the appropriate safety rules and procedures should be issued prior to any operation past those reduced clearances.

6. MUNI should establish written agreements, with the Port and each affected conventional railroad, defining procedures and lines of communication to provide expeditious handling for any future operation of freight railroad movements of double stack or other high loads or cars that would exceed fifteen (15) feet six (6) inches above top of rail or otherwise conflict with the reduced overhead clearances.

7. All MUNI operation and maintenance associated with the reduced overhead clearances should be carried out consistent with FRA safety rules, including any specific requirements contained in any waivers granted by FRA.

8. The authority to create and maintain reduced overhead clearances, should be limited to the specific locations identified by MUNI and agreed to by staff.

9. Authority to create and maintain the reduced overhead clearances should be separate from but dependant on Commission decisions to authorize MUNI to construct its Third Street Line and support tracks, at grade,

across specified conventional railroad tracks in connection with that project.

Discussion

MUNI proposes to construct and operate its Third Street light rail line, at grade, across the Grain Terminal Lead near Cargo Way at Third Street and the Carroll Avenue Lead at the intersection of Carroll Avenue and Third Street. Union Pacific Railroad currently provides conventional railroad freight service over these tracks.

MUNI also proposes to construct and operate light rail tracks to its Metro East Maintenance Facility, from the Third Street Line, which would cross the Illinois Street Lead at both Cesar Chavez Street and at 25th Street. The Illinois Street Lead is currently inaccessible to conventional railroad operation, but that track has not been formally abandoned and there are plans to return it to active service.

In addition, MUNI's project calls for parts of MUNI's overhead traction power system to encroach on the overhead clearance of the adjacent conventional railroad tracks along Illinois Street between 18th and 19th Streets. Even though overhead clearances would be reduced over conventional railroad tracks in this area, MUNI has no plans for its tracks to cross the conventional railroad tracks in this area.

MUNI is seeking authority to deviate from this requirement because it would be prohibitively expensive to retrofit its fleet of light rail cars to operate on tracks with the trolley contact conductor at twenty-two feet, six inches above top of rail.

Staff is in agreement with MUNI that the overhead clearances could be safely reduced, with specific safety mitigations, at the proposed conventional railroad at grade crossings.

Comments

This is an uncontested matter in which the resolution grants the authority requested. Pursuant to Public Utilities Code Section 311(g)(2), the otherwise applicable 30-day period for public review and comment is being waived.

Findings

1. By letters dated December 16, 2001 and December 2, 2002, MUNI requested authority to deviate from the requirements of General Order 26-D, Section 14 Electrical Construction at specific locations in the construction and operation of its proposed Third Street light rail line.

2. Four of the locations identified for creation and maintenance of reduced overhead trolley contact conductor clearance are for proposed at grade crossings of conventional railroad tracks at:

   - The Illinois Street Lead located in Illinois Street at 25th Street;
   - The Illinois Street Lead located in Illinois Street at Cesar Chavez Street;
   - The Grain Terminal Lead near Cargo Way at Third Street and;
   - The Carroll Avenue Lead at the intersection of Carroll Avenue and Third Street.

3. A fifth location where MUNI would create reduced overhead clearances above conventional railroad tracks would be adjacent to its planned line along Illinois Street between 18th and 19th Streets. MUNI would not cross the conventional railroad tracks at this location but overhead trolley span wires would encroach upon the overhead clearance.

4. MUNI's light rail vehicles are designed and equipped to operate on tracks with an overhead trolley contact conductor height that is not more than nineteen (19) feet above top of rail.

5. General Order 26-D, Section 14, Electrical Construction, requires that overhead trolley contact conductors provide an overhead clearance of at least twenty-two (22) feet, six (6) inches above top of rail on tracks where conventional railroads are operated.

6. Roof access ladders have been removed from most freight cars and Rule 1.21 of the General Code of Operating Procedures prohibits employees from being on top of moving freight cars.

7. Conventional railroad cars taller than fifteen (15) feet, six (6) inches (AAR Plate C) are physically prohibited from rail transport to the proposed reduced clearance locations along the Third Street Line due to the clearance restrictions in the UP tunnels 1, 2, 3, and 4.

8. UP, the current conventional railroad operator, has confirmed that it is agreeable to the reduced overhead clearance subject to implementation and maintenance of appropriate safety and service mitigations.

9. The UTU has stated that it is agreeable to the reduced overhead clearances subject to implementation and maintenance of the appropriate safety mitigations.

10. The Port has confirmed that it is agreeable to the reduced overhead clearance subject to implementation and maintenance of the appropriate safety and service mitigations.

11. The FRA has not addressed safety matters related to overhead clearances adjacent to conventional railroad tracks. There is no reason evident that the proposed reduced clearances would impose an undue burden on the affected railroad's operation.

12. MUNI and staff are in agreement with proposed safety mitigations.

Therefore, IT IS ORDERED that:

1. San Francisco Municipal Railway's request for authority to deviate from the requirements of General Order 26-D, Section 14, Electrical Construction in the construction and operation of overhead trolley contact conductors at not less than nineteen (19) feet above top of rail for conventional railroad tracks on its proposed Third Street light rail line is granted for:

    - The Illinois Street Lead located in Illinois Street at 25th Street;

- The Illinois Street Lead located in Illinois Street at Cesar Chavez Street;
- The Grain Terminal Lead near Cargo Way at Third Street;
- The Carroll Avenue Lead at the intersection of Carroll Avenue and Third Street and;
- Along Illinois Street between 18th and 19th Streets.

2. San Francisco Municipal Railway shall employ sound safety design, construction, and operating practices in accordance with its System Safety Program Plan to design, construct, and operate the Third Street light rail line and shall:

   a. Provide and maintain warning signage for trains or other rail equipment approaching each of the reduced overhead clearance locations on conventional railroad tracks, which would be authorized along its Third Street Line;

   b. Provide and maintain warning signage that is consistent with the standards, rules, and procedures of each conventional railroad operating over tracks that would be subject to the reduced overhead clearances;

   c. Submit the warning signage design, installation, and maintenance plans to the Commission's staff for review and approval prior to installation;

   d. Complete and install the approved warning signage prior to the creation of any reduced overhead clearances above any of the specified conventional railroad tracks;

   e. Ensure that each conventional railroad's written directives identifying the location of the reduced overhead clearances, with reference to the appropriate safety rules and procedures, are issued prior to any operation past those reduced clearances;

   f. Establish written agreements with the Port and each affected conventional railroad with procedures and lines of communication to provide expeditious, uninterrupted movement for any future operation of freight railroad double stack or other high loads that would conflict with the reduced overhead clearances and;

g. Carry out operation and maintenance associated with the reduced overhead clearances consistent with applicable FRA safety rules, including specific requirements included in any waivers granted by FRA.

3. Each affected conventional railroad operating past the proposed reduced overhead clearances shall:

a. Issue appropriate written directives to its affected employees that identify the location of the reduced overhead clearance and reference the appropriate safety rules and procedures to preclude employees from being endangered by the reduced overhead clearance and;

b. Ensure that each conventional railroad's written directives identifying the location of the reduced overhead clearances, with reference to the appropriate safety rules and procedures, are issued prior to any operation past those reduced clearances.

4. Authority to create and maintain reduced overhead clearances is limited to the specific locations and conditions identified in this order.

5. Authority to deviate from and maintain the reduced overhead clearances should be separate from but dependant on a Commission decision to authorize MUNI to construct its Third Street Line and support tracks, at grade, across specified conventional railroad tracks in connection with that project.

This resolution is effective today.

I certify that the foregoing resolution was duly introduced, passed, and adopted by the Commission at its regularly scheduled meeting on May 8, 2003. The following Commissioners voted favorably thereon:

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WILLIAM AHERN
Executive Director

MICHAEL R. PEEVEY
President
CARL W. WOOD
LORETTA M. LYNCH
GEOFFREY F. BROWN
SUSAN P. KENNEDY
Commissioners