TASK 19

CONSISTENCY WITH FEDERAL GUIDELINES TECHNICAL MEMO

PREPARED BY: QUANDEL CONSULTANTS, LLC

APRIL 11, 2017

TheRide MDOT Michigan Department of Transportation

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NORTH SOUTH COMMUTER RAIL

North-South Commuter Rail
Feasibility Study
Task 19: Consistency with Federal Guidelines
Technical Memo

Prepared by Quandel Consultants, LLC for SmithGroupJJR, Inc.

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1. INTRODUCTION AND SCOPE OF WORK

1.1 Introduction

The North-South Commuter Rail Project, (WALLY), is a proposed 27-mile long commuter rail operation on existing tracks that would provide service between Ann Arbor and Howell, with intermediate stops along the way. It has been embraced by a number of public and private organizations in Washtenaw and Livingston counties as a way to expand commuting options in a rapidly growing part of southeast Michigan along the US 23 corridor. The Ann Arbor Area Transportation Authority (AAATA) has taken on the role as the "designated authority" for studying and developing the concept.

This report is one of the deliverables in a feasibility study, now underway, which will determine in detail the costs of the project and the estimated number of future riders. The feasibility study will also define the organization needed to build and operate the service, and the prospects for establishing a funding source for the service. It will help drive the community's decision about moving forward with the project.

Quandel Consultants has developed estimates of the capital cost and annual operating costs for various commuter rail system alternatives operating in the railroad corridor between Ann Arbor and Howell. Two of the more promising alternatives based on ridership estimates include Option 1: Full Service and Option 5B: Shuttle Service. Detailed service plans for each option are presented in Technical Memo 8. Detailed capital and operating costs are presented in Technical Memos 10 and 11, respectively. The key parameters of each option are as follows:

System Parameters		
	Option 1: Full Service	**Option 5B: Shuttle Service (two train sets)**
Capital Cost*	$115.59 million	$58.56 million
Annual Operating Cost**	$12.35 million	$6.23 million
Annual Ridership***	482,000 trips	439,000 trips
Annual Revenue***	$1.148 million	$0.811 million
Service Limits	Downtown Ann Arbor-Howell	Downtown Ann Arbor-Whitmore Lake
Equipment/Speed	Locomotive-Coach-Coach-Cab, 60 mph maximum	Locomotive-Coach-Coach-Cab, 60 mph maximum
Stations	(6) Howell, Genoa Township, Hamburg, Whitmore Lake, Barton Dr and Downtown Ann Arbor	(3) Whitmore Lake, Barton Dr and Downtown Ann Arbor
Revenue Service Operation	Four train sets to Ann Arbor in the AM; four trains sets return to Howell in the PM	Two train sets, making four AM peak direction trips to Ann Arbor and four PM peak direction trips to Whitmore Lake
Weekday/Weekend	Weekday operation only	Weekday operation only
Connecting Bus Service	Dedicated bus service at Barton Drive	Dedicated bus service at Barton Drive
Layover Facility	Full facility in Ann Arbor	Layover track/minimal facility in Ann Arbor
Maintenance Strategy	Overnight/maintenance facility in Howell area	Overnight/layover track/minimal facility in Whitmore Lake, Periodic offsite maintenance at Owosso or another existing facility
Freight Operations	CSX coordination required at the Annpere Interlocking, New freight interchange at Ellsworth Rd	New freight interchange at Ellsworth Rd
Grade Crossing Warning Systems	Gates at all public crossings	Gates at all public crossings
Signal System	Positive Train Control	Positive Train Control
* Adjusted for SCC Format		
** Excluding cost to provide connecting Bus Service in Ann Arbor		
***Initial full year of operation		
All costs are in 2015 dollars		

1.2 Scope of Work

Quandel Consultants is serving as sub-consultant to SmithGroupJJR, the project prime consultant to implement the following work scope as defined in the contract documents:

Task 19 – Consistency with Federal Guidelines

All tasks must be undertaken in a manner consistent with the guidelines of the FTA and the FHWA, and it is the Consultant's responsibility to learn and document those guidelines. If there are conflicts between the guidelines, the Consultant must inform the Client and participate in communications with the Federal Agencies to resolve the conflicts.

The Project Team will document consistency with federal guidelines as described above.

Deliverable: The Project Team shall prepare all documents in accordance with Regional Plan and Planning Practices which will be referenced in the final project documentation.

2. FTA CAPITAL INVESTMENT GRANTS PROGRAM

2.1 Small Starts Final Interim Policy Guidance

As described in Technical Memo 14: Financial Analysis, the Federal Transit Administration (FTA) provides capital grants to state and local governments to fund the development and construction of fixed guideway transit systems under the FTA's Capital Investment Grants (CIG) program. The FTA published a final rule on Jan 19, 2013 (49 CFR 6011 78 Federal Register 1992-2037). The FTA's CIG program provides three categories of eligible projects: New Starts, Core Capacity and Small Starts. The proposed North-South Commuter Rail System could qualify for federal capital funding under the FTA's Small Starts program.

As the final rule did not include all the regulatory updates, the FTA issued Small Starts Final Interim Policy Guidance in June 2016. As noted on page 4 of the Guidance in the paragraph titled, "Requesting Entry into Project Development," the FTA states that project sponsors wishing to enter the Project Development phase must submit, as their application, a letter to the Associate Administrator for FTA's Office of Planning and Environment that includes the following information:

- The name of the study sponsor, any partners involved in the study, and the roles and responsibilities of each
- Identification of a project manager and other key staff that will perform the Project Development work
- A brief description and clear map of the corridor being studied including its length and key activity centers

- Brief description of the transportation problem in the corridor or a statement of purpose and need
- Electronic copies of or weblinks to prior studies done in the corridor
- Identification of a proposed project if one is known and alternatives to that project if any are being considered
- A brief description of current levels of transit service in the corridor today
- Identification of a cost estimate for the project, if available
- The anticipated cost of Project Development, not including the cost of any work done prior to officially entering the PD phase
- Identification of the non-CIG funding available and committed to conduct the Project Development work
- Documentation demonstrating commitment of funds for the Project Development work (e.g. Board resolutions, adopted budgets, approved Capital Improvement Programs, approved Transportation Improvement Programs, letters of commitment)
- An anticipated draft timeline for completing the following activities:
    - compliance with NEPA and related environmental laws;
    - selection of a locally preferred alternative;
    - adoption of the locally preferred alternative in the fiscally constrained long range transportation plan;
    - completion of the activities required to obtain a project rating under the evaluation criteria outlined in the law
    - anticipated receipt of a construction grant agreement from FTA
    - anticipated start of revenue service[i]

While not specifically intending to prepare an FTA Small Starts Application, the North-South Study team has developed a series of technical memos that address most of the information requirements defined above by the FTA for submittal with an application for funding. These memos will enable the project sponsor to assemble an application at minimal cost, were the project sponsor to succeed in obtaining a regional commitment of funds for Project Development work.

2.2 Small Starts Worksheets and Computations

The FTA requires that the project capital costs be reported in Standard Cost Category (SCC) format on worksheet designed specifically for Small Starts Grant Applications. As presented in Technical Memo 14, the project team has adjusted the initially estimated capital costs for Options 1 and 5B to comply with the FTA's SCC format to facilitate FTA's evaluation of the merits of the project. Similarly, the project team has employed the FTA's Ratings Estimation Worksheet to develop estimates of the Cost Effectiveness Indices for the two project options, demonstrating that either Option 1 or Option 5B could meet FTA requirements for FTA Small Starts funding. In accord with FTA recommendations, the project team employed the FTA's Simplified Trips-on-Projects Software (STOPS) model for estimating ridership.

While not specifically required for Small Starts funding, under Technical Memo 20: National Commuter Rail Comparison, the project team has developed standard industry performance metrics for both Options 1 and 5B, enabling a comparison with peer commuter rail agencies. The results suggest that while the proposed system would be relatively expensive to operate as compared to its peer systems, strategies may exist to achieve greater economies of scale and efficiency.

3. 49 CFR 236 SIGNAL AND TRAIN CONTROL SYSTEMS

3.1 CFR Title 49

The Federal Railroad Administration (FRA) regulates the safety of railroads in the United States. This entails performing inspections, providing training and developing and enforcing safety rules. The rules are codified in the Code of Federal Regulations Title 49: Transportation.

3.2 49 CFR 236 Signal and Train Control Systems

In response to the fatal collision of a Metrolink commuter rail train and a Union Pacific freight train in Los Angeles, Congress passed the Rail Safety Act of 2008, mandating the installation of Positive Train Control (PTC) signaling technology on Class 1 Railroad lines handing toxic inhalant materials and any railroad lines providing regularly scheduled intercity and commuter rail passenger service. The FRA codified the functional requirements for PTC and the obligations of the railroads to install PTC in Part 236. Under the regulations, any railroad implementing new passenger service after December 31, 2015 must install PTC as a condition of initiating service. [ii]

The project team requested guidance from the FRA in mid-2015, specifically related to the PTC requirements that would govern operation of Option 4: Minimum Operable Configuration (MOC), a 40 mph system intended to initiate service on a limited capital budget. While the FRA indicated that operation of the lower-speed MOC could be permitted under either an exemption or a waiver (see FRA e-mail dated 7/23/15 in Appendix I), the project team elected to advance further analysis with more robust 60 mph services under options 1 and 5B. As it has been deemed unlikely that the FRA will grant an exemption or waiver for either of these Options, given the recent high-profile commuter rail crashes in Philadelphia and New Jersey, each of these systems were defined to include PTC in their respective capital cost estimates.

3.3 49 CFR 238 Passenger Equipment Safety Standards

The FRA has codified a set of prescriptive passenger equipment safety standards in Part 238. A similar set of locomotive safety standards is found in Part 229. In 2009, the Michigan Department of Transportation (MDOT) commissioned its contractor, Great Lakes Central Railroad, to refurbish a set of

23 stainless steel bi-level passenger rail cars formerly operated in Metra commuter rail service in Chicago. The equipment was refurbished and tested in accord with the requirements of Part 238 over a period of approximately 5 years. During the same period, MDOT sought to lease used passenger locomotives. MDOT intended that the equipment be used to provide commuter rail service in the Ann Arbor-Howell and Ann Arbor-Detroit corridors.

The project team considered alternative rolling stock equipment strategies including Diesel Multiple Units (DMUs), purchase of new conventional commuter rail coaches, or leasing the equipment refurbished by Great Lakes Central. Due to concerns about the interoperability of DMU equipment in a mixed passenger-freight corridor and the high initial capital cost of new commuter coaches, the team elected to prepare its service plans based on leasing the refurbished coaches from Great Lakes Central and obtaining locomotives from the used equipment market. This strategy ensures full compliance with current FRA equipment regulations.

On December 6, 2016, the FRA published in the Federal Register, a proposed rule titled, "Passenger Equipment Safety Standards; Standards for Alternative Compliance and High Speed Train Sets." The Tier I crashworthiness standards, which address passenger equipment operating up to speeds of 125 mph, will be defined in 49 CFR 238 Appendix G.

The proposed new regulations are intended to allow equipment manufacturers an alternative means to comply with FRA Tier 1 crashworthiness objectives. The existing Part 238 regulations are based on providing a very rigid carbody, capable of withstanding 800,000 lbs. buff load. The new regulations will allow the use of crash energy management with progressively deforming structures. However, the FRA is proposing to continue the requirement to comply with some existing Part 238 requirements, including roof and side structure integrity, interior fixture integrity and seat crashworthiness.

Based on these proposed requirements, it is not certain that any of the European DMUs currently operating in the US would comply, but it appears that the FRA is intending to give the manufacturers a path to compliance without an extensive redesign of their basic structures. So it is possible that popular DMU equipment such as the Stadler GTW 2/6 could be compliant or be made to be compliant at a modest cost. Should the proposed regulations be codified, it would be possible to reconsider the use of DMU equipment in the corridor or as part of a system which combines North-South and Connector alignments. Such as service could operate on both the former AARR tracks and in the Ann Arbor streets, subject to appropriate clearances and curve radii constraints.

3.4 FRA New Starts Guidance

Over the past few decades, the FRA has been engaged in safety and regulatory compliance oversight for commuter rail startups throughout the United States. In an effort to assist the project sponsors in complying with the relatively complicated regulations, the FRA has developed a compliance matrix, citing the CFR reference, regulatory requirement and compliance verification methodology. The matrix is provided in Appendix II. The project team has considered the requirements as defined by the FRA and

specifically included Project Development related costs for compliance in the Capital Cost Estimates presented in Technical Memo 10: Capital Costs.

4. CONCLUSIONS

The project team has worked in cooperation with the funding and regulatory agencies, FTA and FRA, respectively to understand the applicable funding and regulatory guidance and ensure compliance throughout the course of the study. Such efforts should facilitate agency review, should the project sponsors seek to advance the program.

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www.NSRAILSTUDY.com

If your community or business group would like to learn more, a representative from the project team can present to your organization.

email:

TellUs@TheRide.org

Phone:

734.973.6500

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[i] Final Interim Policy Guidance Federal Transit Administration Capital Investment Grant Program, June 2016, Small Starts Final Interim Policy Guidance, page 5.

[ii] 49 CFR 236.1005(b)(6).

APPENDIX I: FRA PTC GUIDANCE

Prepared by Quandel Consultants, LLC for SmithGroupJJR, Inc.
February 14, 2017

From: john.robertson@dot.gov

Sent: Thursday, July 23, 2015 9:49 AM

To: Bob Moore

Subject: PTC Information

Bob, I know you said you read Part 236, here is some detailed information from our PTC group.

The requirement to file a PTC implementation plan is very specific. Specifically (see 49 CFR 236.1009(a)(2).

"After April 16, 2010, a host railroad shall file:

> *(i) A PTCIP if it becomes a host railroad of a main line track segment for which it is required to implement and operate a PTC system in accordance with §236.1005(b); or*
>
> *(ii) A request for amendment ("RFA") of its current and approved PTCIP in accordance with §236.1021 if it intends to:*
>
> > *(A) Initiate a new category of service (i.e., passenger or freight); or*
> >
> > *(B) Add, subtract, or otherwise materially modify one or more lines of railroad for which installation of a PTC system is required"*

The railroad is clearly "Initiating a new category of service" specifically "passenger" and the assertion that no PTCIP would be required is incorrect. In fact,

> *"No new intercity or commuter rail passenger service shall commence after December 31, 2015, until a PTC system certified under this subpart has been installed and made operative "*(see 40 CFR 236.1006(b)(6))

The exemption criteria of 49 CFR 236.1019(c) are very specific. First

> *"One or more intercity or commuter passenger railroads, or freight railroads conducting joint passenger and freight operation over the same segment of track may file a main line track exclusion addendum ("MTEA") to its PTCIP requesting to designate track as not main line subject to the conditions set forth in paragraphs (b) or (c) of this section"* (see 49 CFR 236.1019(a))

Second, the traffic allowable conditions for (c0 are very explicit for traffic density.To qualify, the railroad must either be

> *"operated on a segment of track of a freight railroad that is not a Class I railroad on which less than 15 million gross tons of freight traffic is transported annually and on which one of the following conditions applies:*
>
> > *(i) If the segment is unsignaled and no more than four regularly scheduled passenger trains are operated during a calendar day, or*
> >
> > *(ii) If the segment is signaled (e.g., equipped with a traffic control system, automatic block signal system, or cab signal system) and no more than 12 regularly scheduled passenger trains are operated during a calendar day*.(see 49 CFR 236.1019(c)(2).

Or be

"operated on a segment "of track of a Class I freight railroad on which less than 15 million gross tons of freight traffic is transported annually". (see 49 CFR 236.1019(c)(3).)

The proposed number of runs (14) is well over the 4 regularly scheduled run limits so qualification for a limited operations exemption would have to be under the conditions of 49 CFR 236.1019(c)(1).. Specifically .

> *"(i) All trains are limited to restricted speed;*
>
> *(ii) Temporal separation of passenger and other trains is maintained as provided in paragraph (e) of this section; or*
>
> *(iii) Passenger service is operated under a risk mitigation plan submitted by all railroads involved in the joint operation and approved by FRA."*

This all said there is a potential for exemption from compliance of these (or any other FRA regulation) under the provisions of 49 CFR 211.41 by filing an application to the Safety Board. The request for waiver MUST (see 49 CFR 211.9)

> *(a) Set forth the text or substance of the rule, regulation, standard or amendment proposed, or specify the rule, regulation or standard that the petitioner seeks to have repealed or waived, as the case may be;*
>
> *(b) Explain the interest of the petitioner, and the need for the action requested; in the case of a petition for waiver, explain the nature and extent of the relief sought, and identify and describe the persons, equipment, installations and locations to be covered by the waiver;*
>
> *(c) Contain sufficient information to support the action sought including an evaluation of anticipated impacts of the action sought; each evaluation shall include an estimate of resulting costs to the private sector, to consumers, and to Federal, State and local governments as well as an evaluation of resulting benefits, quantified to the extent practicable. Each petition pertaining to safety regulations must also contain relevant safety data*

From what was described, I believe that there is a pretty good chance that any application for exemption would stand a good chance of approval by the Safety Board. I cannot speak authoritatively however for how the board would rule, and if they would rule favorably, what, if aby conditions they would impose. If the board would not approve the railroads request, of course, then compliance with the requirements would be mandatory before operations could begin.

If the railroad is interested in pursuing this option, then they should submit a request <u>now</u>, as you know the process for waiver from rules takes a long period of time.

Since this appears to still be at the study phase, that the consultants present their decision makers with a total cost/benefit analysis that includes PTC implementation and operation costs for the entire 30 mile segment with an associated revenue sensitivity analysis based on different ridership estimates. It may well be that the sensitivity to the accuracy of the ridership and revenues streams are unacceptable and the expense and effort of getting the MOC up and operational. Further, given the high implementation and ongoing operational costs of PTC (not only in terms of direct $$, but also potential traffic throughput),., the applicability of the MOC results without PTC installed and their scalability would need to be seriously examined.

Another thing that would need to be considered, especially since it is not explicitly mentioned, is the railroad a host or a tenant? If they are tenant, then the host is well within their right rights , if PTC is required on the line segment< to require the tenant to install PTC regardless if the are potential exemptions federally. Equipage would be another element of any trackage rights agreement.

Regards

Mark *Dr. Mark W. Hartong, PE*

APPENDIX II: FRA NEW STARTS REQUIREMENTS

Prepared by Quandel Consultants, LLC for SmithGroupJJR, Inc.
February 14, 2017

Deliverables

Railroad/Transit Authority: | **Passenger Rail Team:**

Contract Operator(s): | **Region:**

Program Requirements						Time Periods				Program Status			
Discipline	Item	Part	Summary (Note: Please refer to 49CFR for entire rule...)	Deliverable Type	Approval Required (y/n)	Date Required	RR Person(s) Responsible	Target Date	Completion Date	RR Status	FRA Status	Status	Comments
Civil Rights	1	37.42(a)	ADA - Station Facilities. At stations approved for entry into final design or that begin construction or alteration of platforms individuals with disabilities must have access to all accessible cars	Inspection	No	Must be in place at start-up							
Civil Rights	2	37.42(b)	ADA - Station Facilities. For new or altered stations serving commuter with no freight…must be met by providing level-entry boarding to all accessible cars	Inspection	No	Must be in place at start-up							
Civil Rights	3	37.42(d)(2)	ADA - Station Facilities. Plans for meeting the performance standard at new or altered stations where track adjacent to the platform is shared with freight traffic must be submitted on a station-by-station basis	Inspection	No	Must be in place at start-up							
Civil Rights	4	38.111	ADA Intercity Railcar Requirements - General.	Inspection	No	30 Days Notice Prior to Sample Car Inspection Request							
Civil Rights	5	38.113	ADA Intercity Railcar Requirements - Doorways.	Inspection	No	30 Days Notice Prior to Sample Car Inspection Request							
Civil Rights	6	38.115	ADA Intercity Railcar Requirements - Interior circulation, handrails and stanchions.	Inspection	No	30 Days Notice Prior to Sample Car Inspection Request							
Civil Rights	7	38.117	ADA Intercity Railcar Requirements - Floors, steps and thresholds.	Inspection	No	30 Days Notice Prior to Sample Car Inspection Request							
Civil Rights	8	38.119	ADA Intercity Railcar Requirements - Lighting.	Inspection	No	30 Days Notice Prior to Sample Car Inspection Request							
Civil Rights	9	38.121	ADA Intercity Railcar Requirements - Public information system.	Inspection	No	30 Days Notice Prior to Sample Car Inspection Request							
Civil Rights	10	38.123	ADA Intercity Railcar Requirements - Restrooms.	Inspection	No	30 Days Notice Prior to Sample Car Inspection Request							
Civil Rights	11	38.125	ADA Intercity Railcar Requirements - Mobility aid accessibility.	Inspection	No	30 Days Notice Prior to Sample Car Inspection Request							
Civil Rights	12	38.127	ADA Intercity Railcar Requirements - Sleeping Compartments	If Applicable	If Applicable	30 Days Notice Prior to Sample Car Inspection Request							
Civil Rights	13	38.175	ADA Intercity Railcar Requirements - High-speed Rail Cars	If Applicable	If Applicable	30 Days Notice Prior to Sample Car Inspection Request							
OP	14	40.25	Background checks completed on any covered employee before entering covered service	In place / On hand	No	Must be in place at start-up							
IH	15	210.27(d)	Each new locomotive certified under this section shall be identified by a permanent badge or tag attached in the cab of the locomotive near the location of the inspection Form F 6180.49.	In place / On hand	No	Must be in place at start-up							
Track	16	213.5(c)	If track owner assigning responsibility of track - written notification to FRA Regional office	**Submittal**	No	At least 30 days in advance of assignment							
Track	17	213.7	Designate qualified persons to inspect track for defects and designate qualified persons to supervise restorations & renewals of track under traffic conditions	In place / On hand	No	Must be in place at start-up							

Discipline	Item	Part	Summary (Note: Please refer to 49CFR for entire rule...)	Deliverable Type	Approval Required (y/n)	Date Required	RR Person(s) Responsible	Target Date	Completion Date	RR Status	FRA Status	Status	Comments
Track	18	213.118 213.119 213.343	Continuous Welded Rail written procedures & training program - submission to FRA	**Submittal**	**Yes**	Prior to start-up							
Track	19	213.305	Designate qualified persons responsible for maintenance & inspection of track	In place / On hand	No	Must be in place at start-up							
Track	20	214.103	Written program, including training, for certain situations resulting in non-use of fall protection for bridge inspections	In place / On hand	No	Must be in place at Start-up							
Track	21	214.307	Submission to FRA of on- track safety program (RWP) program for formal review & approval	**Submittal**	**Yes**	At least 30 days prior to start-up							
Track	22	214.311	Written procedure to achieve prompt and equitable resolution of good faith RWP challenges made	In place / On hand	No	Must be in place at start-up							
Track	23	214.303 214.317	Adopt, Provide, & Implement an on-track safety program for roadway workers	In place / On hand	No	Must be in place at start-up							
Track	24	214.505(c)	If applicable, maintain a list of new and designated existing on-track roadway maintenance machines of the types identified in paragraphs (a)(1) through (a)(5) of this section	In place / On hand	No	Must be in place at start-up							
OP	25	217.7(a)	File with the FRA Administrator one copy of its code of operating rules, timetables, and timetable special instructions before it commences operations. Further requirements are detailed are in Parts 217 & 218	**Submittal**	No	Prior to start-up							
OP	26	217.7(c)	Keep one copy of its code of operating rules, timetables, and timetable special instructions and any amendments at System Headquarters	In place / On hand	No	Must be in place at start-up							
OP	27	217.9(c)	Written program of operational tests and inspection	In place / On hand	No	At least 30 days prior to start-up							
OP	28	217.11 218.95	Program of instruction/training/examination on Operating Rules. Instruction to begin on the date of operations	In place / On hand	No	At least 30 days prior to start-up							
OP	29	218.35	Designate Yard Limits	In place / On hand	No	Must be in place at start-up							
OP	30	218.37(a)	Each railroad must have in effect an operating rule for flag protection…	In place / On hand	No	Must be in place at start-up							
OP	31	218.97(b)(1)	Adopt & Implement written good faith challenge procedures & instruction. Instruction to begin on the date of operations	In place / On hand	No	Must be in place at start-up							
OP	32	219.11(g)	Each supervisor responsible for covered employees (except a working supervisor within the definition of co-worker under this part) must be trained in the signs and symptoms of alcohol and drug influence, intoxication and misuse consistent with a program of instruction to be made available for inspection upon demand by FRA	In place / On hand	No	Must be in place at start-up							
OP	33	219.23(d)	Each railroad must provide educational materials that explain the requirements of this part, and the railroad's policies and procedures with respect to meeting those requirements.	In place / On hand	No	Must be in place at start-up							
OP	34	219.205(c)(2)	Post-accident testing kits	In place / On hand	No	Must be in place prior to commencement of testing							
OP	35	219 - Subpart E	Compliant policies in place for the identification of troubled employees.	In place / On hand	No	Must be in place prior to commencement of testing							
OP	36	219.401(b)	Railroad to adopt/publish/implement policies relating to the prevention of the use of alcohol and drugs & make available for inspection by FRA	In place / On hand	No	Must be in place at start-up							
OP	37	219 - Subpart F	Pre-employment negatives for any covered employee before they are allowed to perform covered service	In place / On hand	No	Must be in place before first performance of safety-sensitive functions							

Discipline	Item	Part	Summary (Note: Please refer to 49CFR for entire rule...)	Deliverable Type	Approval Required (y/n)	Date Required	RR Person(s) Responsible	Target Date	Completion Date	RR Status	FRA Status	Status	Comments
OP	38	219.601(a)	Random plan approved by FRA as well as the implementation tools operational so employees know they are subject to selection and testing	**Submittal**	**Yes**	30 Days Prior to Start-up							
OP	39	219.607(a)	Must submit to FRA for approval a Random Alcohol Testing Program	**Submittal**	**Yes**	At least 30 days prior to start-up							
OP	40	219.607(c)(1)	The railroad must publish to each of its covered employees, individually, a written notice that the employee will be subject to random alcohol testing under this part.	In place / On hand	**No**	45 Days Prior to commencement of testing program							
OP	41	219.607(c)(2)	A railroad commencing operations must submit a random testing program	**Submittal**	**Yes**	60 days after program implementation							
OP	42	219	Support systems hired, qualified and prepared to begin operations on day one to cover random selections, collections (breath and urine), SAP, MRO, and laboratory	In place / On hand	No	Must be in place at start-up							
OP	43	220.21(b)	Each railroad shall retain one copy of its current operating rules with respect to radio communications	In place / On hand	No	At least 30 days prior to start-up							
OP	44	220.23	Railroad to designate where radio base stations are installed, where wayside stations may be contacted, and the appropriate radio channels used by these stations in connection with railroad operations by publishing them in a timetable or special instruction	In place / On hand	No	Must be in place at start-up							
OP	45	220.302	Each railroad shall adopt operating rules that implement the requirements of Subpart C - Electronic Devices	In place / On hand	No	Must be in place prior to pre-revenue testing							
OP	46	220.313(a)	Each railroad shall maintain a written program of instruction and examination implementing the requirements of Subpart C - Electronic Devices	In place / On hand	No	Must be in place at start-up							
OP	47	220.315(a)	The railroad's program of operational tests and inspections shall specifically include a minimum number of tests for electronic devices…	In place / On hand	No	Must be in place at start-up							
MP&E	48	221 - Appendix A	Submission by Railroad for approval by FRA of marking devices	If Applicable	If Applicable	Prior to pre-revenue testing							
Crossing	49	222.39(b)	Quiet Zones - Public authority application to FRA	If Applicable	If Applicable	Varies							
Crossing	50	222.43(b)	Quiet Zones - Notice of Intent	If Applicable	If Applicable	60 Days Prior to Mailing of Quiet Zone Establishment							
Crossing	51	222.43(d)	Quiet Zones - Notice of Establishment	If Applicable	If Applicable	21 Days After Mailing							
OP	52	225.11	Accident/incident reporting requirements (requirements detailed throughout Part 225)	Submittal	No	Within 30 days after the month in which the accident/incident occurred							
OP	53	225.25(a)	Each railroad shall maintain either the Railroad Employee Injury and/or Illness Record (Form FRA F 6180.98) or an alternative railroad-designed record as described in paragraph (b) of this section of all reportable and accountable injuries and illnesses of its employees	In place / On hand	No	Varies							
OP	54	225.25(h)	Railroad to develop a form for listing all injuries and occupational illnesses monthly…	In place / On hand	No	Within 30 days after the month in which the accident/incident occurred							
OP	55	225.33	Adopt & comply with a written Internal Control Plan maintained at office of railroad reporting officer	In place / On hand	No	Must be in place at start-up							
IH	56	227.103(a)	Develop & implement a noise monitoring program	In place / On hand	No	Must be in place at start-up							
IH	57	227.107(a)	The railroad shall administer a continuing, effective hearing conservation program…	In place / On hand	No	Must be in place at start-up							
IH	58	227.109	Establish & maintain an audiometric testing program	In place / On hand	No	Must be in place at start-up							
IH	59	227.119	Institute an occupational noise and hearing conservation training program for all employees included in the hearing conservation program.	In place / On hand	No	Must be in place at start-up							
OP	60	228.11	Each railroad, or a contractor or a subcontractor of a railroad, shall keep a record, either manually or electronically, concerning the hours of duty of each employee.	In place / On hand	No	Must be in place at start of testing							

Discipline	Item	Part	Summary (Note: Please refer to 49CFR for entire rule...)	Deliverable Type	Approval Required (y/n)	Date Required	RR Person(s) Responsible	Target Date	Completion Date	RR Status	FRA Status	Status	Comments
OP	61	228.17	Each carrier shall keep, for each dispatching district, a record of train movements made under the direction and control of a dispatcher who uses telegraph, telephone, radio, or any other electrical or mechanical device to dispatch, report, transmit, receive, or deliver orders	In place / On hand	No	Must be in place at start of testing							
OP	62	228.19	Each railroad, or a contractor or a subcontractor of a railroad, shall report to the Associate Administrator for Railroad Safety/Chief Safety Officer, Federal Railroad Administration, Washington, DC 20590, each instance of excess service listed in paragraphs (b) through (e) of this section, in the manner provided by paragraph (f) of this section	Submittal	No	Within 30 days after the calendar month in which the instance occurs							
OP	63	228.201	Electronic record keeping system requirements	If Applicable	If Applicable	Varies							
OP	64	228.207	A railroad, or a contractor or subcontractor to a railroad, shall provide its train employees, signal employees, and dispatching service employees and its supervisors of these employees with initial training and refresher training	If Applicable	If Applicable	Varies							
OP	65	228.407(b)	Submissions of certain work schedules and any fatigue mitigation plans and determinations of operational necessity or declarations;	**Submittal**	**Yes**	Must be in place at start-up							
OP	66	228.407(c)(1)	If a railroad subject to this subpart wishes to use a model of human performance and fatigue, not previously approved by FRA, for the purpose of making part or all of the analysis required by paragraph (a) or (d) of this section, the railroad shall submit the model and evidence in support of its scientific validation, for the approval of the Associate	If Applicable	If Applicable	Varies							
OP	67	228.411(e)	A railroad shall maintain a record of each employee provided training in compliance with this section and shall retain these records for three years.	In place / On hand	No	Must be in place at start-up							
MP&E	68	229.20	The carrier shall provide FRA with all electronic records maintained for compliance with this part for any specific locomotives at any mechanical department terminal upon request;	In place / On hand	No	Prior to pre-revenue testing							
MP&E	69	229.21(a)/(b)	Each locomotive or MU locomotive in use shall be inspected at least once during each calendar day, according to 229.21(a) or (b). The report shall be filed and retained for at least 92 days in the office of the carrier at the terminal at which the locomotive is cared for. A record shall be maintained on each locomotive showing the place, date	In place / On hand	No	Prior to pre-revenue testing							
MP&E	70	229.21(c)	Each carrier shall designate qualified persons to make the inspections	In place / On hand	No	Prior to pre-revenue testing							
MP&E	71	229.23(c)	Each new locomotive shall receive an initial periodic inspection before it is used.	In place / On hand	No	Prior to use							
MP&E	72	229.23(i)	The railroad shall provide employees performing inspections under this section with a document containing all tests conducted since the last periodic inspection, and procedures needed to perform the inspection.	In place / On hand	No	Prior to pre-revenue testing							
MP&E	73	229.25(a)	All mechanical gauges used by the engineer to aid in the control or braking of the train or locomotive, except load meters used in conjunction with an auxiliary brake system, shall be tested by comparison with a dead-weight tester or a test gauge designed for this purpose.	In place / On hand	No	Prior to use							
MP&E	74	229.25(c)	All cable connections between locomotives and jumpers that are designed to carry 600 volts or more shall be thoroughly cleaned, inspected, and tested for continuity.	In place / On hand	No	Prior to pre-revenue testing							
MP&E	75	229.25(d)(1)	A written or electronic copy of the instructions in use for event recorder maintenance and inspection shall be kept at the point where the work is performed and a hard-copy version, written in the English language, shall be made available upon request to FRA.	In place / On hand	No	Prior to pre-revenue testing							
MP&E	76	229.25(f)	The alerter shall be tested, and all automatic timing resets shall function as intended.	In place / On hand	No	Prior to pre-revenue testing							
MP&E	77	229.29(g)	Records of the air brake system maintenance and testing required by this section shall be generated and maintained	In place / On hand	No	Prior to pre-revenue testing							
MP&E	78	229.31	Each main reservoir shall be tested as required and recorded appropriately on Form FRA F 6180-49A	In place / On hand	No	Prior to use							
MP&E	79	229.119(f)	Containers shall be provided for carrying fusees and torpedoes. A single container may be used if it has a partition to separate fusees from torpedoes. Torpedoes shall be kept in a closed metal container.	If Applicable	If Applicable	Must be in place at start-up							

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MP&E	80	229.119(i)	Each locomotive or remanufactured locomotive ordered on or after June 8, 2012, or placed in service for the first time on or after December 10, 2012, shall be equipped with a securement device on each exterior locomotive cab door that is capable of securing the door from inside of the cab.	If Applicable	If Applicable	Must be in place at start-up							
MP&E	81	229.121(b)(4)	The railroad shall establish an internal, auditable, monitorable system that contains records pursuant to the Locomotive Cab Noise Requirements of 229.121.	In place / On hand	No	Must be in place at start-up							
MP&E	82	229.129(b)(10)	Written reports of locomotive horn testing required by this part shall be made and shall reflect horn type; the date, place, and manner of testing; and sound level measurements. These reports, which shall be signed by the person who performs the test, shall be retained by the railroad, at a location of its choice, until a subsequent	In place / On hand	No	Must be in place at start-up							
MP&E	83	229.213	Locomotive manufacturing information.	In place / On hand	No	Must be in place at start-up							
MP&E	84	229.307	A railroad shall develop a Safety Analysis (SA) for each product subject to this subpart prior to the initial use of such product on their railroad.	In place / On hand	No	Must be in place at start-up							
MP&E	85	229.311	Prior to the initial planned use of a product subject to this subpart, a railroad shall inform the Associate Administrator for Safety/Chief Safety Officer, FRA, 1200 New Jersey Avenue SE., Mail Stop 25, Washington, DC 20590 of the intent to place this product in service. The notification shall	Submittal	No	60 days prior to use							
MP&E	86	229.313	Results of product testing conducted by a railroad as required by this subpart shall be recorded on preprinted forms provided by the railroad, or stored electronically. Electronic recordkeeping or automated tracking systems, subject to the provisions contained in paragraph (e) of this section, may be utilized to store and maintain any testing or	In place / On hand	No	Must be in place at start-up							
MP&E	87	229.315	The railroad shall maintain all documents pertaining to the installation, maintenance, repair, modification, inspection, and testing of a product subject to this part in one Operations and Maintenance Manual (OMM).	In place / On hand	No	Must be in place at start-up							
MP&E	88	231.12	Passenger Car Safety Appliances (wide vestibules)	Inspection	optional	30 Days Notice Prior to Sample Car Inspection Request							
MP&E	89	231.15 231.17	Locomotive Safety Appliances	Inspection	optional	30 Days Notice Prior to Sample Car Inspection Request							
STC	90	233.7	Each carrier shall report any signal failures according to Part 236 using Form FRA F6180-14 "Signal Failure Report"	In place / On hand	No	Within 15 Days of Failure							
STC	91	233.9	Every 5 years, each carrier shall file with FRA a signal system status report "Signal System Five-year Report" on a form to be provided by FRA in accordance with instructions and definitions provided on the report.	Submittal	No	Every 5 years							
STC	92	234.101	Railroad to issue rules requiring its employees to report to persons designated by that railroad, by the quickest means available, any grade xing warning system malfunction	In place / On hand	No	Must be in place at start-up							
STC	93	234.109	Recordkeeping - Forms for reporting HWY Grade Xing malfunctions	In place / On hand	No	Must be in place at start-up							
STC	94	236.15	Automatic block, traffic control, train stop, train control and cab signal territory shall be designated in timetable instructions.	In place / On hand	No	Must be in place at start-up							
STC	95	236.18(a)	Railroad to develop and adopt a software management control plan for its signal and train control systems	In place / On hand	No	Must be in place at start-up							
STC	96	236.23(e)	The names, indications, and aspects of roadway and cab signals shall be defined in the carrier's Operating Rule Book or Special Instructions. Modifications shall be filed with the FRA within 30 days after such modifications become effective.	Submittal	No	Must be in place at start-up							
STC	97	236.905	Railroad Safety Program Plan (RSPP) for Processor-based control systems.	Submittal	Yes	At least 180 days prior to start-up							
STC	98	236.907 236.913	Product Safety Plan (PSP) for Processor-based control systems.	Submittal	Yes - If new or amended.	At least 180 days prior to start-up							
STC	99	236.921(a) 236.923 236.925 236.927 236.929	Training & Qualification Program	In place / On hand	No	Must be in place at start-up							
STC	100	236.1011	Develop PTCIP & submit to FRA	If Applicable	If Applicable	Must be in place at start-up							

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Bridge	101	237.3(b)	If an owner of track to which this part applies assigns responsibility for the bridges that carry the track to another	If Applicable	If Applicable	At least 30 days prior to start-up							
Bridge	102	237.31	Adoption of Bridge Maintenance Program for Owners of track segments which are part of the general railroad system of transportation and which carry more than ten scheduled passenger trains per week;	In place / On hand	No	Must be in place at start-up							
Bridge	103	237.57	Each track owner shall designate those individuals qualified as railroad bridge engineers, railroad bridge inspectors and railroad bridge supervisors.	In place / On hand	No	Must be in place at start-up							
Bridge	104	237.73	Protection of bridges from over-weight and over-dimension loads.	In place / On hand	No	Must be in place at start-up							
Bridge	105	237.131 237.133	Each repair or modification which materially modifies the capacity of a bridge or the stresses in any primary load-carrying component of a bridge shall be designed by a railroad bridge engineer. Each repair or modification pursuant to this part shall be performed under the	In place / On hand	No	Must be in place at start-up							
MP&E	106	238.19(a)	Railroad to have in place a reporting and tracking system for passenger equipment with a defect not in conformance with Part 238. Further requirements in Part 238	In place / On hand	No	Must be in place at start-up							
MP&E	107	238.103(a)	Material tests required to demonstrated compliance with 49 CFR Part 238 Appendix B.	If Applicable	If Applicable	At least 30 days prior to relevant testing.							
MP&E	108	238.103(b)	Fire safety analysis for procuring new passenger cars and locomotives.	In place / On hand	No	Must be in place at start-up							
MP&E	109	238.103(e)	Railroad to develop and adopt written procedures for the inspection, testing, and maintenance of all fire safety systems and fire safety equipment on the passenger equipment it operates	In place / On hand	No	Must be in place at start-up							
MP&E	110	238.105(a)	Railroad to develop and maintain a written hardware and software safety program to guide the design, development, testing, integration, and verification of software and hardware that controls or monitors equipment safety functions	In place / On hand	No	Must be in place at start-up							
MP&E	111	238.107(b)	Railroad to develop, and provide to FRA upon request, a detailed inspection, testing, and maintenance plan consistent with the requirements of Part 238	In place / On hand	No	Must be in place prior to start of pre-revenue testing							
MP&E	112	238.109(a)	Railroad to adopt a training, qualification, and designation program for employees and contractors that perform any of the inspections, tests, or maintenance required by Part 238, and trained such employees and contractors in accordance with the program.	In place / On hand	No	Must be in place at start-up							
MP&E	113	238.111(a)	For passenger equipment that has previously been used in revenue service in the United States, each railroad to test the equipment on its system prior to placing such equipment in revenue service for the first time on its railroad to ensure the compatibility of the equipment with the	In place / On hand	No	Must be in place prior to start of pre-revenue testing							
MP&E	114	238.111(b)(2)	Before using passenger equipment for the first time on its system that has not been used in revenue service in the United States, each railroad to prepare a pre-revenue service acceptance testing plan for the equipment, and submit a copy of the plan to FRA at least 30 days prior to testing the equipment and include with that submission notification of the times and places of the pre-revenue	Submittal	No	30 Days Prior to start of pre-revenue testing							
MP&E	115	238.112 238.113 238.114 238.115 238.121	Emergency egress/access, and rescue access systems, emergency lighting, roof access, emergency communications, markings, and signage.	Inspection	No	30 Days Notice Prior to Sample Car Inspection Request							
MP&E	116	238.125	Provides requirements for the marking of emergency egress and emergency access doors. Reference APTA PR-PS-S-002-98, Rev. 3.	Inspection	No	30 Days Notice Prior to Sample Car Inspection Request							
MP&E	117	238.229(e)	Welded Safety Appliances - Existing Equipment. The railroad shall submit a list to FRA that identifies each piece of equipment equipped with a welded safety appliance bracket or support…	If Applicable	No	Must be in place at start-up							
MP&E	118	238.229(g)	Welded Safety Appliances - Existing Equipment. Written safety appliance inspection plan	If Applicable	No	Must be in place at start-up							
MP&E	119	238.230(b)(2)(i)	Welded Safety Appliances - New Equipment. The railroad shall submit a list to FRA that identifies each piece of new passenger equipment equipped with a welded safety appliance...	If Applicable	No	Must be in place at start-up							
MP&E	120	238.230(b)(3)	Welded Safety Appliances - New Equipment. Prior to placing a piece of equipment in service with a welded safety appliance bracket or support as described in this paragraph, the railroad shall submit documentation to FRA, FRA's review and approval, containing the requirements of this part.	If Applicable	No	Must be in place at start-up							

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MP&E	121	238.230(d)	Welded Safety Appliances - New Equipment. Request for special approval of alternative compliance pursuant to 238.21…	If Applicable	No	Must be in place at start-up							
MP&E	122	238.307(a)(2)	Petition for alternative periodic mechanical inspection intervals for specific components or equipment…	If Applicable	**Yes**	30 Days Prior to start of pre-revenue testing							
MP&E	123	238.309(a)(2)	Petition for FRA to approve alternative maintenance procedure providing equivalent safety...	If Applicable	**Yes**	30 Days Prior to start of pre-revenue testing							
OP	124	239.101(a) (2) (iii) & (iv)	Emergency Preparedness training to be completed	In place / On hand	No	(1) Railroads with less than 150 route miles and less than 200 million passenger							
OP	125	239.101(a)(6)(i)	One pry bar and one fire extinguisher must be on board each passenger car and one flashlight must be with each crewmember	In place / On hand	No	Not more than 120 days after commencing passenger operations							
OP	126	239.101(a)(6)(ii)	Intercity trains to have first aid kit on board each passenger car	In place / On hand	No	Not more than 120 days after commencing passenger operations							
OP	127	239.201	File Emergency Preparedness Plan for review and approval with FRA The content requirement for passenger train emergency preparedness plans are found in 239.101. Additionally the FRA provides a written guide to preparing such plans.	Submittal	Yes	Formal Filing: 45 days prior to passenger operations							
OP	128	240.101(b)	Written program approved by FRA for certifying the qualifications of locomotive engineers	In place / On hand	No	Prior to start-up							
OP	129	240.103(a)	Submission of written certification program to FRA	Submittal	Yes	At least 60 days prior to commencing passenger operations							
OP	130	240.201(a) and (b)	Railroad to designate in writing persons deemed qualified as DSLE's, Locomotive Engineers, and issue certificates	In place / On hand	No	Must be in place at start-up							
OP	131	240.303(a)	Program to monitor the conduct of engineers	In place / On hand	No	At least 60 days prior to commencing passenger operations							
OP	132	242.103	Conductor Certification Program	**Submittal**	**Yes**	At least 60 days prior to commencing passenger operations							
OP	133	270 Proposed Rule	System Safety Program Plan-SSPP. Written based on the APTA Guide to SSPP. FRA request all new passenger railroads to participate in the APTA/ FRA SSPP audit program.	**Submittal**	**Yes**	90 days prior to commencing operations.							
OP	134	CHA	Collision Hazard Analysis-CHA: FRA & FTA expects new passenger railroads to submit to FRA a plan for conducting a CHA. The CHA is to begin in the design stage of the project and continually updated through the Life Cycle of the Project. Submittal is within requirement of Part 270.	**Submittal**	**Yes**	Submit to FRA a CHA plan in the design phase of the project. Submit analysis