M E M O R A N D U M

DATE: October 25, 2010

TO: Board of Directors

FROM: Lillian Hames, General Manager

RE: SMART DMU Vehicle Procurement
Recommendation for Award of Contract to Sumitomo Corporation of America

Summary

The SMART vehicle procurement team, made up of SMART staff and consultants, has completed evaluation of proposals and subsequent negotiations with the highest ranked proposer to provide diesel multiple unit (DMU) vehicles for the commuter rail program. The team has produced the attached report that documents the process undertaken and their conclusions, recommending that a contract be awarded to Sumitomo Corporation of America to provide SMART's rolling stock. I am pleased to concur with the procurement team's recommendation and hereby recommend that the Board approve award of a contract to Sumitomo for $56,853,739 to provide 18 DMU vehicles (9 trains) along with systems support, spare parts and special tools. ***This notice to the Board also serves as a Notice of Intent to Award a Contract to Sumitomo Corporation of America (SCOA).***

Analysis

SMART staff and consultants have now completed a lengthy process to procure SMART's DMU vehicles. The designation of FRA compliant DMU vehicles as the standard for use on SMART's corridor was reached after an extensive analysis of alternatives through years of study, environmental analysis documented in SMART's certified EIR, subsequent re-visitation of analyses, considerable public input through workshops and public meetings, and multiple deliberations of the Board of Directors. As the outcome of this process, the SMART Board authorized a request for proposals (RFP) for FRA Compliant DMU vehicles that was released on April 22, 2010. Consistent with the Board's direction, the RFP also allowed interested firms to submit proposals for non-FRA compliant DMUs as an exception to SMART's specification.

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Following are key milestones of the selection process:

- 4/22/10 - RFP released
- 5/5/10 - Pre-proposal conference held
- 8/9/10 - Proposals received
- 9/9/10 - Completion of review and ranking of technical proposals
- 9/9/10 - Opened price proposals
- 9/13/10 - Completion of ranking for combined technical and price proposals
- 9/15/10 - Initiation of negotiations with top-ranked proposer (Sumitomo)
- 10/20/10 - Completion of negotiations and recommendation for contract award

For the evaluation of proposals, I appointed the following evaluation committee:

1. John Lackey, SMART Capital Projects Director
2. David Heath, SMART Chief Financial Officer
3. Dominic DiBrito, LTK Vehicle and Systems Project Manager
4. Kam Shadan, Program Management Consultant Vehicle and Systems Advisor
5. Thomas Heilig, TriMet Vehicle and Systems Manager

All of these committee members are duly qualified to perform in the capacity for which they were appointed.

Six proposals from five proposers were submitted and evaluated in response to SMART's RFP. Of these, four are for FRA-compliant DMUs generally responsive to SMART's specification, and two are for non-compliant vehicles proposed as exceptions as allowed in the RFP. Five of the six proposals are compliant with Buy America requirements, including that of the recommended proposer.

The evaluation process outlined in the RFP allowed for follow-up interviews and negotiations with more than one proposer if it was in the best interest of SMART. However, it also allowed SMART to select a single proposer for negotiations purely on the basis of the technical and price proposals submitted. The process approved by the Board required that the staff recommend award of a contract to a single proposer at the conclusion of the evaluation and negotiations.

The Sumitomo Corporation of America (SCOA) proposal was the highest ranked technical proposal, although four of the six proposals ranked very closely after the technical evaluation. When combined with results of the price proposals however, it became clear that SMART's interests would best be served through negotiations only with SCOA as the top ranked proposer. Key strengths of the Sumitomo technical proposal include:

- Satisfaction of all requirements for performance including operations and passenger ride quality
- Crash Energy Management (CEM) system proposed, adding increased safety over the level specified by SMART and required by the Federal Railroad Administration (FRA)
- EPA Tier 4 final compliant engines (exceeding current requirements)
- Fully FRA-compliant (no waivers required)
- Fully Buy-America compliant, preserving SMART's opportunity to execute future options under the contract utilizing federal funding if it becomes available

- A vehicle with high quality exterior and interior design deemed to be responsive to the image that SMART intended for its DMU vehicles
- Provision of restrooms and service bars as desired in the specification
- A color and finishing scheme that can be customized to SMART's preference
- Provision of 158 seats per train (married pair)
- ADA access throughout the train and level boarding at stations (no steps or narrow aisle ways)
- 24 primary and 14 secondary bicycle spaces per married pair
- Work tables, luggage racks, convenience outlets, Wi-Fi, reclining seats, and all other features responsive to SMART's requirements
- Powered third cars proposed as options that include operator cabs, enabling absolute flexibility for configuration and operation of trains in a variety of consists
- SCOA accepted essentially all requirements of SMART's specification and example contract document included in the RFP

The price proposal from SCOA is very favorable to SMART, so much so that it became clear in the evaluation process that its acceptance without further change was in the best interest of SMART. Prices were officially evaluated on the basis of nine 3-car trains that include the third cars identified above. However, the base order allowed by the RFP document and recommended for procurement under this contract is for nine 2-car trains including spare parts, systems support and special tools, for a price of $56,853,739. SMART's estimate for this base order prior to opening of the price proposals was approximately $80 million. The recommended award is for a contract that is about $23 million below the engineer's estimate. The attached report from the Evaluation Team generally documents the selection process, ranking of proposals and offerings from the five proposers.

In order to be fair to all proposers, the RFP called for an evaluation process in which the highest ranked non-Buy America compliant proposer would be compared to the highest ranked Buy America compliant proposer. Here, the Buy America compliant proposal from SCOA was higher ranked, and lower priced, than the sole non-Buy America compliant proposal from Stadler, resulting in SCOA being the highest ranked proposer under both a Buy America-compliant and a non-compliant scenario.

Recommendation

I hereby recommend that a contract be awarded to Sumitomo Corporation of America to provide nine 2-car trains, systems support and spare parts for the price of $56,853,739. Such contract will be substantially consistent with the example contract provided to proposers in RFP documents.

Attachment

SMART DMU Procurement Recommendation for Award

October 25, 2010

LTK Engineering Services

SONOMA-MARIN SMART AREA RAIL TRANSIT

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1. EXECUTIVE SUMMARY - RECOMMENDATION

The SMART vehicle procurement evaluation team, made up of SMART staff and consultants, listed below, recommends execution of a contract with Sumitomo Corporation of America (SCOA) for the procurement of 18 DMUs, Systems Support, Spare Parts and Special Tools in the amount of $56,853,739. This represents a savings of over $20 million from the engineer's estimate and SMART's original budget. It further represents a $13.5 million savings over the next lowest proposer (Siemens) at $70.4 million. SCOA was also the highest ranked technical proposer, which leads the team to conclude that this represents the most advantageous procurement to SMART. Key features of the SCOA offering include:

- Fully compliant with Federal Transit Administration (FTA) Buy America requirements
- Fully compliant with Federal Railroad Administration (FRA) regulations
- Crash Energy Management (CEM) features in addition to FRA compliant structure
- ADA access throughout the train (no steps or narrow aisle ways)
- EPA Tier 4 final compliant engine (exceeds current standards)
- Compatible with up to B20 biodiesel
- 158 large comfortable seats per married pair
- 4 wheelchair parking spaces (each with companion seating) per married pair
- 24 primary bicycle spaces per married pair
- 14 secondary bicycle spaces per married pair (convertible wheelchair space)
- ADA restroom on A-car and Service bar on B-car as requested

SCOA's proposal satisfies the RFP requirements and represents the best value to SMART. The proposed vehicles comply with the technical specification. No exceptions were requested by SCOA. Negotiations have been successfully concluded regarding the commercial terms provided in the sample contract. The RFP, including the sample contract, is available at: http://www.sonomamarintrain.org/userfiles/file/SMART%20DMU%20Procurement%20Solicitation%20Package%20RFP.pdf

Evaluation Team:

- John Lackey, SMART Capital Projects Director
- David Heath, SMART Chief Financial Officer
- Dominic DiBrito, LTK Vehicle and Systems Project Manager
- Kam Shadan, PMC Vehicle and Systems Advisor
- Thomas Helig, TriMet Vehicle and Systems Manager

2. OVERVIEW OF THE OFFERING

Six proposals were received from five proposers: CAF, SCOA, Siemens, Stadler and US Railcar. This is far more than recent DMU procurements and more than most recent passenger rolling stock procurements as well. The following subsections provide a brief description of the offerings. Please note that the renderings are not consistent between proposers, as there was no specific format requirement for proposal pictures. Efforts were made to use the rendering from each proposal that best displayed the entire train from a side view.

2.1. CAF

CAF, a Spanish firm with a final assembly plant in New York, proposed a specification-compliant DMU concept with two engines per vehicle. The center car is an unpowered trailer. Figure 1 shows the CAF offering.

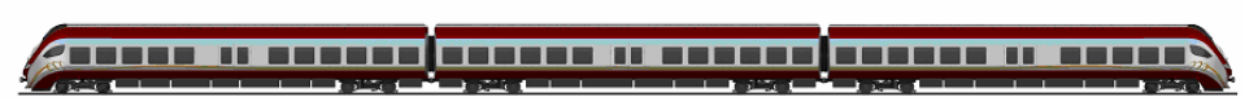

Figure 1 - CAF Proposed Compliant DMU (Side View)

2.2. SUMITOMO CORPORATION OF AMERICA (SCOA)

The SCOA proposal is provided in detail later in this report. SCOA, a Japanese team comprised of a financial partner (Sumitomo) and a car builder (Nippon Sharyo) with a final assembly plant in Illinois, proposed a specification-compliant DMU concept with one engine per vehicle. The center car is a powered DMU with a flat nose. Figure 2 shows the SCOA offering.

Figure 2 - SCOA Proposed Compliant DMU (Perspective View)

2.3. SIEMENS

SIEMENS, a German firm with a full manufacturing facility in California, proposed two vehicles. The primary proposal was a specification-compliant DMU with a center car that was powered with a generator but had no powered axles. Figure 3 shows that concept without the center car. As an alternate, Siemens offered to produce the European Desiro DMU in the USA. It is a slightly smaller vehicle that does not meet Federal Railroad Administration (FRA) regulations for crashworthiness. Rather it would require a waiver, using its Crash Energy Management (CEM) system to provide equivalent safety. Figure 4 shows that vehicle concept without the center car.

Figure 3 - Siemens Proposed Compliant DMU (Two-Car Train Shown)

Figure 4 - Siemens Proposed Alternate Non-Compliant DMU (Two-Car Train Shown)

2.4. STADLER

STADLER, a Swiss firm that would produce the vehicles in Europe, proposed a non-FRA-compliant, non-specification-compliant DMU concept. The Stadler GTW is a proven design operating in Europe and the United States. It is modular, and each section is smaller than a standard 85-foot American railcar. Thus, the Stadler three-unit train (Figure 5) is about the same size as the specified two-unit train.

Figure 5 - Stadler Proposed Non-Compliant DMU

2.5. US RAILCAR

US Railcar is a new firm that will build railcars in the United States. It offers a specification-compliant DMU with an unpowered center car. The proposed US railcar concept, based on a design purchased from Colorado Railcar, is shown in Figure 6.

Figure 6 - US Railcar Proposed Compliant DMU

3. PROCUREMENT PROCESS

The process used by SMART to procure DMUs was in compliance with applicable state and federal requirements. It is documented in detail in the Request for Proposals (RFP) issued on April 22, 2010. Part A of that document, entitled Instructions to Proposers, provided detail to the proposer on the required content of the proposal, the process used to evaluate and award, and the factors that would influence selection.

3.1. Negotiated Procurement

This procurement was conducted pursuant to the competitive negotiations process set forth in California Public Contract Code 20216 and 20355.7. Pursuant to those statutes, SMART's Board determined that a low-bid process was not in the agency's best interests, and authorized instead the issuance of a Request for Proposals (RFP) in order to allow SMART the flexibility to select the proposer most advantageous to the agency, considering price and other factors. Through an RFP process, an agency like SMART is able to evaluate technical proposals based on stated criteria, request clarification or modified proposals from any proposer during the evaluation process, evaluate price separately from technical proposals, and award a contract to the proposer that offers the best overall value to the agency, considering both price and technical factors. An RFP process like the one utilized by SMART is not only consistent with all applicable state and federal requirements, it is the most common method of procuring passenger rolling stock in the United States today.

3.2. Sequence of Events

Table 1 provides a timetable of events for the procurement.

Table 1 - Procurement Timetable and Notes

Date	Event
April 22, 2010	RFP Released.
April 30, 2010	Addendum 1 released. First round of questions answered and track file made available for performance simulations.
May 5, 2010	Pre-proposal meeting held. Seven carbuilders represented. Multiple component vendors represented.
May 7, 2010	Addendum 2 released. Pre-proposal meeting notes provided. Second round of questions answered.
May 17, 2010	Addendum 3 released. Third round of questions answered. Due to multiple requests, proposal due date extended to August 9, 2010.
May 21, 2010	Addendum 4 released. Fourth round of questions answered. Q&A period extended.
June 11, 2010	Addendum 5 released. Q&A period further extended due to number of questions received.
June 15, 2010	Addendum 6 released. Fifth round of questions answered. Minor revisions made to Instructions to Proposers, Required Forms, Sample Contract, and Technical Specification.
July 9, 2010	Addendum 7 released. Sixth and final round of questions answered. Minor revisions made to Sample Contract and Technical Specification. In total 340 questions received and answered.
August 3, 2010	Proposal evaluation team met for a pre-evaluation briefing.
August 9, 2010	Proposals received from five teams.
August 10, 2010	Proposals checked for completeness.
August 11, 2010	Copies of technical proposals provided to evaluation team members.
August 18, 2010	Evaluation team meeting to discuss proposal content and request additional information/clarification.
August 25, 2010	Letters sent to proposers requesting clarification and inviting them to interview.
August 30, 2010	Initial scoring of technical proposals.
September 9, 2010 Afternoon	Technical proposals re-scored based on clarifications received from proposers.
September 9, 2010 Evening	Price proposals opened, reviewed. Unable to score proposals due to missing information.
September 10, 2010	Proposers notified that interviews were canceled as additional cost proposal information was sought.
September 13, 2010	Price proposals scored based on clarifications. Price proposals scored and final combined scores calculated.
September 15, 2010	Proposers notified that evaluation phase was complete and that negotiations with highest ranked proposer would commence.
September 23, 2010	First negotiation meeting with SCOA.
October 7, 2010	Second negotiation meeting with SCOA.
October 20, 2010	Decision made to advance recommendation for award.

3.3. Maximizing Participation

The RFP was advertised and submitted to all known potential proposers. SMART made every reasonable effort to generate the maximum feasible number of proposals from qualified sources. In order to maximize competition, SMART allowed proposers to offer alternatives to the base specification and price their initial offering based on the assumption that SMART could accept their proposal without modifications (all exceptions to the specification accepted by SMART). SMART also allowed proposers to submit designs that were not compliant with both FRA regulations as well as the federal Buy America regulation. In addition, in response to request from potential proposers, SMART extended the deadline for submitting proposals in order not to disadvantage any possible proposer.

As a result of its extensive efforts to maximize competition, six proposals were received from five proposers. This is far more than recent DMU procurements and more than most recent passenger rolling stock procurements that SMART's consultants are aware of. Table 2 summarizes the proposals.

Table 2 - Proposal Summary

Proposer	Buy America Compliance	FRA Compliance
CAF	Compliant	Compliant
Sumitomo	Compliant	Compliant
Siemens	Compliant	Compliant
Siemens	Compliant	Non Compliant
Stadler	Non Compliant	Non Compliant
US Railcar	Compliant	Compliant

3.4. Evaluation of Proposals

The SMART evaluation panel followed all procedures set forth in the RFP.

3.4.1. Proposal Screening

All six proposals were screened to make sure that they were complete per the proposal checklist provided in the Instructions to Proposers. It was determined that all six were complete.

3.4.2. Technical Proposal Evaluation

The Technical Proposals (worth 65% of the total score) were first evaluated on the basis of the criteria set forth in the RFP: Vehicle Description; Qualifications Experience and References; Financial Stability and Capacity; Management Approach; and System Support Plan. During the evaluation process, it was determined that each proposer needed to clarify certain parts of their proposal. However, during the initial evaluation it was also determined that all six proposals were responsive and that, if the scoring was close enough to require interviews, all proposers would be interviewed. Thus, interviews were immediately scheduled with all proposers to allow them adequate time to prepare. Final scoring of the technical proposals took place the afternoon of September 9, 2010, after the deadline for proposers to submit clarifications had passed. The result of the technical scoring is shown in Table 3.

Table 3 - Technical Proposal Scoring Results

	Max Points	CAF	Sumitomo	Siemens	Siemens*	Stadler	US Railcar
Total Technical Score	65	47.5	56.5	56.5	55.5	55.5	40.0
Technical Ranking		3	1	1	2	2	4

* Siemens alternate proposal for a non-FRA-compliant vehicle

SMART received a number of high-quality proposals and the technical scores were therefore closely grouped.

3.4.3. Price Proposal Evaluation

Price proposals (worth 35% of the overall score) were opened after the technical proposals were evaluated. Per the Instructions to Proposers, price proposals were evaluated based on the total cost of nine three-car trains, system support, spare parts and special tools. The formula for assigning points to the price proposals as set forth in the RFP was:

$$\text{Price Proposal Score} = \frac{\text{Lowest Cost Proposal} \times 35}{\text{Proposer's Cost}}$$

While the technical scoring may have been close, this was not the case with price scoring, in which Sumitomo was the lowest priced proposer by a significant amount. Its total price for 27 cars was more than $20 Million less than the next lowest priced proposal. Price Proposal scoring is provided in Table 4.

Table 4 - Price Proposal Scoring Results (including non-Buy-America-compliant)

Category	Max Points	CAF	Sumitomo	Siemens	Siemens*	Stadler**	US Railcar
Total Price ($ mil)		$136.7	$82.8	$121.2	$104.6	$124.0	$131.5
Score	35	21.2	35.0	23.9	27.7	23.4	22.0
Price Ranking		6	1	3	2	4	5

* Siemens alternate proposal for a non-FRA-compliant vehicle
** Stadler's price was non Buy America compliant

The RFP contemplated evaluating the pricing of Buy-America-compliant and non-Buy-America-compliant price proposals separately so as to be fair to all proposers. Only one non-Buy-America-compliant proposal was received, and it was not the lowest price. Thus, the SCOA price was used as the baseline for scoring the non-Buy-America-compliant price proposals as well as the compliant ones.

3.4.4. Final Scoring and Best Value Determination

Once the technical and price scoring had been completed, assigning a final score was relatively straightforward, as it is simply the addition of the technical and price scores. In accordance with the RFP, and in order to be fair to all proposals, scoring was performed separately for Buy America-compliant and non-compliant pricing. As all but one proposal included the same pricing under both scenarios, such a separate scoring did not affect the ultimate ranking. In other words, the scoring calculation resulted in the same firm being the highest ranked, regardless of whether or not Buy America pricing is considered. This calculation was performed on September 13, and is shown in Table 5.

Sumitomo's overall score was 91.5, and the next highest scores were Siemens non-FRA compliant at 83.2 and Siemens FRA-compliant at 80.4. Stadler's non-FRA-compliant, non-Buy-America-compliant offering ranked fourth at 78.9. Given the high quality of the technical proposals, this considerable difference in final scoring reflects the significant cost savings of Sumitomo's proposal. Especially given that Sumitomo's technical proposal was the highest ranked and the lowest priced, the Evaluation Committee determined that further process (such as interviews or additional modified proposals) was unnecessary and decided to end the evaluation process after reaching the ranking summarized above. Such a decision was consistent with the procedures set forth in the RFP.

Table 5 - Final Scores

PROPOSER		Buy America Compliant	Buy America non-Compliant
CAF	Price ($ mil)	136.7	136.7
	Price Score	21.2	21.2
	Tech Score	47.5	47.5
	Final Score	68.7	68.7
	Ranking	4	5
Sumitomo	Price ($ mil)	82.8	82.8
	Price Score	35.0	35
	Tech Score	56.5	56.5
	Final Score	91.5	91.5
	Ranking	1	1
Siemens	Price ($ mil)	121.2	121.2
	Price Score	23.9	23.9
	Tech Score	56.5	56.5
	Final Score	80.4	80.4
	Ranking	3	3
Siemens NC	Price ($ mil)	104.6	104.6
	Price Score	27.7	27.7
	Tech Score	55.5	55.5
	Final Score	83.2	83.2
	Ranking	2	2
Stadler	Price ($ mil)	-	124.0
	Price Score	-	23.4
	Tech Score	-	55.5
	Final Score	-	78.9
	Ranking	-	4
USRC	Price ($ mil)	131.5	131.5
	Price Score	22.0	22.0
	Tech Score	40.0	40.0
	Final Score	62.0	62.0
	Ranking	5	6

3.4.5. Contract Negotiation

SMART met with Sumitomo on two occasions to discuss specific details of the technical proposal, price proposal, and sample contract. Sumitomo has taken no exceptions to SMART's Technical Specification and will provide a vehicle that is fully compliant with all of SMART's requirements. Sumitomo has also agreed, with one exception, to all of SMART's legal and commercial terms and conditions. The one exception is a minor change to which SMART agreed, concerning the addition of an exchange rate modifier to the option vehicle pricing calculation to mitigate the risk for both parties with respect to foreign exchange rate. The Technical Specification and the original sample contract are not provided in this report, since they are already public information in the RFP.

3.4.6. Examination of Best Value to SMART

Often, the lowest priced offering is not always the best value. This is the foundation upon which the negotiated procurement is built. In this case, however, the highest ranked technical proposal was the lowest priced.

Sumitomo's proposal is the highest ranked whether one considers the 27 car quantity on which the RFP evaluation was based (the number of vehicles that SMART will likely purchase over time) as well as if one considers the base order of 18 cars that SMART intends to initially purchase. Table 6 ranks the proposals based on the base order of nine two-car trains, or an equivalent train size. As the table indicates, the scores remain virtually unchanged. Sumitomo's price is substantially lower than the other proposers, but there is no indication that the lower price reflects lower quality. To the contrary, Sumitomo was the highest ranked technical proposer and it has proven experience in the industry and a solid reputation for delivering a quality product on time and on budget. For reference in comparing the various prices a three-car train (evaluated price proposal) is approximately 255 feet long and seats approximately 234 passengers. A two-car train (base order) is approximately 170 feet long and seats approximately 156 passengers.

Table 6 - Comparison Scoring of Expected Base Order to Evaluated Price

PROPOSER		Price Proposal for 3-Car Trains	Expected Base Contract Price
CAF	Price ($ mil)	136.7	85.8
	Price Score	21.2	23.2
	Tech Score	47.5	47.5
	Final Score	68.7	70.7
	Ranking	5	5
Sumitomo	Price ($ mil)	82.8	56.9
	Price Score	35.0	35.0
	Tech Score	56.5	56.5
	Final Score	91.5	91.5
	Ranking	1	1
Siemens	Price ($ mil)	121.2	82.6
	Price Score	23.9	24.1
	Tech Score	56.5	56.5
	Final Score	80.4	80.6
	Ranking	3	4
Siemens NC	Price ($ mil)	104.6	70.4
	Price Score	27.7	28.3
	Tech Score	55.5	55.5
	Final Score	83.2	83.8
	Ranking	2	2
Stadler	Price ($ mil)	124.0	78.8
	Price Score	23.4	25.3
	Tech Score	55.5	55.5
	Final Score	78.9	80.8
	Ranking	4	3
USRC	Price ($ mil)	131.5	100.2
	Price Score	22.0	19.9
	Tech Score	40	40
	Final Score	62.0	59.9
	Ranking	6	6

One proposer, Stadler, has indicated that it feels that the modularity of their vehicle would allow SMART to start operation with smaller trains, and spend less capital, expanding the train length when necessary. While this is a reasonable approach to accommodating growth, and in fact the very reason for requesting proposals for three-car trains, it still represents a significantly higher overall cost to SMART once the trains are expanded. Three potential Stadler train makeups are shown in Figure 5. The GTW 2/8 represents the base contract size, equivalent to a two-car DMU train.

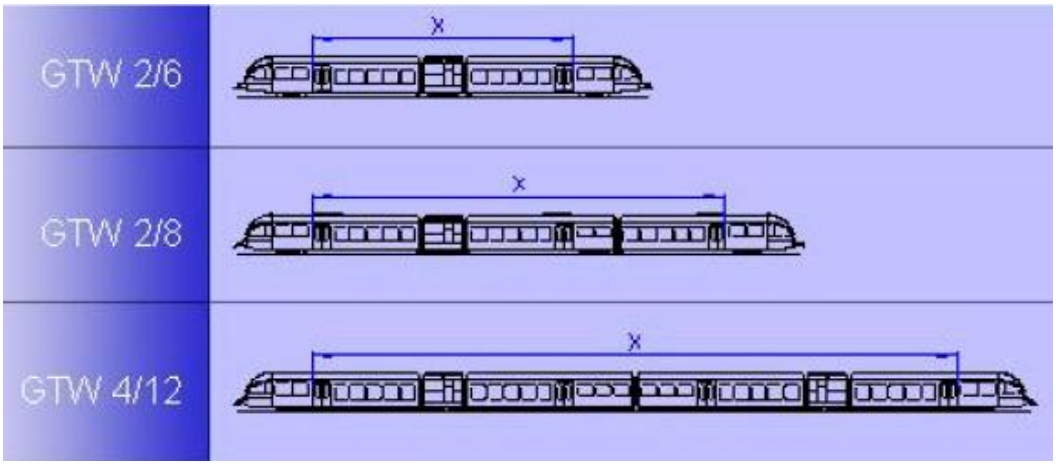

Figure 7 - Stadler Modular Train Concepts

Specifically, Stadler encouraged SMART to purchase their smallest unit size, the GTW 2/6, which seats 101 passengers. The price for nine of these cars including spare parts and special tools is $68.7 million, **a full $13.8 million more than the Sumitomo two-car trains seating 156 passengers at $56.9 million.** Even if the RFP had called for evaluating a smaller order of vehicles, Sumitomo would have been the highest ranked proposer.

Stadler has further asserted that if SMART considered the life cycle cost of the vehicles, that their offering would be more economical. It is difficult to estimate life cycle cost due to the unknown future pricing of diesel fuel and the unknown date at which trainsets would have to be expanded. However, issues affecting life cycle cost were addressed in the technical scoring, as indicated in the Instructions to Proposers. Thus, Stadler actually received technical points for its higher fuel economy. A simple comparison of Stadler and Sumitomo's fuel consumption for the base order (two-car train) was made, and indicated that Stadler's train was more expensive that Sumitomo's, even considering the cost of fuel. It was estimated that, assuming the best fuel efficiency possible for Stadler, over the 30 year life of the fleet, Stadler's price might benefit from fuel efficiency savings by just under $10 million. This falls well short of the $21.9 million price difference between the Stadler and Sumitomo pricing.

The previous two comparisons could also be made to the Siemens non-compliant offering, which is actually the second highest ranked proposer. The Siemens design cannot be smaller than two full-sized cars, so there is no lower price than the base order two-car option shown in Table 5. The fuel economy estimate for the Siemens non-compliant offering is much closer to the Sumitomo DMU. The estimated fuel cost savings per year was around $36,000 per year, which only amounts to about $1 million over the life of the fleet.

4. TECHNICAL OFFERING

4.1. Vehicle

SCOA is proposing a two vehicle (semi-married pair) DMU comprising an A-car and B-car. The A-car and B-car are identical except that the A-car has a restroom and the B-car has a service bar. The vehicle design comprises modern design lines, providing an aesthetic, sleek looking DMU. A computer rendering of a DMU married pair is shown in Figure 8.

A bullet list of the vehicle's main features is provided below Figure 8. The first and most significant feature is that the vehicle is fully FRA compliant. No waivers will be required to operate this car. This is significant in that it reduces procurement time and eliminates the risks associated with obtaining an FRA waiver. Other significant features include those that go beyond the base requirements of the specification, including crash energy management (CEM), engines that can run on biodiesel fuel, and ADA access throughout the train. The CEM feature represents a highly desirable safety upgrade for passengers and crew because in the event of a crash, the end of the car will crush and absorb energy much like the "crush zone" of a car, preserving more of the occupied space than a conventional commuter car would. The biodiesel feature gives SMART the opportunity to utilize a renewable fuel source, an environmentally sound choice. Lastly, train-wide ADA access allows all passengers to utilize all amenities of the train regardless of which door they use to board. This is advantageous for both ambulatory and wheelchair passengers.

Figure 8 - SCOA Proposed DMU Rendering - Exterior

General features:

- Fully FRA compliant (no waivers required to operate)
- Aerodynamic nose
- Crash energy management (CEM) system
- Rear facing side cameras
- Four doors per married pair per side
- Large, tinted side windows
- Front and side facing destination signs
- EPA Tier 4 final compliant engine (exceeds current standards)
- Compatible with up to B20 biodiesel
- High-level entry (48 inches above-top-of-rail)
- 6 feet, 6 inch doorway height
- Meets all clearance requirements
- Color scheme can be customized to SMART's preference

Interior features (see Figures 9 through 12):

- 158 seats per married pair
- 4 wheelchair parking spaces (each with companion seating) per married pair
- 24 primary bicycle spaces per married pair
- 14 secondary bicycle spaces per married pair
- 16 work tables per married pair
- Luggage racks
- ADA restroom on A-car
- Service bar on B-car
- Convenience outlets
- Wi-Fi
- Reclining seats
- Security cameras
- Handholds for standees
- 7 feet, 3 inch ceiling height in center aisle
- ADA access throughout the train (no steps or narrow aisle ways)

Operating features:

- Full width cab (see Figure 13)
- PTC (Positive Train Control) equipped
- Automatic height control system
- All specified door safety systems offered
- Automatic couplers at both ends of each car type

Figure 9 - SCOA Proposed DMU Rendering - Interior

Figure 10 - SCOA Proposed DMU Rendering – Work Table

Figure 11 - SCOA Proposed DMU Rendering – Wheelchair Parking Area

Figure 12 - SCOA Proposed DMU Rendering – Service Bar

Figure 13 - SCOA Proposed DMU Rendering - Cab

General arrangement drawings of the A-car and B-car are shown in Figures 15 and 16 at the end of this report. As indicated, the A-car contains 79 seats, two wheelchair spaces, a restroom, eight work tables, nine large windows on the right side and seven large windows on the left side, two 51-inch wide doors per side, 12 primary bicycle spaces and 7 secondary bicycle spaces. 22 flip-up seats occupy the same space as the bicycle spaces so that when not occupied by bicycles, passengers can sit there. The secondary bicycle spaces are located at the wheelchair parking area where ADA passengers would have priority over bicycles or other passengers. The B-car arrangement is identical to the A-car except that there is a service bar in place of the restroom. As an added feature, seat tapping plates will be installed beneath the service bar so that seats can be installed in its stead if SMART ever wishes to do so.

Optionally, a third car type, a powered C-car with a flat nose and an operator's cab is proposed. This C-car can be used as a lead or trail car in a two-car consist, or as a center car in a three-car consist. It is also possible to automatically couple two or three-car DMU consists to form a maximum six car train. Any two-car combination can be operated (A-B, A-C, B-C, A-A etc.) for maximum operational flexibility. Moreover, A, B and C-cars may be operated as standalone

units for yard operation. The C-car is not part of the base order, but is offered as an option for future procurement. A general arrangement of the C-car is shown in Figure 17 at the end of this report.

SCOA took no exception to the SMART technical specification; they propose to meet all of the requirements of the specification. Some minor specification non-conformances were found in their proposal, but these have been reviewed with SCOA and deemed acceptable by the technical review team.

4.2. Proposer

The SCOA team is a partnership between Sumitomo Corporation of America and Nippon Sharyo. Sumitomo is primarily the financial partner. Nippon Sharyo is the carbuilder. These firms have teamed on multiple projects in the United States, as described below.

SCOA has extensive experience in the development, design and delivery of railcars in the United States in compliance with the regulations, standards and accepted practices of the US railcar industry. SCOA was the only proposer to have previously delivered FRA-compliant commuter vehicles in the USA. Their experience encompasses a total fleet of 886 passenger rail cars delivered to seven US transportation authorities for 17 projects. Those authorities include Caltrain, VRE (Virginia), NICTD (Indiana), Metra (Chicago), Maryland DOT, Caltrans and LA County. SCOA's track record of delivering cars on time to these authorities is well known within the US rail industry. In addition, SCOA and Nippon Sharyo both have commercial and technical resources located in the US and they are known to be fair and responsive in their dealings with US transit authorities.

The SCOA Team, because of Nippon Sharyo's overseas experience, has significant experience and expertise in the design, engineering, production and delivery of DMU vehicles. Nippon Sharyo has delivered a total of 302 DMUs to 12 different clients in four countries. The total Nippon Sharyo DMU fleet comprises 18 different designs. The SCOA Team possesses a group of engineers and designers with considerable DMU and EMU experience.

Vehicle construction will take place in both Japan and the US. Construction of the car shells and initial assembly will take place at Nippon Sharyo's manufacturing plant in Toyokawa in south central Japan. Each car will then be transported to Nippon Sharyo's new manufacturing plant in Rochelle, Illinois, for final assembly. This method of assembly has been employed multiple times by Nippon Sharyo and other car builders and meets FTA Buy America requirements. As part of the contract, two pilot cars will be built. These cars will be fully assembled and tested in Japan and, to meet Buy America requirements, will be disassembled

and shipped to Rochelle for re-assembly and limited retesting. Nippon Sharyo has been manufacturing railcars in Toyokawa for many years. Products have included EMUs, DMUs and Shinkansen high speed trains. The Rochelle facility will open in early 2012 and its assembly personnel will have about one year and 38 cars of assembly experience prior to SMART car production. In addition, supervisors will be dispatched from Toyokawa to work in Rochelle and some US workers will be dispatched to Toyokawa for special training. Nippon Sharyo has implemented this type of manufacturing method in other US locations for several contracts, using subcontracted labor and buildings, each time training the subcontractor's employees. This new plant in Rochelle, Illinois, represents potentially the last time Nippon Sharyo will be required to train personnel, as this will be a permanent factory with Nippon Sharyo employees.

A draft schedule for production and delivery of the 18-car base order is shown in Figure 14. The schedule is based on the Notice to Proceed (NTP) given in February 2011. Based on this preliminary schedule, planning, design, material procurement and component testing would take place between NTP and the start of pilot car production. Pilot car production would start in August 2012 and both pilot cars would be delivered in October 2013. Production car assembly would start in March 2013 and the final car of the base order would be delivered in May 2014. Also shown is a schedule for 9 option cars, though this is purely hypothetical since execution of an option order is indefinite.

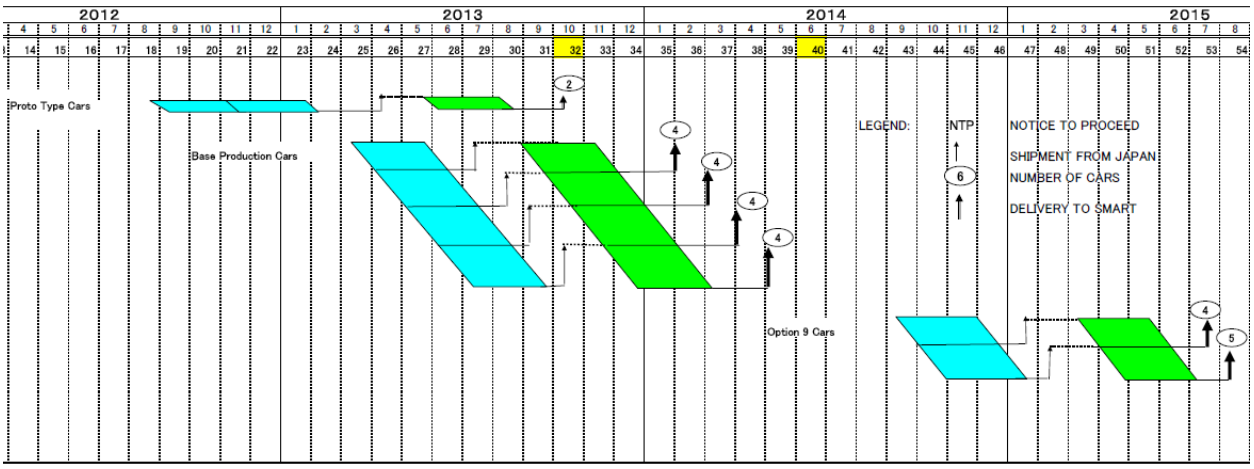

Figure 14 - Draft Production Schedule

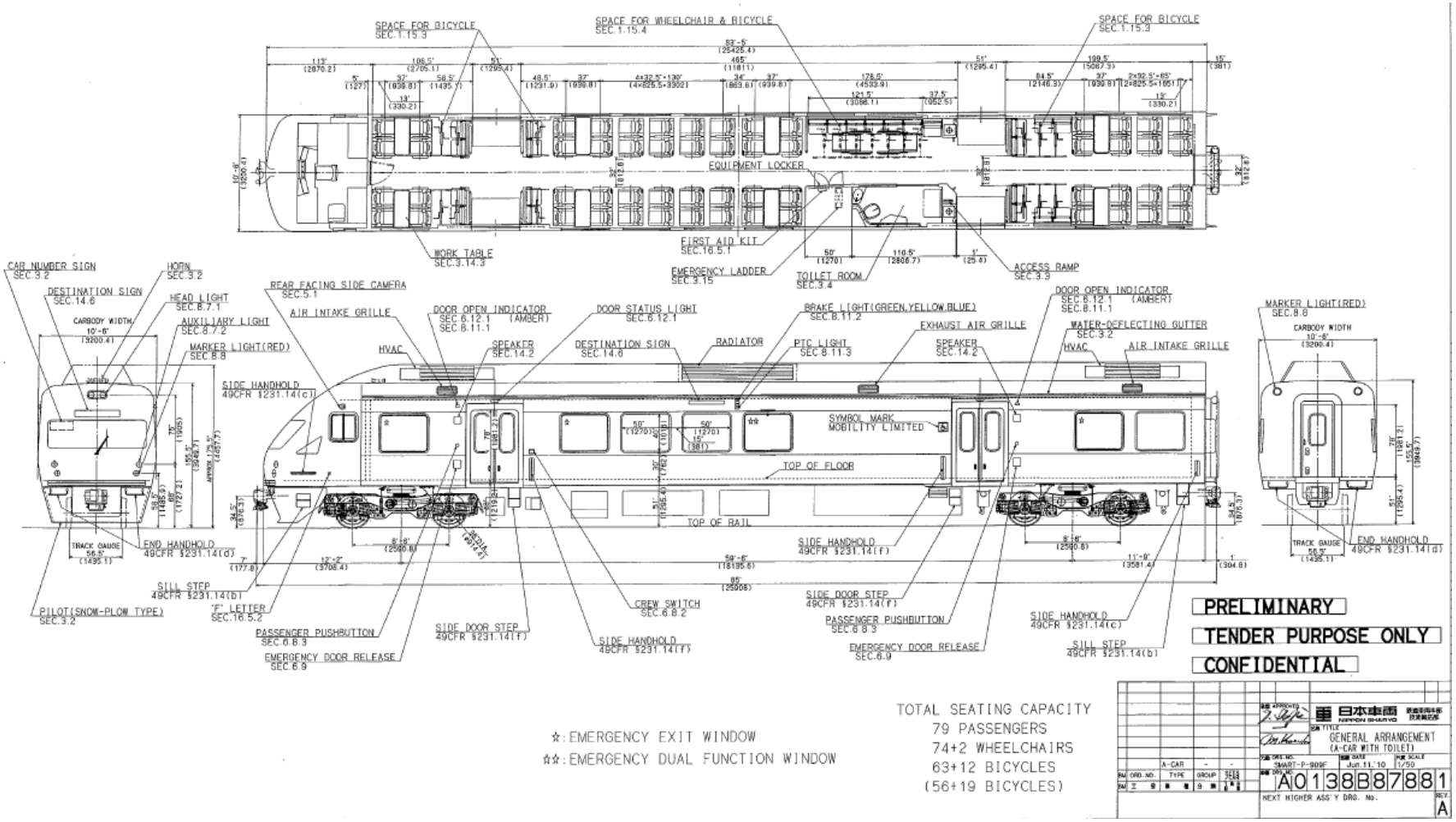

Figure 15 - Preliminary General Arrangement Drawing for A-car

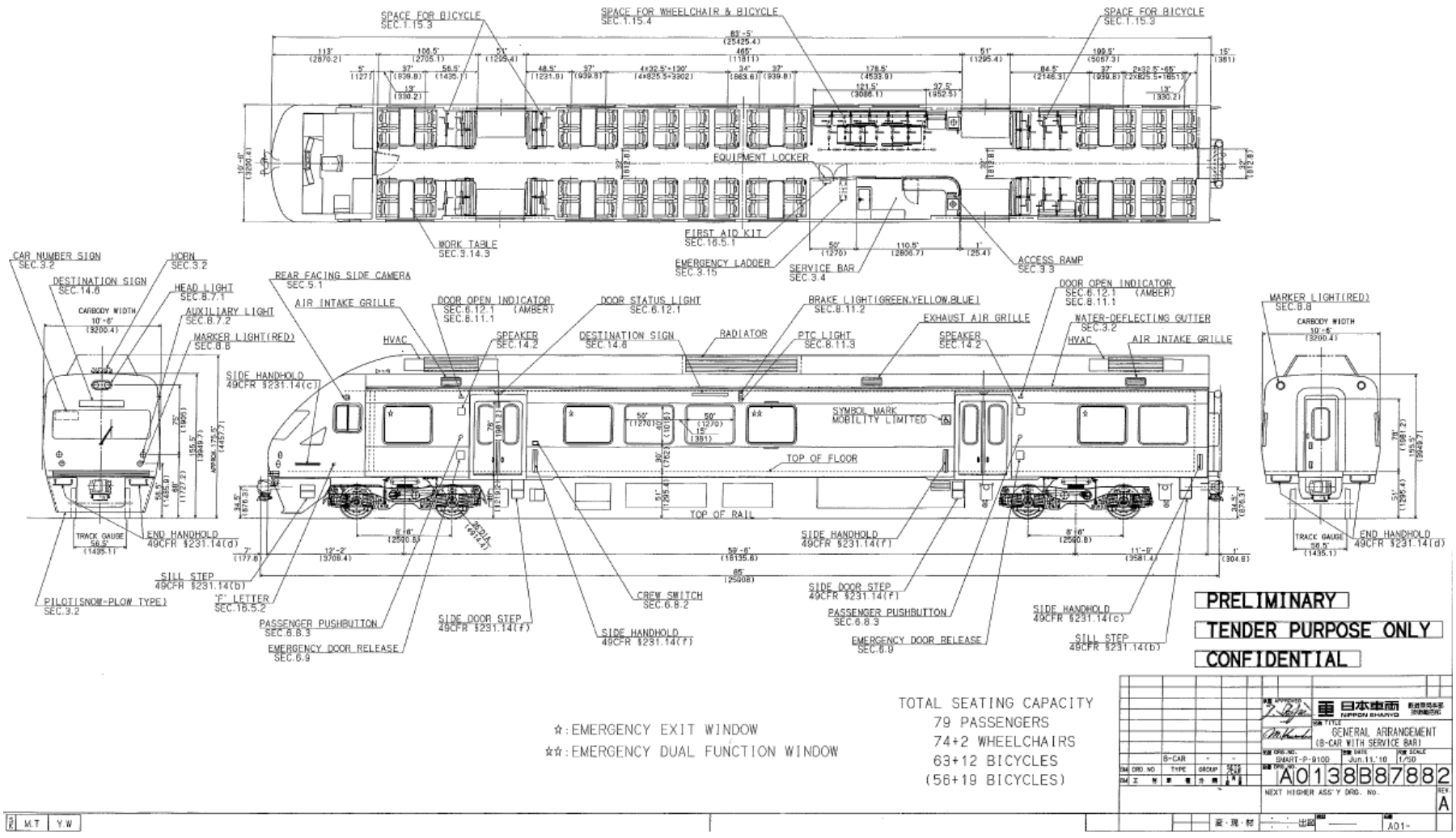

Figure 16 - Preliminary General Arrangement Drawing for a B-car

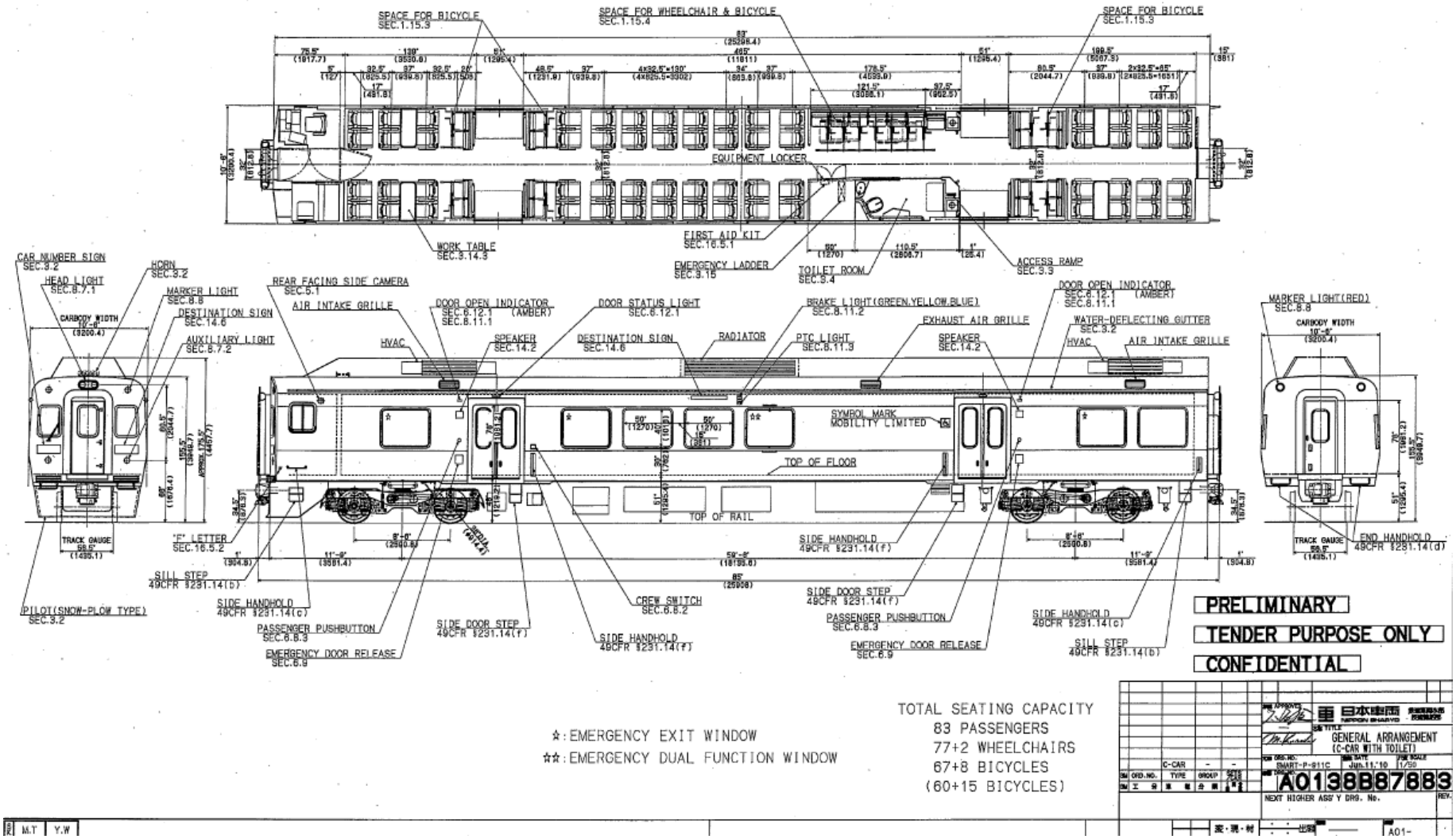

Figure 17 - Preliminary General Arrangement Drawing for a C-car