

SOUTHERN CALIFORNIA RAPID TRANSIT DISTRICT

MINUTES/PROCEEDINGS

Special Rapid Transit committee Meeting

District Board Room
425 South Main Street
Los Angeles

September 21, 1989

Called to order at 10:12 a.m. by Chairman, Marvin L. Holen:

Directors Present

Marvin L. Holen, Chairman
Joseph S. Dunning, Vice Chairman
Nick Patsaouras
Gordana Swanson
Kenneth R. Thomas

Director Absent

Jay B. Price

1. Review and consider High-Point Schaer MOS-1 cost projection report.

General Manager Alan Pegg reported receipt of the independent High-Point Schaer Report which indicates an estimated cost to complete MOS-1 of \$47 to \$93 million over the full funding contract amount.

Jeff Christiansen, Director of Program Control, gave a brief explanation of High-Point Schaer's scope of work and the methodology used in developing their estimated cost at completion.

Board President, Gordana Swanson, inquired of Bill Rhine what the first step would be for his staff in the way of cost reduction. His response was that they were prioritizing and developing a timetable for cost reduction strategies with resolution of claims, streamlining delegations of authority, and acceleration of Contracts A165 and A145 at the top of their list. A progress report will be given to the Board at the first Board meeting in October.

It was pointed out that the District did its own careful internal review and developed cost reduction strategies which have been, in part, implemented for over a year.

A letter from Neil Peterson to Alan Pegg was received announcing a meeting of the MOS-1 Cost Reduction Panel scheduled for the afternoon of September 21 at the Commission with the same agenda as this meeting. Director Holen questioned the need for the second meeting on the same day with the exact same agenda. Neil Peterson responded that even though the agenda language is the same the meeting was supposed to be to receive the District's response to the Khazak Quick Response Team report.

2. Receive comment and review LACTC's MOS-1 "Action Plan".

Staff reviewed and commented on the Quick Response Team Action Plan to improve Metro Rail MOS-1 Project prepared by Vladimir Khazak of LACTC.

The Action Plan and correspondingly numbered staff responses are attached as Exhibits 1 and 2.

3. Public Comment

Adjourned at 12:33 p.m.


Recording Secretary

Quick Response Team

(QRT)

Action Plan

to improve Metro Rail MOS-1 Project.

Prepared by
Vladimir Khazak
August 17, 1989

QUICK RESPONSE TEAM

Action Plan to Improve Metro Rail MOS-1 Project

I. Introduction

On July 26, 1989 Deloitte/Kellogg Joint Venture (DKJV) presented to the Los Angeles County Transportation Commission a "Report on a Review of the Financial Disposition and Schedule of the Metro Rail MOS-1 Project."

At the same time, the Technical Advisory Group, comprised of leading experts in the transit and construction management industry, issued their "recommendations" for cost reduction on the MOS-1 project.

On July 27, 1989, the Southern California Rapid Transit District issued a "Preliminary Draft Report Metro Rail line project estimate assessment."

The above listed documents clearly indicated that at 35% completion stage, the MOS-1 project already is projected to be from \$102,000,000 to \$135,000,000 over budget and from 9 to 14 months behind schedule. It's believed by most of the parties involved in the project delivery, evaluation and audit that if steps for the project improvement are not taken now, project budget will increase substantially higher of presently projected.

Such conclusions of independently performed project reviews raised concerns of all parties involved in transit projects in Los Angeles County and, therefore, required immediate actions.

LACTC Executive Director Neil Peterson, in his presentation to the LACTC Board on July 26, 1989, requested the formation of a Cost Reduction Panel for the MOS-1 project and directed to establish a Quick Response Team as one of the tools to assist RTD project management staff in implementation of project improvement recommendations.

II. Problem Identification

Four major areas were identified as problems negatively affecting the MOS-1 project.

1. Counterproductive management structure
2. Nonresponsive contract management practices
3. Schedule delays
4. Problems of Stage II and system contracts delays and coordination

III. Action Plan

A. Management

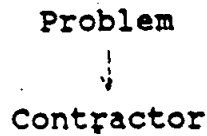
Presently, there are approximately 120 people in the RTD Transit Development department staff, 190 people in PDCD staff and MRTC support staff involved in the MOS-1 project management.

In addition, there are people from the Office of Contracts, Purchasing and Materials (OCPM) department that are involved in contract interpretation and management. Figure 1 presented below illustrates the

complexity of the decision-making process in presently employed management organization.

Figure 1

PROBLEM RESOLUTION MOS-1



Authority	Parties Involved in Resolution		
\$0	Inspector PDCD		
\$0	Resident Eng. PDCD		
\$10,000	Project Eng. SCRTD TSD	Construct. Admin. SCRTD OCPM	Design Eng. MRTC
\$25,000	Constr. Manager SCRTD TSD	D - T Head SCRTD OCPM	Project Director MRTC
\$50,000	Assistant General Manager TSD	Assistant General Manager OCPM	Principles MRTC
\$100,000	GENERAL MANAGER SCRTD		
Over \$100,000	BOARD		

The following is the first steps of recommended organizational improvements:

1. . To simplify the management structure of SCRTD project team by eliminating duplicate functions of agency staff, consultants and subconsultants.
 2. . Reduce total full-time employees in agency and consultants involved in MOS-1 project from 310+ people to 240 as of January 1, 1990.
 - 3 . Establish matrix organization with two major line functions such as design management and construction management. These two departments shall be supported by the Project Control department which assigns staff to the specific contracts and areas; purchasing and procurement; public relations; real estate and other RTD departments as needed.
- . \$15,000,000 to \$20,000,000 saving in staff and consultants cost will be realized by the elimination of 70 full-time, presently filled positions, and placing a freeze on future hiring. (Estimate based on 3.5 years duration and \$30 per hour cost.)

B. Management Practice

The SCRTD management team is not responsive to the changes in contracted work. According to RTD's analysis of pending changes and claims as of March 1989, there are 519 outstanding potential contractual changes. Response time to resolve contract changes is unacceptable. To correct the existing situation, the following is recommended:

4. 1. Full authority to execute construction and procurement contracts shall be vested in the Transit System Development Department.
5. 2. Transit System Development Department shall, utilizing consultants and own staff, establish clear responsibility on the level of construction managers/supervisory resident engineers for quality, timely and cost effective contract work.
6. TSD shall delegate actual and implied authority to the construction managers/supervisory resident engineers that is commensurate with responsibility assigned.
To ensure checks and balances in the management organization, the Project Control group shall assign staff to the field offices to support contractual activity. In addition, the quality assurance group shall be activated as a part of the Project Control group.
9. 3. Engineering/Design staff shall be directly included in construction management operation.
10. 4. Response to field needs shall be the driving force of organizational efforts.
11. 5. Establish a proactive management approach. Act do not react.
12. 6. Pay on time.
13. 7. Settle issues as they occur.
14. 8. Control "scope creep."

15.

9. Manage contract firmly but fairly.

Implementation of the above listed recommendations for management of awarded contracts will result in the minimum savings of 5% to 10% or \$3,100,000 - \$6,200,000 of the amount of potential changes, claims and unbooked contract changes. (Estimate based on 10% interest; 15% administration and legal costs and response time improvement by 30% for payment and substantially for technical responses.)

16.

c. Schedule Delays

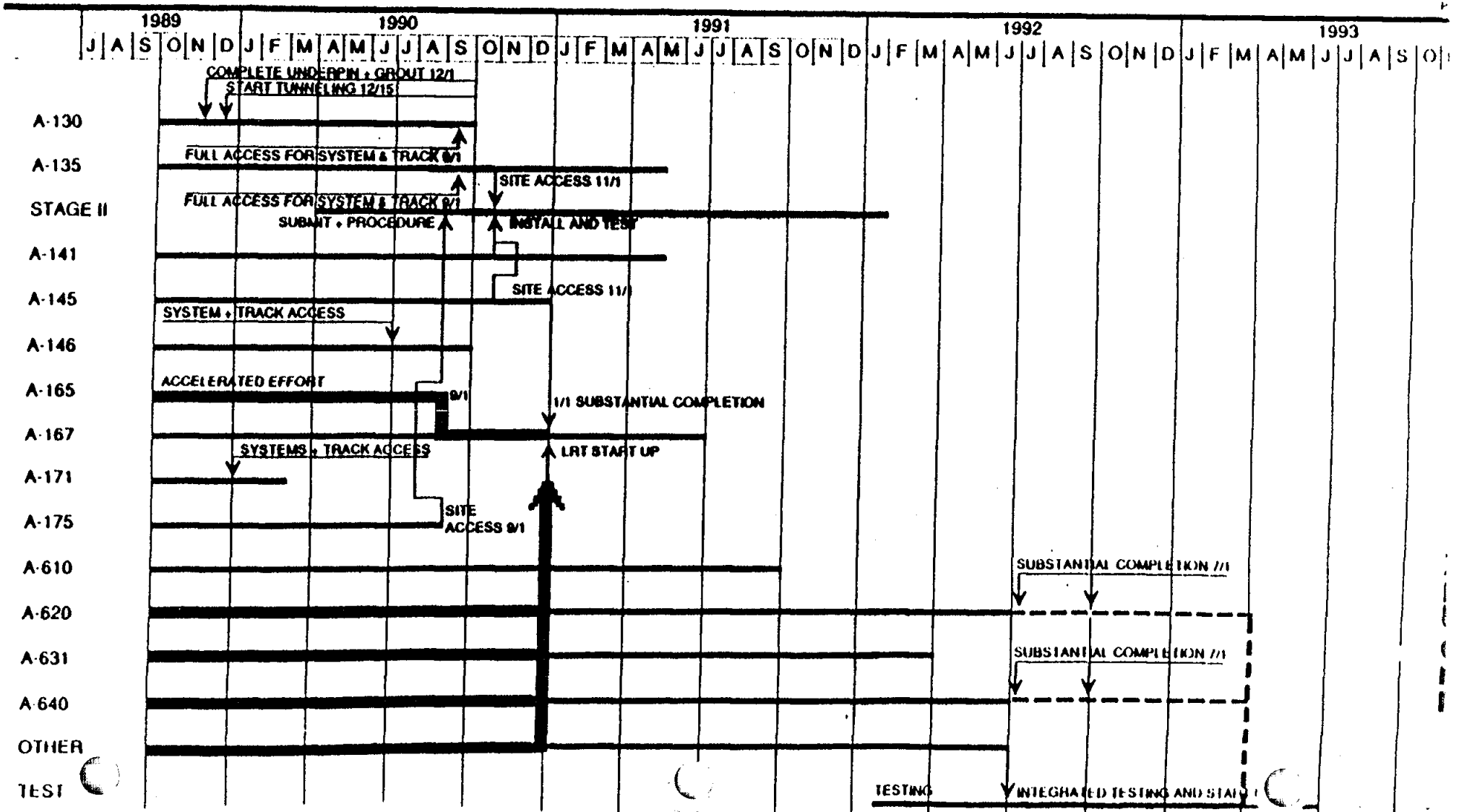
According to the latest revisions of the MOS-1 project schedule, Revenue Operation Date (ROD) is in September 1993. This date is nine months later than was previously approved.

DKJV's estimates that ROD will be delayed further by 3 to 4 months and actually the facility will be placed in operation in January 1994.

RTD's report of July 27 estimates ROD in September 1993 as probable and in March 1994 as pessimistic.

Schedule delays are increasing construction costs by \$20,000,000 to \$25,000,000 depending on methodology of estimating.

The schedule illustrated by Figure 2 below establishes a goal to reverse the trend of contract completion delays. This schedule is moving ROD from September 1993/January 1994 to April 1, 1993/July 1, 1993, or up by 6 months. Improvement in project schedule will result



in potential savings of \$10,000,000 to \$13,000,000.

Recommendations listed below, by construction contracts, will place the project on the proposed schedule:

17. 1. Contract A-130

- A.** 1.1 To direct contractor and ensure that tunneling work is started not later than December 15, 1989.
- B.** 1.2 Underpinning work for busway bent shall be completed to allow tunneling work by December 1, 1989. Constructive acceleration, if needed, shall be utilized to insure timely completion.
- C.** 1.3 Horizontal grouting under Santa Ana freeway shall be completed before the tunneling not later than December 1, 1989.
- D.** 1.4 Recognizing experimental nature of horizontal chemical grouting as design, develop and have on stand-by alternative allowing to proceed with tunneling operation.
- E.** 1.5 Develop and approve stand by plan for dealing with contaminated soils and water.
- F.** 1.6 Based on drilling for chemical grouting, reclassify tunnel to potentially gasey.

18 2. Contract A-135

- A.** 2.1 Accelerate excavation work

- B. 2.2 Accelerate tieback work
- C. 2.3 Poor mezzanine and roof structure in 6000 psi concrete for better placement and early stripping
- d. 2.4 Investigate alternative shoring for mezzanine and roof structure to allow early access
- E. 2.5 Delay track access to station to September 1990 and Stage II contract November 1990
- F. 2.6 Investigate procurement strategy for western entrance to avoid A-135 delays and potential cost increases

19. 3. Contracts A141; A145; A-146; A-171

- A. 3.1 Investigate possibility utilizing control density fill for the station backfill
- B. 3.2 Review specified stripping time and concrete mix design in the effort to increase concrete placement productivity
- C. 3.3 Investigate return on the constructive acceleration of work for contract A-145.
- d. 3.4 Study possibility deleting some work from A-145 with transfer to separate contract.

20. 4. Contract A-165

- A. 4.1 Order constructive acceleration to meet

originally planned LRT start up date of December 1990. Specify two 10 hour shifts operation with as needed Saturday work.

B. 4.2 Investigate change in concrete mix design to allow early street removal during slab placement.

C. 4.3 Change mix design for mezzanine and roof pour to increase form rotation.

d. 4.4 Utilize control density fill for the station and street backfill.

E. 4.5 Establish new milestone for the Stage II and system contract access as follows:

- . Flower Street South - October 1989
- . Flower Street North - November 1989
- . Roosevelt Building entrance - February 1990
- . Box of the station complete including traction power and communication and control rooms - March 1990
- . Complete contract - August 1990

21. 5. Contract A-175

A. 5.1 Consider delaying tunnel access shaft closure for use by Stage II and system contractors

22. 6. Contract A-610

A. 6.1 Delete rail installation portion from contract or, if economically feasible, renegotiate contract schedule.

B. 6.2 Rebid rail installation contract.

23. 7. Contract A-640

A. 7.1 Implement Value Engineering in regard to contract scope.

24. 8. Testing and Start-up

A. 8.1 Develop testing and start-up programs with duration not exceeding 9 months.

Recommended schedule improvements could increase cost of the project by \$5,000,000 to \$10,000,000.

25. D. Stage II and System Contracts

The following actions are recommended to reduce project costs and avoid risk of contractual nonperformance.

A. 1. Combine completion of Stage II contracts for A-135; A-141; A-145 and A-175 as one single contract.

B. 2. Consider separate procurement of some architectural finishes which are single source supplied.

C. 3. Establish \$75,000,000 - \$77,000,000 not to exceed budget including 10% contingency for unawarded

contracts, and employ Value Engineering, if needed, to meet established budget per engineer's estimates.

26. 4. Bid job as early as possible and reject all bids if they exceed the budget. Follow-up with Value Engineering again, if needed.

27. 5. Consider deletion of SCADA from A-640, and assign this work to LACTC contractor.

28. Recommendations, as listed above could produce potential savings as follows:

- o Stage II contracts - \$7,000,000 to \$11,000,000
- o Systems contracts - up to \$2,000,000

IV. SUMMARY

A. Cost Summary

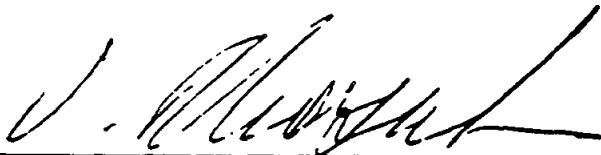
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|---|---------------|
| 1. Improve management structure | \$15M - \$20M |
| 2. Improve management practice and responsiveness | 3M - 6M |
| 3. Improve project schedule | 10M - 13M |

4.	Possible cost of schedule improvements	<5M> - <7M>
5.	Repackage Stage II contracts	8M - 11M
6.	Value Engineering and deletion of SCADA if cost-effective	<u>2M - 2M</u>
	Total:	\$33M - \$45M

B. Schedule Summary

1. Put the best effort to maintain originally established date for LRT/Metro Rail at 7th and Flower Street Station interface.
2. Establish goal to improve presently projected ROD date by 6 months.

Prepared by:



Vladimir Khazak
August 17, 1989

SPECIAL RAPID TRANSIT COMMITTEE MEETING

AGENDA ITEM 2

RESPONSES TO QUICK RESPONSE TEAM ACTION PLAN

TO IMPROVE METRO RAIL MOS-1 PROJECT

1. No specific areas of duplication of management have been found. We will continue to investigate.
2. Who are these people and what work are they doing. We are looking at staff reductions in our agency and in the consultant's staff, but we cannot adopt these arbitrary figures.
3. This is essentially how we are aligned today, but we are looking at realignment of the Metro Rail System, and this recommendation will be considered.
4. We could allow OCPM to release contracts; however, we do not see an immediate benefit from this change.
5. These are nice words. No specific instances were given to point out where this is not being done.
6. We are looking at possible changes in authority and the Board will be advised in the near future of our recommendations.
7. This has been in effect for over a year now, and it has been very beneficial.
8. We don't want to encumber Program Control with another function.
9. We do involve the designers in questions regarding design.
10. We strongly believe this ourselves. We emphasize it frequently.
11. Sometimes we must react. Our schedule actions in the future will show a more pro-active stance than in the past.
12. In most cases we beat the allotted 30 days. We do withhold because of contractors' non-compliance to the contract or because of stop orders.
13. On change orders and claims we are slow because of lack of proper documentation from the contractors. We are approaching negotiated settlements on a number of the larger ones.

14. Change Control Board is not responsible for any delay in the process that we have established. We are looking for further streamlining improvements to the program.
15. We know we have been firm, but we have been accused of not being fair. Again documentation is lacking from the contractors. We have established a Change Review Board Panel to make sure that claims are prioritized and handled effectively. We are beginning to see some improvement in identification of areas that need improvement. We expect savings over the life of the project because of these cost reduction changes, but we cannot validate Mr. Khazak's numbers.
16. We can't validate Mr. Khazak's estimate on this item. We feel some acceleration of "ROD" may be possible. We may be able to move it up, but it would be only a couple of months at best and could result in a cost increase. We don't anticipate pursuit of this as a viable alternative. We are checking into moving up the "ROD" date and cost for same. Report will be brought back to the Board in 6 to 8 weeks.
- 17a. January 25, 1990 is the contractor's current projected starting date for tunneling.
 - b. Constructive acceleration has taken place on this contract. It took months to get approval of the plans because of the alignment change, but we feel we can meet this date (Dec. 1)
 - c. With regard to accelerating this date, we cannot meet Dec. 1 but should not be much beyond that.
 - d. Back-up plan is to reinforce areas around the tunnel face. We have done this already.
 - e. Looking at a plan for dealing with contaminated water.
 - f. Need a determination from OSHA in order to do this. Little or no cost benefit to the reclassification of that tunnel because it is so short.
- 18a. Still ahead of schedule.
 - b. We have done this to the maximum extent possible.
 - c. Strength is not the only factor. We are looking into what is required for early stripping.
 - d. We have agreed to that and the contractor has submitted a plan for such access.
 - e. Currently looking at A135 schedule changes.

- f. Western entrance will be a part of the A136 contract. It will be broken out.
- 19a. If you mean place and compact, this is being done.
- b. High early strength type 3 cement which will allow for early stripping.
 - c. We have an acceleration plan and will be bringing request for approval of acceleration to the Board in the near future.
 - d. Not a feasible subject at the present time. Cost we feel would increase and perhaps cause a delay if we were to go out for a separate contract.
- 20a. We do not feel it is feasible to meet this date and have not felt so for the last two years. We are looking at constructive acceleration so that the LRT people can get in as early as possible.
- b. Using high early strength cement to allow for early stripping.
- c&d. Place and compact is what we intent to do.
- e. Requires a detailed evaluation of schedule.
21. LACTC declined to finance that acceleration a year ago. Now they are asking for that acceleration.
- a. No benefit to the recommendation -- would not help schedule.
- 22a. We are in the process of re-negotiating the contract schedule.
- b. Do not want to re-bid rail.
- 23a. No way. Either QA or safety would suffer.
- 24a. Controlled by Systems Activities. Reducing the level of testing and start-up would not be prudent at this point. This is the crucial period for start up. If this were an add-on, having gone through the system previously, we could live with a shorter time. But not the first time through.
- 25a. Stage II access dates range over a wide period of time. May not have enough bid time to meet the earliest dates if we roll all these into one contract.
- b. Asking OCPM to look into this recommendation.
 - c. 25 - 27 contracts to be awarded. \$3 million each is not enough.
26. Little time for rebidding. Sufficient time does not remain to do this.

27. Not practical. SCADA systems are not that similar to the one for light rail. We are too far along to re-bid this item.
28. Again, we can not evaluate the validity of these projected savings.

Schedule Summary

We need commitment on the part of LACTC to fund the acceleration costs incurred.

We are not sure that this is a reasonable or desirable goal. We are examining it, but we don't necessarily believe that it is feasible or cost effective. We will report to the Board on what we can do to improve the projected "ROD" date.