



Special Project Report #2

RSSIMS Bulk Record
Update Project
#8660-073

September 8, 2023



# **VERSION HISTORY**

Version #	Date	Author	Key Differences
1.0	9/8/2023	Dennis Hong	Initial Draft



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# 1 Information Technology Project Summary Package

## 1.1 Section A: Executive Summary

1.	Submittal Date 9/18/2023							
2.	Type of Document SPR PSP ONL	Other: Enter a description if you	selected Other					
	Project Number: 8660-073							
3.	. Project Title Rail Safety & Security Information Management System Bulk Record Update							
	Project Acronym	F	Stimated Project Dates					
	RSSIMS Bulk Update	S	Start: 10/1/2021	End: 2/11/2025				
4.	Submitting Agency/state entity California Public Utilities Commission	1						
5.	Reporting Agency/state entity California Public Utilities Commission	1						

#### 6. Project Objectives

#### **Objective 1:**

Reduce the data entry workload for engineers when updating railroad crossing records in the RSSIMS database by providing bulk record update processing to the exiting RSSIMS system for updating basic information on the railroad crossing records.

Example: Allow an entire railroad line to be bulk updated with train count information, a railroad corridor may have 10 to 100 crossings that all need the same updates. Now these crossings are being updated one at a time. Similar updates may be appropriate in the future for railroad bridge records.



#### Objective 2:

Improve engineering productivity by providing RSSIMS functionality to bulk process current RSSIMS records in order to perform hazard analysis/risk assessment and enable a larger number of records (e.g., 1,000+ records) to be selected for simultaneous processing through the Hazard Assessment calculation process. An automated process would provide greater consistency to help ensure that a calculation is run for all selected records with the most recent data. Similar functionality is generally needed throughout RSSIMS where a group of records meeting selection criteria receive formula driven updates to any number of data fields that are saved back to the RSSIMS database.

#### Objective 3:

Improve engineer productivity by simplifying the process and reducing time needed to upload and link supporting documents to multiple data records at one time. This would be helpful for various RSSIMS record types. Enable multiple supporting files for a single record or a group of records to be uploaded as a single process rather than how is currently being done, one file at a time. Uploading one file at a time requires the user to constantly monitor the screen to confirm completion of one upload, then specify the next file. Much of this time could be used for other tasks if the upload of multiple files is being handled by the application in the background.

#### **Objective 4:**

Develop a data management capability for users to identify multiple crossing records to be updated with the same data in a bulk processing mode. For example: Select all records whose DataField "X" is equal to "Value A (or Null)" and set DataField "X" to value = "0 (zero)." This same functionality should support loading the initial, default value for new data fields added to RSSIMS record types.

#### 7. Proposed Solutions

The proposed solution for RSSIMS is to develop a custom 3-tier software system that is cloud-based. The system will consist of a User Interface tier, an Application Logic tier, and a Database tier residing on a Government Cloud environment. This system will satisfy all business and technical requirements through technology mostly supported by an external vendor. Some tasks such as basic configuration, report development, and user management will be supported by CPUC staff. Infrastructure, disaster recovery, software updates, detailed configuration/customization and advanced help desk support will be managed by the system vendor.



8.	Major Milestones	Estimated Completion Date
	Project Start	10/1/2021
	Project Initiation	10/1/2021
	Project Planning & Analysis	2/29/2024
	System Design	12/8/2023
	System Test Scripts	12/22/2023
	Development for RSSIMS Integration	2/14/2024
	Legacy Data Migration	1/15/2024
	Testing	1/5/2024
	Deployment	2/13/2024
	Technical Knowledge Transfer	9/24/24
	Post Implementation Review	12/21/2023
	CPUC Staff Training	12/1/2023
	User Manuals	1/15/2024
	Warranty	2/11/2025
	System Maintenance & Operations Support	2/11/2025
	Organization Change Management	2/13/2024
	Change Request #3 (ArcGIS Mapping Solution)	5/2/2024

#### Key Deliverables Estimated Completion Date

Baseline Report	12/17/2021
Project Schedule	9/1/2023
Work Breakdown Structure	12/15/2021
Implementation/Deployment Plan	6/1/2023
Test Plan	6/2/2023
Training Plan	9/22/2023
Knowledge Transfer Plan	9/27/2023
Data Migration & Specification Plan	3/10/2023
Service Level Management Plan	1/11/2024
Maintenance & Operations Plan	1/11/2024



Disaster Recovery Plan	12/28/2023
Configuration Management & Version Control	8/31/2022
Test Scripts	12/22/2023
Sprint 1	9/30/2022
Sprint 2	10/31/2022
Sprint 3	11/30/2022
Sprint 4	1/6/2023
Sprint 5	2/8/2023
Sprint 6	3/22/2023
Sprint 7 Prep	6/1/2023
Sprint 7	7/7/2023
Sprint 8 Prep	6/29/2023
Sprint 8	8/4/2023
Sprint 9 Prep	7/27/203
Sprint 9	9/4/2023
Sprint 10 & 11 Prep	8/29/2023
Sprint 10	10/2/2023
Sprint 11	11/13/2023
Administrative Hands-On Training	2/14/2024
Migrate Data	1/15/2024
System Test Validation	11/24/2023
User Acceptance Testing	1/5/2024
Transition Plan	1/4/2024
Release Plan	6/27/2023
Go Live	1/16/2024
Application Training	12/1/2023
User Manuals	1/15/2024

# **1.2** Section B: Project Contacts

Project #	8660-073
Doc Type	SPR

#### **Executive Contacts**

	First Name	Last Name	Area Code	Phone #	Ext.	Area Code	Fax #	E-mail
Executive Director	Rachael	Peterson	415	703-3808		415	703-1758	rachel.peterson@cpuc.ca.gov
<b>Budget Officer</b>	Harsh	Thakar	916	894-5629		916	894-5629	harsh.thakar@cpuc.ca.gov
CIO	Ryan	Dulin	916	894-5726				ryan.dulin@cpuc.ca.gov
сто	TBD							
Project Executive	S. Pat	Tsen	415	703-1216				s.pat.tsen@cpuc.ca.gov
Project Director	Roger	Clugston	213	308-7698				roger.clugston@cpuc.ca.gov
Project Sponsor	Anton	Garabetian	213	576-5778				antranig.garabetian@cpuc.ca.gov
<b>Project Sponsor</b>	Daren	Gilbert	916	928-6858				daren.gilbert@cpuc.ca.gov
<b>Project Sponsor</b>	Robert	Grimes	951	870-1565				robert.grimes@cpuc.ca.gov



## **Direct Contacts**

	First Name	Last Name	Area Code	Phone #	Ext.	Area Code	Fax#	E-mail
Document prepared by	Dennis	Hong	415	703-1724				dennis.hong@cpuc.ca.gov
Primary contact	Dennis	Hong	415	703-1724				dennis.hong@cpuc.ca.gov
Project Manager	Dennis	Hong	415	703-1724				dennis.hong@cpuc.ca.gov
Project Manager	Bree	Arnett	415	218-0743				bree.arnett@cpuc.ca.gov



#### Section C: Project Relevance To State And/Or Departmental Plans 1.3

The project meets a condition previously imposed by the Department of Technology.

1.3		seci	tion C: Project Relevance To State And/Or Depai	tmenta	ii Pians			
							Project #	8660-073
							Doc Type	SPR
Wha	at is tl	he da	ate of your current Technology Recovery Plan (TRP)?	Date	1/2020			
Wha (AIN		he da	ate of your current Agency Information Management Strategy	Date				
For t	the pi /or st	-						
Is th	-	ject 1	reportable to control agencies?					
If YE	S, CH	IECK :	all that apply:					
	]	a)	The project involves a budget action.					
	]	b)	A new system development or acquisition that is specifically required in budget control language or other legislation.	ired by leg	islative manda	te or is subject to sp	ecial legislative re	eview as specified
		c)	The estimated total development and acquisition costs exceed th threshold and the project does not meet the criteria of a desktop	-		•	• •	_
<b>—</b>								



## 1.4 Section D: Budget Information

Project #	8660-073
Doc Type	SPR

**Budget Augmentation Required?** 

☐ No ☐ Yes

If yes, indicate fiscal year(s) and associated amount:

FY	2021/22	FY	2022/23	FY		2023/24	FY		FY	
\$0		\$(-1,032,305)		\$2,016,641		\$		\$		

#### **Project Costs**

1.	Fiscal Year	2021/22	2022/23	2023/24	2024/25	TOTAL
2.	One-Time Cost	\$1,257,309	\$1,611,267	\$4,404,888	\$0	\$ 7,273,465
3.	Continuing Costs	\$0	\$0	\$0	\$747,944	\$ 747,944
4.	TOTAL PROJECT BUDGET	\$ 1,257,309	\$ 1,611,267	\$ 4,404,888	\$ 747,944	\$ 8,021,406

## **Project Financial Benefits**

5.	Cost Savings/Avoidances	\$	\$	\$	\$	\$
6.	Revenue Increase	<b>\$</b> 0	<b>\$</b> 0	<b>\$</b> 0	<b>\$</b> 0	\$0

## **Project Variance From PAL Stage 4 to SPR**

		Original	New Estimate	Variance
1.	Cost	\$10,094,689	\$11,028,141	+\$933,452
2.	Schedule	34 Months	38 Months	+4 months



## 1.5 Section E: Vendor Project Budget

Project #	8660-073
Doc Type	SPR

Vendor Cost for SPR Development (if applicable)	\$0
Vendor Name	Trinity Technology Group

#### **Vendor Project Budget**

1.	Fiscal Year	2021/22	2022/23	2023/24	TOTAL
2.	Primary Vendor Budget	\$231,541	\$333,420	\$2,315,472	\$2,880,433
3.	Independent Oversight Budget	\$16,500	\$36,726	\$82,264	\$135,490
4.	State Technology Procurement Divison (STPD)	\$0	\$1,200	\$2,400	\$3,600
5.	IV&V Budget	\$38,700	\$4,200	\$199,350	\$242,250
6.	Vendor Project Manager	\$155,480	\$179,469	\$150,811	\$485,760
7.	TOTAL VENDOR BUDGET	\$442,221	\$555,015	\$2,750,297	\$3,727,533

## **Primary Vendor History Specific to this Project**

7.	Primary Vendor	Trinity Technology Group
8.	Contract Start Date	9/16/2021
9.	Contract End Date (projected)	9/20/2024
10.	Amount	<b>\$</b> 3,222,932.60

## **Primary Vendor Contacts**

				Area			Area		
	Vendor	First Name	Last Name	Code	Phone #	Ext.	Code	Fax #	E-mail
11.	Trinity Technology Group	Randall	Duart						rduart@trinitytg.com
12.									
13.									



## 1.6 Section F: Risk Assessment Information

Project #	8660-073
Doc Type	SPR

#### **RISK ASSESSMENT**

	Has a Risk	<ul> <li>Management</li> </ul>	: Plan been	developed	I for this	project
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#### **General Comment(s)**

Preliminary risks for this project have been identified, captured, and discussed. The highest priority risks will be escalated as needed for resolution. The Preliminary Risk Management Plan is located on the project's SharePoint site. An updated Risk Register is attached. The Risk Management Plan will be updated on an ongoing basis. The project is using a risk process as documented in the approved Risk Management Plan. Those risks are identified, reviewed weekly, mitigated, and escalated as needed as described in the project Risk Management Plan.



## 2 Project Background

The California Public Utilities Commission (CPUC) regulates services and utilities, protects consumers, safeguards the environment, and assures Californians' access to safe and reliable utility infrastructure and services. The essential services regulated include electric, natural gas, telecommunications, water, railroad, rail transit, and passenger transportation companies.

Oversight of the railroad and rail transit systems falls under the Rail Safety Division (RSD). It consists of three branches: Rail Transit Safety Branch, Rail Crossings and Engineering Branch, and Railroad Operations Safety Branch. Each of the Branches has developed numerous business processes to meet the oversight needs. The data and workflows which stem from the business processes are currently stored in a database system which was developed and implemented in 2012.

The current database is reaching the end of its life and cannot be modified to support the changing business process needs. The most significant change is the addition of bulk processing features where RSD staff can update data on multiple records within a record type, create multiple new records in a batch process, run formulas across multiple records in a single action, or upload multiple attachments in one process step. This has been identified in order to significantly reduce the time spent on data entry and processing in the database. Improvements to the user interface and workflow will also make the system more user friendly and enhance staff productivity.

CPUC seeks a completely new system, built to modern industry standards that is reliable, efficient and meets our business needs. The new system needs to replicate and enhance on the functions of the current system to continue RSD's important safety work.



# 3 Project Schedule Change

## 3.1 Reasoning For Change

The adjustments to the project schedule are necessary to accommodate for several factors:

- 1. After onboarding a new implementation vendor project manager, changes to the project schedule without proper notification or documentation were made, leading to significant deviations from the SPR baseline schedule.
- 2. Repeated changes to the methodology and processes of the implementation plan by the implementation vendor led to significant delays and disagreements among project stakeholders.
- 3. Having no agreement on an implementation plan, project schedule, and test plan caused a 3-month development stoppage. This caused a significant deviation to the project schedule.
- 4. Change requests for additional data dictionary entries during design refinement through build added time and complexity to the project schedule.
- 5. Aligning the timing and strategy of the Knowledge Transfer and Training plans were a challenge.

There is no current work around. Adjusting the project schedule start dates is necessary for project coordination and reporting.

The following table shows the SPR1 approved dates.

Table 1

Task Name	▼ Baseline Start	
RSSIMS Implementation	Wed 9/22/2	1 Wed 10/16/24
	Fri 10/1/21	Wed 10/16/24
RSSIMS Project Initiation	Fri 10/1/21	Fri 12/17/21
RSSIMS Project Planning and Analysis	Fri 10/1/21	Wed 5/3/23
Delta 2 - Project Management	Fri 10/1/21	Wed 5/3/23
	Fri 10/1/21	Fri 8/18/23
▷ 3 - System Design	Fri 10/1/21	Wed 2/15/23
▶ 4 - System Test Scripts	Mon 4/4/22	Fri 8/18/23
■ RSSIMS System Development	Thu 5/19/22	Mon 11/6/23
▷ 5 - Development for RSSIMS Integration	Thu 5/19/22	Thu 6/29/23
♭ 6 - RSSIMS Legacy Data Migration	Mon 8/1/22	Fri 5/5/23
▶ 7 - Testing	Wed 5/31/23	Wed 9/6/23
▷ 8 - Deployment	Fri 10/28/22	Wed 10/18/23
9 - Post Implementation Review	Tue 9/19/23	Mon 11/6/23
RSSIMS Training, Maintenance and Operations Support	Mon 1/23/23	Wed 10/16/24
Do 10 - CPUC Staff Training	Mon 1/23/23	Tue 6/27/23
▶ 11 - User Manuals	Wed 2/1/23	Wed 9/20/23
▶ 12 - Warranty	Tue 5/2/23	Wed 10/16/24
▶ 13 - System Maintenance and Operations Support	Thu 6/29/23	Mon 10/14/24
▲ A-Organizational Change Management	Wed 9/22/21	Thu 2/29/24
DCM Kickoff Activities	Tue 11/23/21	Tue 2/8/22
OCM Assessment Activities	Wed 9/22/21	Thu 2/29/24
DOCM Communication Activities	Wed 2/9/22	Mon 9/4/23
DOCM Workshops	Tue 3/21/23	Tue 5/9/23
DOM Testing Activities	Wed 9/22/21	Mon 3/7/22
DOCM Training Activities	Tue 3/8/22	Tue 4/12/22
DOCM Go Live Activities	Wed 4/13/22	Tue 4/19/22
DCM Reinforcement Activities	Wed 4/20/22	Thu 10/26/23



The second table shows the new proposed dates.

Table 2

Task Name ▼	Start +	Finish 🔻
4 RSSIMS Implementation	Fri 10/1/21	Tue 2/11/25
△ RSSIMS Project Work	Fri 10/1/21	Tue 2/11/25
△ RSSIMS Project Initiation	Fri 10/1/21	Fri 12/17/21
▶ 1 - Baseline Report	Fri 10/1/21	Fri 12/17/21
■ RSSIMS Project Planning and Analysis	Fri 10/1/21	Thu 2/29/24
▷ 2 - Project Management	Fri 10/1/21	Thu 2/29/24
	Fri 10/1/21	Fri 12/22/23
▷ 3 - System Design	Fri 10/1/21	Fri 12/8/23
▶ 4 - System Test Scripts	Mon 4/4/22	Fri 12/22/23
■ RSSIMS System Development	Thu 5/19/22	Tue 9/24/24
▶ 5 - Development for RSSIMS Integration	Thu 5/19/22	Wed 2/14/24
♭ 6 - RSSIMS Legacy Data Migration	Mon 8/1/22	Mon 1/15/24
▶ 7 - Testing	Thu 9/7/23	Fri 1/5/24
▷ 8 - Deployment	Tue 11/1/22	Tue 9/24/24
▶ 9 - Post Implementation Review	Mon 1/22/24	Wed 3/6/24
RSSIMS Training, Maintenance and Operations Support	Fri 3/10/23	Tue 2/11/25
▶ 10 - CPUC Staff Training	Fri 3/10/23	Fri 12/1/23
▶ 11 - User Manuals	Fri 9/22/23	Mon 1/15/24
▶ 12 - Warranty	Mon 12/4/23	Tue 2/11/25
▶ 13 - System Maintenance and Operations Support	Mon 12/4/23	Tue 2/11/25
▶ 14 - Documentation Ad Hoc Updates	Thu 5/12/22	Tue 2/13/24
A-Organizational Change Management	Tue 11/23/21	Tue 3/19/24
DCM Kickoff Activities	Tue 11/23/21	Tue 2/8/22
DCM Assessment Activities	Tue 11/23/21	Wed 3/13/24
DOCM Communication Activities	Wed 2/9/22	Tue 2/27/24
▶ OCM Workshops	Mon 9/18/23	Fri 3/8/24
OCM Testing Activities	Mon 9/25/23	Fri 12/15/23
DOCM Training Activities	Mon 12/18/23	Fri 2/2/24
DOCM Go Live Activities	Mon 1/8/24	Mon 1/22/24
DOCM Reinforcement Activities	Tue 1/16/24	Tue 3/19/24
▷ 15 - Change Request #3 - GIS	Fri 6/30/23	Thu 5/2/24
■ Special Project Report #2 (SPR2)	Tue 9/12/23	Mon 10/30/23

## 3.2 Potential Impact\*

The potential cost impacts related to adjusting the schedule are:

- 1. Additional costs for hosting and storage. The contract includes costs for 15 months of hosting/storage for implementation. The risk is to TrinityTG who by contract absorbs any cost which is 5% above the contract amount (\$80,856 x 1.05 = \$84,899). Costs overages are deducted by CPUC from TrinityTG's invoices. This is an estimated increase of \$50,425. As of August 2023, the total running cost is at \$35,000.
- 2. Additional staff time costs by CPUC of \$749,982.
- 3. Additional license cost for Power BI of \$26,290.
- 4. Additional CPUC costs for extending M&O on the Legacy System up to \$95,000.
- 5. Additional flat rate of \$11,752 per month cost imposed for CDT oversight, estimated increase of \$29,336.



Specific cost impacts are CPUC direct cost. There are no changes to the solution implementation vendor, IV&V vendor, and Project Manager vendor contract costs. This change extends the deployment date by 4 months with the new deployment date of 1/16/24. Estimated schedule impact is adding 4 months (going from 34 months to 38 months). Contract Amendment #1 adjusted the contract end date to September 20, 2024. So, a contract amendment for time is not proposed as part of this change request but is anticipated to be done once M&O starts to align with the M&O period. The project team also understands that there will be increased risk of resource changes due to the extended project time. The mitigation is to have clear documentation so onboarding new resources can be expedited and to establish a resource contingency plan.

\*Please see SPR FAW cell A24 for additional details.



# 4 Financial Analysis Worksheet (FAW)

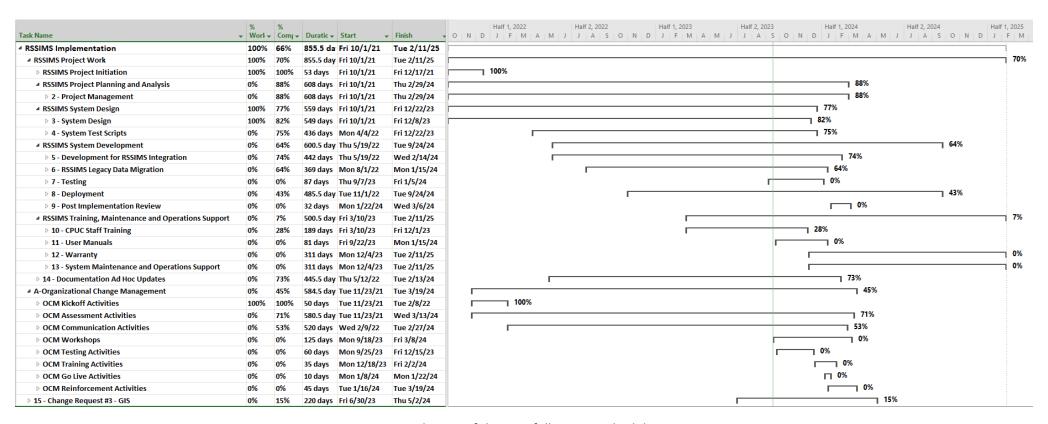
Summary	_	je Current ions Costs	Project Costs (During Project)							Average Future Operations Costs (After Project)		Change in Operations Costs		
Proposed Alternative 1	(Before Project) (A)		FY	2021/22	FY	2022/23	FY	FY 2023/24	Total One-Time (Project) Costs		(Alter Project) (B)		(B-A)	
RSSIMS rebuild (include Bulk Record	Positions	Dollars	Positions	Dollars	Positions	Dollars	Positions	Dollars	Positions	Dollars	Positions	Dollars	Positions	Dollars
Total Project Costs	,		•									'		
Total Personal Services Expenditures	1.0	\$141,138	4.0	\$719,388	5.2	\$900,681	6.0	\$1,042,892	15.1	\$2,662,961	0.6	\$94,510	-0.4	-\$46,628
Total OE&E Expenditures		\$691,709		\$537,921		\$710,586		\$3,361,997		\$4,610,504		\$324,045		-\$367,664
Total Local Assistance		\$0		\$0		\$0		\$0		\$0		\$0		\$0
Total Costs	1.0	\$832,847	4.0	\$1,257,309	5.2	\$1,611,267	6.0	\$4,404,888	15.1	\$7,273,465	0.6	\$418,554	-0.4	-\$414,293
Annual Savings/Revenue Adjustments														
Cost Savings									11.5	\$4,545,877		TOTAL PROJECT CO One-Time + Total Fut		
Cost Avoidances/Increased Revenues									0.0	\$0		Planning Costs	\$3,006,7	32
Net Cost (+) or Benefit (-)										\$4,545,877	One-Time	(Project) Costs	\$7,273,4	85
Cum. Net Cost (+) or Benefit (-)										\$4,545,877	Total Fut. Ops. IT Stat	ff & OE&E Costs	\$747,94	4
												TOTAL:	\$11,028,1	.41
Annual Future Operations Costs (M&O) Annual Fut. Ops. Costs (M&O): \$466,084						4								
Simple Return on Investment - (Future Costs Compared to Current Costs)										20.10%	=% of Current Costs (Decreas	sed)		

Attachment of the full FAW.





# 5 Project Schedule



Attachment of the new full project schedule.





# **6 Current Project Status**

Overall Current Project Expenditures				
Expenditure	Planned	Actuals		
Staff	\$3,834,454	\$1,116,514		
Contractors	\$4,329,988	\$721,545		
Licenses	\$436,656	\$36,087		
Other	\$180,000	\$0		

**Last Project Report Status** 





# 7 Special Project Report Transmittal





# Executive Approval Transmittal IT Accessibility Certification

#### Yes or No

			_
Yes	•	The Proposed Project Meets Government Code 7405 / Section 508 Requirements and no exceptions apply.	

#### **Exceptions Not Requiring Alternative Means of Access**

=xooptions not requiring rate means or record					
Yes or No		Accessibility Exception Justification			
No	•	The IT project meets the definition of a national security system.			
No	<b>*</b>	The IT project will be located in spaces frequented only by service personnel for maintenance, repair, or occasional monitoring of equipment (i.e., "Back Office Exception.)			
No	<b>~</b>	The IT acquisition Is acquired by a contractor incidental to a contract.			

## **Exceptions Requiring Alternative Means of Access for Persons with Disabilities**

Yes or No	Accessibility Exception Justification
No 🔽	Meeting the accessibility requirements would constitute an "undue burden" (i.e., a significant difficulty or expense considering all agency resources).  Explain:
	Describe the alternative means of access that will be provided that will allow individuals with disabilities to obtain the information or access the technology.
No 🔽	No commercial or solution is available to meet the requirements for the IT project (does not require a fundamental alteration) or provides for accessibility.  Explain:
	Describe the alternative means of access that will be provided that will allow individuals with disabilities to obtain the information or access the technology.