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April 18, 2023

**Addendum Number 4**  
**Request for Proposals No. 23-15-210626**  
**ARRC Transit Asset Management System**

**This Addendum is being issued to provide information as follows:**

**Questions:**

- RFP - Section D-2-B
  - This area of the Evaluation Criteria references minimum security requirements that need to be met and says there is an associated attachment. Please direct us to where we can find this attachment.
    - **A: Please see document attached herein.**
  
- 2B - Guideway Assets Requirements Excel
  - 1.2.9
    - ARRC Definition: Asset risk – provide the ability to identify specific threats to asset deployment and to rate the level of risk associated with each threat.
    - TekTracking Question: Please explain how this applies to guideway assets?
    - **A: This references the ability to communicate with wayside defect detectors to capture identified asset discrepancies.**
  - 1.2.22
    - ARRC Definition: Store and track annual registration/license/permit renewals information for vehicles and other motorized equipment, including registration/license/permit type, date of expiration and renewal, and associated fees.
    - TekTracking Question: Please explain how this applies to guideway assets?
    - **A: It is desirable that an asset management system be able to track annual Hi-rail inspections which are an FRA requirement.**
  - 1.2.23
    - ARRC Definition: Store regulatory information and statute reference associated with the asset (such as emissions regulations or FRA assets).
    - TekTracking Question: Please explain how this applies to guideway assets?
    - **A: It is desirable to have the ability to retain regulatory information for technicians, but as the requirements spreadsheet reflects this is a low priority for ARRC.**
  - 1.2.24
    - ARRC Definition: Provide the capability to define multiple fuel/power types for an asset and designate the capacity for each fuel/power type. Allow ARRC to designate one fuel/power type as the "primary" fuel/power type for the asset. Fuel or power type applies to all appropriate assets where consumption and status need to be tracked as defined by ARRC.

- TekTracking Question: Please describe this requirement further as it pertains to guideway assets.
  - A: We have some fixed guideway control points which are powered by differing fuel sources such as solid oxide fuel cells, and it would be desirable to define the fuel/power type to differentiate what these control points are powered from.
- 1.7.8
  - ARRC Definition: Provide a method of defining and designating track as revenue service or non-revenue service. ARRC must be able to identify any point and segment as revenue or not, and to use this designation for performance and reliability, criticality and work priority, capital replacement priority, etc.
    - TekTracking Question: Please explain how this applies to guideway assets?
  - A: We have several sections of track which are not used in the provision of passenger service and only used for freight traffic. We are mandated by the FTA to report performance restrictions or slow orders that impact passenger service, and it would be useful to have the ability to differentiate sections of track that only support freight services in an asset management system.
- 2.4.3
  - ARRC Definition: Provide a method for defining and capturing selected operating costs defined by ARRC for the asset type, such as fuel and power consumption and costs, cleaning and servicing costs, storage costs, etc.
    - TekTracking Question: Please explain how this applies to guideway assets?
  - A: Please reference question 1.2.24
- 2.4.6
  - ARRC Definition: Accumulate designated cost statistics (such as cost per mile, cost per hour) defined by ARRC for an asset.
    - TekTracking Question: Please explain how this applies to guideway assets?
  - A: ARRC desires the ability for an asset management system to collect costing statistics from JD Edwards ERP via an API.
- 2.4.7
  - ARRC Definition: Automatically update usage data, costs, and statistics for components or sub-assets currently installed on a parent asset when the parent data is updated. For example, mileage for an engine is updated when vehicle mileage is updated.
    - TekTracking Question: Please explain how this applies to guideway assets?
  - A: Example How much usage the Bridge has got since 2020. Cost comes from our ERP witch would be linked to usage report.
- 3.2.6
  - ARRC Definition: Provide for classification of defects and problems as “chargeable” or “non-chargeable”. Non-chargeable defects and problems are excluded from equipment failure or performance statistics (such as mean miles between failure).
    - TekTracking Question: We provide more definition for this requirement.
  - A: Tracking equipment failure (chargeable). Routine maintenance (non-chargeable). We would like the system to differentiate between the two.
- 3.3.1
  - ARRC Definition: Provide the capability to manually create an incident record (based on user defined template of incident type attributes), including the type

(passenger, road call, weather, accident), description, maintenance chargeable indicator, weather conditions, service impact (delay, cancellation, vehicle swap). Provide a flag/alert for repeat incidents (user defined criteria such as same asset/incident type within 30 days).

- TekTracking Question: Is incident tracking something you would require in a linear asset management inspection tool?
- A: Yes
- 5.1.6
  - ARRC Definition: Provide the capability to define track locations as a resource for conducting maintenance, to be used in planning and monitoring track allocation to maintenance jobs.
  - TekTracking Question: We provide more definition for this requirement.
- A: ARRC desires the ability to pinpoint track locations by subdivisions and mile post to pinpoint where the track maintenance would occur.
- 5.5.13
  - ARRC Definition: Provide the ability to tie the campaign or project to a specific asset configuration or to create a new configuration based on completion of the campaign work orders, and automatically update the configuration of specific assets as work orders are completed.
  - TekTracking Question: Please explain how this applies to guideway assets?
- A: We want work orders with child work orders that track components installed during project.
- 6.1.12
  - ARRC Definition: Allow the option to include electronically readable information (e.g., bar codes) on work orders and each work step for the purpose of recording work order labor, material, and other transaction information.
  - TekTracking Question: Please provide additional definition as to what this requirement means.
- A: It is desirable to utilize bar code or QR code to allow users to input basic information which may remain constant throughout the span of numerous jobs, thus making data entry more efficient.
- 6.2.18
  - ARRC Definition: Provide the capability to create a master schedule and calendar by a combination of location, department, district shift, and type of maintenance (PM, projects, planned, etc.) and to combine detailed schedules to produce consolidated schedules by groups of departments or for the entire system based on a user specified time period showing dates/times (hours and minutes) work orders are to begin and end.
  - TekTracking Question: Please provide additional definition as to what this requirement means.
- A: The ability for the system schedule calendar day work/ forecasted work and to create, track, and close Work orders.
- 6.2.20
  - ARRC Definition: Provide the capability to schedule and allocate track usage as required by the master schedule and to view modifications to track allocation as the master schedule is altered.



and condition history for different linear asset segments within an asset, as defined by the asset hierarchy.

- TekTracking Question: Please explain how this applies to System assets?
- A: system that tracks Life span and usage for analysis
- 1.9.2
  - ARRC Definition: Allow accumulation meters that record the continual accumulation of a measure over time (such as vehicle mileage or operating hours). Perform validation checks on data to ensure that the values continue to accumulate in the correct direction.
  - TekTracking Question: Please explain how this applies to System assets?
- A: system that tracks Life span and usage for analysis
- 1.9.13
  - ARRC Definition: Provide the capability to import meter/measurement data from external files, such as oil and coolant analysis from independent test labs or extracted files from a wheel press or rail geometry car system.
  - TekTracking Question: Please define what types of external files and systems require import for System assets.
- A: system that tracks Life span and usage for analysis
- 1.9.14
  - ARRC Definition: Provide ability to replace a meter (for example, a hub odometer) on an asset and set the initial/current reading of the new meter (may or may not be zero) without impact to existing or life-to-date readings on the asset, and without impact on existing maintenance intervals. For example, if there were 1500 miles to next PM, after a hub odometer replacement (regardless of new hub reading) there would still be 1500 miles to next planned maintenance.
  - TekTracking Question: Please explain how this applies to System assets?
- A: system that tracks Life span and usage for analysis
- 2.2.1
  - ARRC Definition: Allow ARRC to assign assets to a maintenance location that will serve as the “home” location for the asset and will be the default location for planning and scheduling maintenance, and for tracking asset availability. Align the asset’s cost center, GL account (or other accounting designation) to the new location/assignment.
  - TekTracking Question: Please explain how this applies to System assets?
- A: System should tie locations to assets and proper account
- 2.2.2
  - ARRC Definition: Allow ARRC to assign assets to a default operating location, such as a transportation line or division, for the purpose of tracking availability and operating characteristics.
  - TekTracking Question: Please explain how this applies to System assets?
- A: System should tie locations to assets with default location capability
- 2.2.5
  - ARRC Definition: Support asset repair and servicing at any location, regardless of current asset assignments, and provide the option to roll-up costs to the home location (default) or the actual repair location.
  - TekTracking Question: Please explain how this applies to System assets?

- A: Ability for system to roll up cost for repairs made outside of default location and charge cost to home location
- 2.3.5
  - ARRC Definition: Provide a real-time summary of the availability and status of group or type of assets (such as a fleet of vehicles, or track sections allocated for maintenance) in total or by line/division/location, compared to peak requirements, including quantity of assets available for service to meet peak requirements, the quantity of assets in each service status category, and the projected surplus or shortage of assets.
  - TekTracking Question: Please explain how this applies to System assets?
- A: System ability to provide real time information for assets by location
- 2.3.9
  - ARRC Definition: Automatically project asset availability and downtime for a specified time period based on projected completion of work orders in process and scheduled work orders.
  - TekTracking Question: Please explain how this applies to System assets?
- A: System ability to schedule updates and process changes to work orders
- 2.4.3
  - ARRC Definition: Provide a method for defining and capturing selected operating costs defined by ARRC for the asset type, such as fuel and power consumption and costs, cleaning and servicing costs, storage costs, etc.
  - TekTracking Question: Please define this further.
- A: Systems ability to track cost by asset type
- 2.4.6
  - ARRC Definition: Accumulate designated cost statistics (such as cost per mile, cost per hour) defined by ARRC for an asset.
  - TekTracking Question: Please define this further.
- A: System ability to track detailed cost and statistics for asset
- 2.4.7
  - ARRC Definition: Automatically update usage data, costs, and statistics for components or sub-assets currently installed on a parent asset when the parent data is updated. For example, mileage for an engine is updated when vehicle mileage is updated.
  - TekTracking Question: Please define this further.
- A: System ability to track detailed cost and statistics for asset
- 3.1.6
  - ARRC Definition: Provide the capability to create problems, defects, or work requests by scanning defect cards completed by vehicle operators and other ARRC employees.
  - TekTracking Question: Please explain how this applies to System assets?
- A: Ability to use bar codes to create work request and work orders.
- 3.2.12
  - ARRC Definition: Allow the capability to determine whether regular defect reports have been completed for all assets of a specified type that are in service each day (such as pre-trip defect cards for rolling stock assets).
  - TekTracking Question: Please explain how this applies to System assets?

- **A: Ability to review open work orders by specific assets**
- 3.2.14
  - ARRC Definition: Allow for designating a request/defect to be deferred to the next inspection for re-evaluation and include the defect as a line item on the inspection.
  - TekTracking Question: Please explain how this applies to System assets?
- **A: system allows for deferred maintenance and tracks that maintenance**
- 4.1.6
  - ARRC Definition: Provide the ability to define how condition assessments are consolidated from the assessment of child assets into a parent condition and consolidated from multiple assets of the same type into an overall rating for the type. For example, the condition rating for a rail car may be based on the consolidated condition of its components, or the summary condition of railcars may be a consolidation of the condition of each individual railcar.
  - TekTracking Question: Please explain how this applies to System assets?
- **A: system ability to compile multiple asset assessments in to one parent asset.**
- 5.1.2
  - ARRC Definition: Provide the capability to define specific maintenance equipment, workstations (such as bays and pits), and machinery (resources) available at the maintenance location with descriptions and specifications.
  - TekTracking Question: Please explain how this applies to System assets?
- **A: better example: Testing equipment availability and location**
- 5.1.3
  - ARRC Definition: Store the capacity and/or volume limits for operations and work steps to be performed by each workstation and equipment resource.
  - TekTracking Question: Please explain how this applies to System assets?
- **A: Ability for system to store working steps and work limits by equipment source**
- 5.1.4
  - ARRC Definition: Provide standard hours and operating cost rates (if any) that are chargeable to work orders utilizing the resources.
  - TekTracking Question: Please explain how this applies to System assets?
- **A: Example: ability to integrate with our ERP via API to collect and track asset costing and information.**
- 6.1.16
  - ARRC Definition: Allow the user to define equipment/tool requirements and workstation routing for each work step or for the entire work order.
  - TekTracking Question: Please explain how this applies to System assets?
- **A: allowing user to add tools and equipment needed to the work order as steps in the process of repair.**
- 6.4.7
  - ARRC Definition: Project the availability of assets based on remaining work and estimated work order completion dates and times.
  - TekTracking Question: Please explain how this applies to System assets?
- **A: system ability to forecast completion dates based on historical task completion.**

- In section 1.g., ARRC asks vendors to "Provide samples of work the vendor has done for like organizations." In Section B.8. Proposal format of the RFP, it also states that this does not count toward the page limit. Can ARRC be more specific on what they are looking for? What types of samples is ARRC looking for, and in what format?"
- **A brief written synopsis for work done for other like organizations would be adequate.**

All other terms and conditions remain unchanged.

Acknowledge receipt of this and all addenda in your firm's Service Bid Form (Form 395-0129).

Sincerely,

Michele Hope  
Senior Contract Administrator



## Appendix B: Technical Requirements

Requirements for All Respondents	Meets	Does not Meet	Comments
<ol style="list-style-type: none"> <li>1. Policy Requirements               <ol style="list-style-type: none"> <li>a. ARRC policy dictates that all contractors accessing ARRC’s computer resources will comply with our 3<sup>rd</sup> Party Remote Access Security Policies (available upon request).</li> <li>b. ARRC policy requires all software used or installed must be legally licensed.</li> <li>c. ARRC policy is to encrypt data from ARRC databases in flight as well as at rest.</li> </ol> </li> </ol>			
Requirements for On Premise Solutions	Meets	Does not Meet	Comments
<ol style="list-style-type: none"> <li>1. Uses one of the following database systems:               <ol style="list-style-type: none"> <li>a. SQL Server 2019</li> <li>b. IBMi DB2 Version 7.3</li> </ol> </li> </ol>			
<ol style="list-style-type: none"> <li>2. Uses one of the following drivers for data access               <ol style="list-style-type: none"> <li>a. Microsoft ODBC Driver 17 for SQL Server *preferred</li> <li>b. Microsoft ODBC Driver 13.1 for SQL Server</li> <li>c. Microsoft OLEDB Driver for SQL Server (MSOLEDBSQL, not SQLOLEDB)</li> <li>d. SQL Server Native Client</li> <li>e. iSeries Access ODBC Driver</li> </ol> </li> </ol>			
<ol style="list-style-type: none"> <li>3. Client installation can be packaged for delivery by automated endpoint management system.</li> </ol>			
<ol style="list-style-type: none"> <li>4. Client installation can be made silent for remote delivery.</li> </ol>			
<ol style="list-style-type: none"> <li>5. Integration of Security</li> </ol>			
<ol style="list-style-type: none"> <li>6. Is the security integrated with our internal Active Directory for authentication?</li> </ol>			

## Appendix B: Technical Requirements

7. Does the application use groups to assign rights?			
8. How does the application implement minimum required permissions and separation of duties?			
9. Secure in storage, in transmission, and minimum display of PII			
10. Is ARRC data encrypted in storage?			
11. Is ARRC data encrypted in backup?			
12. Is ARRC data encrypted in flight?			
13. Below is a list of ARRC Infrastructure standard supported software. Please list below any new components that your system would be require ARRC to install or support.			

Requirements for Hosted or SAAS Solutions	Meets	Does not Meet	Comments
1. API exposed for interfaces uses one or more of the following technologies: a. REST *preferred b. SOAP c. JSON *preferred d. XML			
2. Solution has a reporting tool for custom report development and data access			
3. Authentication integrates with our current AD infrastructure			
4. Does the application use SAML or other well known protocols to implement federated security?			
5. Does the application use groups to assign rights?			
6. Does the application implement minimum required permissions and separation of duties?			
7. Data security e. Is ARRC data encrypted in storage? f. Is ARRC data encrypted in backup? g. Is ARRC data encrypted in flight?			
8. Does your policy include a signed non-disclosure agreement in force for ARRC data?			

## Appendix B: Technical Requirements

9. Describe the Backup and Disaster Recovery Plan for ARRCs data?
10. How has the company attempted to limit excessive data leakage (limit the amount of data presented or reported on)?
11. How highly available is the system?
12. Describe your breach notification and response process.
13. Have you notified anyone of a breach in the past?
14. How will the application be protected from Command and Control or keystroke recording for ARRC data?
15. Can the workstations that run the remote software be audited on connection? Is there a way to get the list of workstations if not on ARRC property?
16. Below is a list of ARRC Infrastructure standard supported software. Please list below any new components that your system would be require ARRC to install or support.

The ARRC infrastructure currently supports the following. Proposed systems that would integrate without the addition of new components are preferred:

### *Operating Systems*

- Windows 10 (21H2 minimum)
- Windows Server 2019
- Linux (RHEL/CentOS 7, Ubuntu 18/20 LTS, others on request, limited though)
- Other (IBM iSeries on POWER9/10)

### *Database Systems*

- SQL Server 2019

## Appendix B: Technical Requirements

- IBMi DB2 Version 7.3

### *Core Systems supported on-premise*

- Redundant DNS for internal DNS supporting akrr.local and others
- Redundant DHCP for most corporate subnets
- Redundant Active Directory (no current federation internal nor external)
- Group Policy Management for least privilege, policy enforcement for Windows
- Ivanti Endpoint Management (LANDESK) for provisioning, software distribution, patching
- Ivanti Antivirus (Bitdefender)
- Cisco Advanced Endpoint Protection (AMP)
- Ivanti Mobile Device Management (MDM) for Android/iOS devices
- VMWare WorkSpace One (WS1)
- Spam Titan SPAM Gateway (for email protection)
- iPrism Web Proxy (for outbound web protection)
- Cisco Firepower Threat Defense (for all outbound traffic)
- Exchange for Email
- O365 for Email
- SAN for block-level storage
- DAS For backup Storage and for sql Servers, and Map data
- Veeam Backup and Restore for data protection
- PRTG for most system monitoring
- HPE OneView for some system monitoring
- vSphere Enterprise Plus virtualization with vCenter Centralized Management
- MS Certification Services for internal digital certificates
- IIS and Apache on Windows, Apache on Linux

### *Core Systems supported off-premise/cloud*

- Entrust for internet-facing digital certificates
- Network Solutions for internet-facing DNS supporting akrr.com and others

### *Core Applications on all Desktops*

- Office 2016 Pro

## Appendix B: Technical Requirements

- Firefox
- Chrome
- Edge
- Adobe Acrobat Reader