

# **Response to Request for Information Cap & Trade Market Tracking System**

## **Solicitation 09-114**

Submitted to:

**California Air Resources Board,  
Office of Climate Change**  
1001 I Street, P.O. Box 2815  
Sacramento, California 95812

Submitted by:

**Systems Research and Applications Corporation**  
A wholly owned subsidiary of:



**SRA International, Inc.**  
4300 Fair Lakes Court  
Fairfax, Virginia 22033

**June 10, 2010**



## TABLE OF CONTENTS

<b>1. Introduction.....</b>	<b>1</b>
<b>2. Capabilities and Experience.....</b>	<b>3</b>
<b>2.1 Key Areas of Expertise.....</b>	<b>3</b>
<b>2.2 Relevant Projects.....</b>	<b>4</b>
2.2.1 California Air Resources Board Online GHG Reporting Tool.....	4
2.2.2 New York Acid Deposition Allowance Tracking System (NADATS).....	4
2.2.3 RGGI CO <sub>2</sub> Allowance Tracking System (COATS).....	5
2.2.4 Clean Air Markets Division Reengineering and Emissions Trading Support .....	5
2.2.5 EPA Moderated Transaction System (EMTS).....	6
2.2.6 Data Exchange Standards (DES), International Transaction Log (ITL),and Community Independent Transaction Log (CITL).....	6
2.2.7 Clean Development Mechanism (CDM) Registry.....	7
2.2.8 New Zealand Emission Unit Registry (NZEUR) and Emissions Trading Scheme (ETS).....	7
2.2.9 Canada Kyoto Protocol National Registry (CKPNR).....	8
2.2.10 Australian National Registry of Emissions Units .....	8
2.2.11 Carbon Fund Management and Reporting System .....	8
<b>3. Availability of Current System .....</b>	<b>9</b>
<b>4. Suggested Modifications.....</b>	<b>10</b>
<b>5. Timeframe and Cost .....</b>	<b>13</b>
5.1 Timeframe .....	13
5.2 Cost Assessment.....	13
<b>6. Conclusion .....</b>	<b>13</b>

*[This page intentionally left blank.]*

## Response to Request for Information (RFI) Cap & Trade Market Tracking System

### 1. Introduction

SRA International, Inc. (SRA) is pleased to respond to this RFI for a Cap & Trade Market Tracking System for the California Air Resources Board (ARB) Office of Climate Change. Founded in 1978, SRA is a publicly held company dedicated to solving complex problems of global significance for government organizations serving the civil government, global health, and national security markets. SRA employs approximately 7,000 staff from headquarters in Fairfax, Va. and offices around the world.

Perrin Quarles Associates, Inc. (PQA) was acquired by SRA in February 2010 and offers three decades of environmental expertise related to state, regional, federal, and international air pollution regulation, voluntary and mandatory emissions reporting, and emissions trading programs. PQA developed ARB's Online Greenhouse Gas (GHG) Reporting Tool and continues to provide operational support while working directly with ARB staff on system enhancements. In addition to long term, comprehensive support for U.S. EPA's federal emissions trading programs, PQA also provides full lifecycle support to New York State's emissions trading program for criteria pollutants as well as registry development and support for the Regional Greenhouse Gas Initiative (RGGI), the first domestic GHG mandatory emissions trading program.

PQA is now part of SRA's Environmental & Organizational Services (EOS) strategic business unit, a team of approximately 700 employees serving government agencies around the world in the areas of energy and environmental protection, emergency management, human capital, and economic development. EOS employees are working in water quality, energy efficiency, and brownfields remediation, along with the nearly 90 staff in PQA's Charlottesville office focusing on air quality and climate change issues. Together, PQA and SRA offer the full range of environmental program development and implementation support services backed by decades of subject matter expertise and proven IT and consulting solutions.

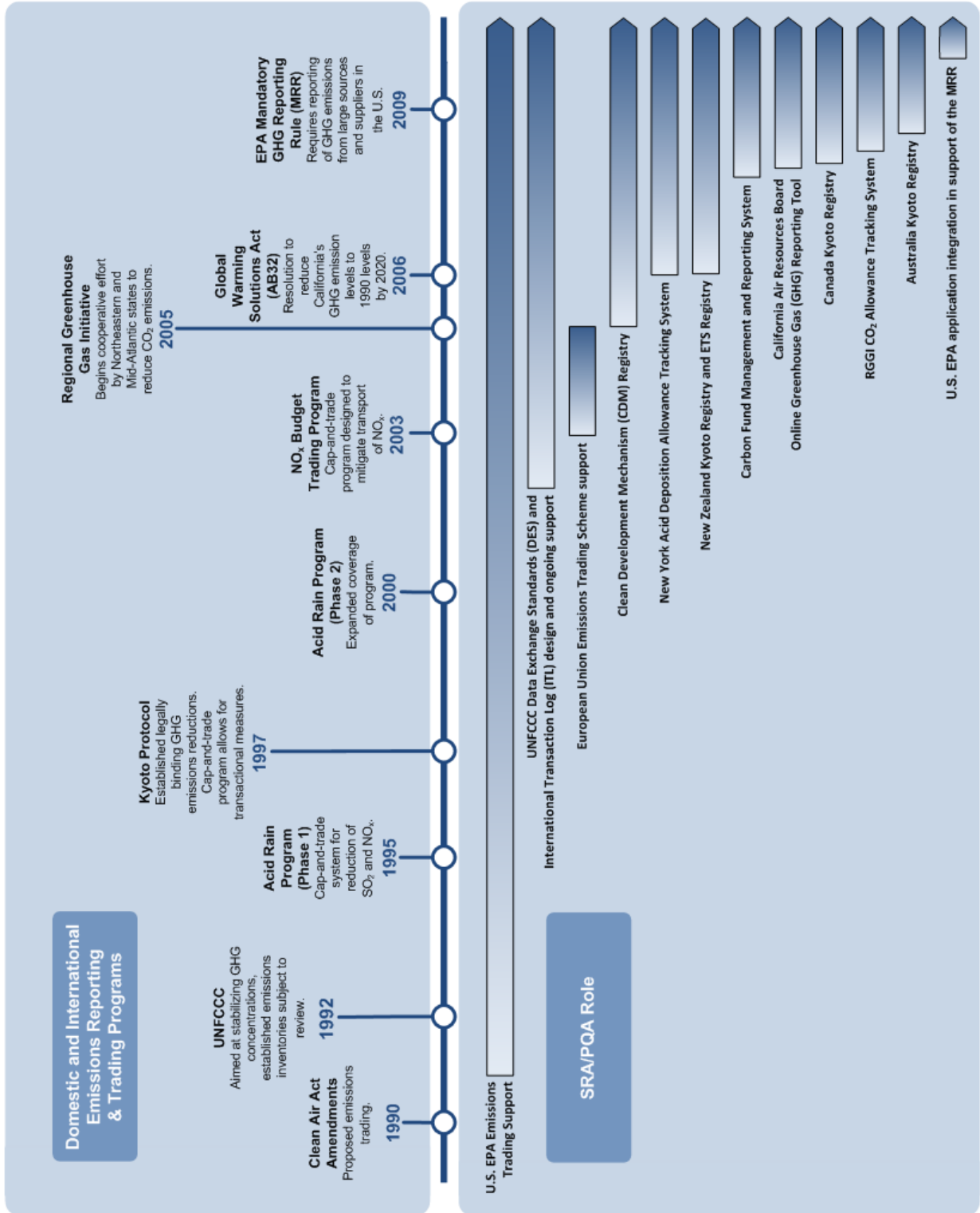
The SRA team, led by the former PQA staff in Charlottesville (and henceforth referred to as SRA/PQA), would welcome the opportunity to support ARB in implementing this important initiative. We recognize California's willingness to lead the expansion of market-based approaches to address climate change and achieve GHG reductions, and we believe that the success of these initiatives is critical to achieving our national responsibilities, both domestically and internationally.

As shown in Figure 1 below, we offer nearly two decades of experience with both domestic and international emissions trading program support. During this time, we have worked extensively with the U.S. EPA, state agencies, the United Nations Framework Convention on Climate Change (UNFCCC) Secretariat, and countries to support emissions trading programs for both criteria pollutants and GHGs. Our senior staff members were integral to shaping the international data exchange standards for the Kyoto Protocol. We would welcome the opportunity to extend these types of efforts into California's program and its integration with the financial sector and carbon markets.

#### SRA/PQA TECHNICAL CAPABILITY

- ◆ SRA is a leading provider of technology and strategic consulting services and solutions, including systems design, development, and integration.
- ◆ We have significant capability to tackle IT challenges requiring large scale vision, transparency, sensitivity to political and cultural needs, and technical solutions that address complex policy decisions.

Figure 1  
 Timeline of PQA/SRA Emissions Reporting & Trading Program Support



## 2. Capabilities and Experience

SRA/PQA is uniquely qualified to develop the Market Tracking System envisioned by ARB and offers the best possible combination of relevant experience, subject matter expertise, software development capability, and proven management methods to ensure success. As demonstrated in Figure 1 above, we have remained at the forefront of air pollution policy and regulatory development and have a thorough knowledge of the regulations and policies underlying domestic and international air quality and climate change goals. SRA/PQA would welcome the opportunity to leverage this knowledge and information technology capability to deliver a solution that fully supports ARB's Market Tracking System requirements.

The following sections highlight SRA/PQA's expertise as it relates to ARB's goals for the Market Tracking System and provide an overview of our ongoing work in this area. Collectively, these projects illustrate the depth of our experience and capability in implementing information technology solutions that support our clients' important environmental missions.

### 2.1 Key Areas of Expertise

Bolstered by best practices and lessons learned as a result of our long history supporting air quality and climate change projects, SRA/PQA offers specialized experience in each of the following areas that are key to the proposed Market Tracking System.

Key Area	Description
<b>Cap-and-trade</b>	Extensive experience designing, developing, and supporting cap-and-trade market tracking systems for a wide range of programs and stakeholders.
<b>Emissions Reporting</b>	Deep emissions reporting expertise, including implementing state and national reporting tools.
<b>External Integration</b>	Proven ability to integrate cap-and-trade market tracking systems with emissions reporting programs, allowance auction systems, other trading programs, and financial market reporting.
<b>Offsets</b>	Unique perspective and experience in offsets system implementation from developing and supporting U.S. and major international offset registries.
<b>Program Administration</b>	Time-tested tools and processes, which have been honed over years of supporting regulatory agencies, reduce administrative burdens and costs.

## 2.2 Relevant Projects

The project descriptions below document our experience and emphasize the relevance of our work to the Market Tracking System requirements identified in the RFI and the key areas of expertise listed above.

### 2.2.1 California Air Resources Board Online GHG Reporting Tool

*Client:* California Air Resources Board

*Period:* 2008 – Ongoing

*Brief Description:* SRA/PQA supports the design, development, deployment, and operational support of ARB's Online GHG Reporting Tool, the first mandatory GHG reporting system in the country. The reporting tool was built using an existing PQA software platform as a basis, resulting in reduced implementation costs.

*Relevance:*

- Demonstrates our experience providing an end-to-end system solution, including requirements analysis, design, development, and ongoing operations in a domain directly related to the Market Tracking System.
- Developed our significant and deep expertise in ARB's emissions reporting process and emissions data model, which will facilitate Market Tracking System integration with this key data source.
- Demonstrates a positive track record and effective working relationship with ARB staff.

### 2.2.2 New York Acid Deposition Allowance Tracking System (NADATS)

*Client:* New York Department of Environmental Conservation

*Period:* 2004 – Ongoing

*Brief Description:* SRA/PQA implemented the NADATS system, one of the few U.S. state-centric cap-and-trade programs, which supports two independent emissions trading programs on the same software platform: Part 237 for intrastate NO<sub>x</sub> reductions and Part 238 for SO<sub>2</sub> reductions. The NADATS system allowed the state of New York to achieve emissions reductions beyond the levels in corresponding federal programs to protect sensitive ecosystem resources.

*Relevance:*

- Supports core cap-and-trade requirements, including allowance allocation, trading, emissions tracking, and compliance processing.
- Demonstrates full lifecycle experience in designing, building, and operating a state-centric, compliance-based emissions trading program.
- Demonstrates experience in providing an end-to-end system solution in support of a cap-and-trade program.
- Integrates with a U.S. EPA system to receive emissions data, which is subsequently used for compliance determinations.



### 2.2.3 RGGI CO<sub>2</sub> Allowance Tracking System (COATS)

*Client:* RGGI, Inc.

*Period:* 2008 – Ongoing

*Brief Description:* SRA/PQA supports the design, development, and operations of the first regional mandatory cap-and-trade registry system in the U.S.

*Relevance:*

- Supports core cap-and-trade requirements, including offsets management.
- Demonstrates coordination with state workgroups to design a solution that meets regional and varied state perspectives and regulatory frameworks.
- Demonstrates understanding of the support needs of diverse stakeholders, including regulators, regulated entities, and market participants.
- Integrates with a separate auction system managed by World Energy.
- Automates daily integration of emissions data reported to the U.S. EPA's Clean Air Markets Division under 40 CFR Part 75.
- Tracks offset projects and awarded offset allowances.
- Tracks reported transaction prices, distinguishing between cash swaps and exchange settlements.

### 2.2.4 Clean Air Markets Division Reengineering and Emissions Trading Support

*Client:* U.S. EPA, Clean Air Markets Division (CAMD)

*Period:* 1991 – Ongoing

*Brief Description:* Since 1991, SRA/PQA has provided mission support for the Acid Rain Program, as well as regional NO<sub>x</sub> and SO<sub>2</sub> emissions trading programs administered by EPA's CAMD. This support has involved a wide range of activities, such as regulatory development, program analysis, outreach, allowance allocation development, data analysis, allowance market analysis, and information system design and development. As part of an eight-year project, SRA/PQA provided primary support for the major reengineering of all CAMD information systems through the development of multiple complementary applications.

*Relevance:*

- Demonstrates capability to provide large scale mandatory program support and deep understanding of mandatory compliance trading programs.
- Integrates multiple software applications and data sets, including CAMD system integration with the Electronic Greenhouse Gas Reporting Tool (e-GRET) to support the EPA mandatory GHG reporting rule.
- Demonstrates our experience developing and supporting an auction solution.
- Involves collection of high-volume Part 75 CEMS data.
- Provides publicly accessible information updated daily through the Data and Maps public website.
- Provides a secure user authentication and access model.
- Involves provision of extensive user support.

### 2.2.5 EPA Moderated Transaction System (EMTS)

*Client:* U.S. EPA, Office of Transportation and Air Quality

*Period:* 2008 – Ongoing

*Brief Description:* The EMTS is the first automated tracking system of renewable fuel credits under the Renewable Fuels Standard (RFS) program to support the generation and transfer of renewable fuel credits between fuel producers, gasoline and diesel refiners, importers, exporters, and non-obligated parties.

*Relevance:*

- Supports trading of fuel credits, demonstrating our broad experience in developing trading systems.
- Accommodates large commodity volumes in billions of gallons of renewable fuels.
- Supports high-volume simultaneous transaction activity.
- Includes functionality for voluntary reporting of pricing information on recorded transactions.
- Provides a wide variety of user categories, accommodating a range of technical skill and usage levels.

### 2.2.6 Data Exchange Standards (DES), International Transaction Log (ITL), and Community Independent Transaction Log (CITL)

*Client:* UNFCCC Secretariat

*Period:* 2003 – Ongoing

*Brief Description:* SRA/PQA collaborated closely with the UNFCCC Secretariat to design a distributed international registry system for the accounting and transacting of emissions units under the Kyoto Protocol. This involved the development of the DES and the design of the ITL, the system which serves as the central transaction hub and authoritative source for all Kyoto unit transfer and transaction records. SRA/PQA continues to provide ongoing technical and program support to the UNFCCC. This work has served as the basis for the design of the CITL, the central transaction log for European Union's Emissions Trading Scheme (EU ETS). We also supported the European Commission (EC) by conducting reviews and assessments of EC business rules, hosting and operational requirements, EC regulations, and peer review of the CITL source code.

*Relevance:*

- Demonstrates our role in establishing the technical underpinnings of all emissions trading transactions under the Kyoto Protocol.
- Developed expertise in the accounting and serialization data model for international, tradable emissions units.
- Provides an early example of creating linkages between separate emissions trading programs (Kyoto and EU ETS).
- Established emissions trading standards, incorporating the needs of a large set of diverse stakeholders.

### 2.2.7 Clean Development Mechanism (CDM) Registry

*Client:* UNFCCC Secretariat

*Period:* 2004 – Ongoing

*Brief Description:* SRA/PQA designed and developed the CDM Registry, a web-based registry application that manages the issuance and transfer of all Certified Emissions Reductions (CERs), the offsets generated by CDM projects. We designed and developed the CDM Registry as a web-based registry system in compliance with all relevant requirements of the DES.

*Relevance:*

- Integrates with the ITL for validation of emissions unit transactions, including issuance, holding, and transfer/forwarding of CERs to national registries.
- Integrates with the CDM Information System (CDM IS), the primary data source for all CDM projects and project actions such as instructions to issue or forward CERs from a given project to registered participants.
- Automatically triggers transactions based upon receipt of instruction data from the CDM IS.
- Demonstrates expertise and knowledge of offset mechanisms and supporting data requirements.

### 2.2.8 New Zealand Emission Unit Registry (NZEUR) and Emissions Trading Scheme (ETS)

*Client:* New Zealand Ministry of Economic Development

*Period:* 2005 – Ongoing

*Brief Description:* SRA/PQA designed, developed, and provides operational support for the New Zealand Emission Unit Register (NZEUR), a national emissions unit registry fulfilling New Zealand's international requirements under the Kyoto Protocol and domestic requirements under the New Zealand Climate Change Response Act 2002, legislation that includes a domestic emission trading scheme (ETS). In support of the ETS, we are also developing the NZ Emissions Reporting Tool (ERT), which allows sources to report required emissions data that will ultimately be used in assessing ETS compliance.

*Relevance:*

- Demonstrates the integration of emissions reporting software and market tracking software for tracking emissions units.
- Implements all required Kyoto Protocol functionality and emissions units transactions including issuance, conversion, external overseas transfer, domestic transfer, cancellation, retirement (compliance), replacement, carry-over, and expiry date change.
- Supports the co-existence of multiple programs (Kyoto and the domestic New Zealand emissions trading scheme) within the same software package.

### 2.2.9 Canada Kyoto Protocol National Registry (CKPNR)

*Client:* Environment Canada

*Period:* 2008 – Ongoing

*Brief Description:* SRA/PQA developed Canada's national registry under the Kyoto Protocol for Environment Canada. The registry meets all of the requirements set out by the DES under Kyoto and has successfully completed interoperability testing with the ITL.

*Relevance:*

- Incorporates multi-language (English and French) capability into the core registry solution.
- Implements all required Kyoto Protocol functionality (see NZEUR above).

### 2.2.10 Australian National Registry of Emissions Units

*Client:* Australian Government, Department of Climate Change and Energy Efficiency

*Period:* 2008 – Ongoing

*Brief Description:* SRA/PQA developed, implemented, and supports an emissions trading registry software solution that meets all of the requirements set out by the DES under Kyoto and has successfully completed interoperability testing with the ITL. If passed by the Australia parliament, the registry will be further developed to support the operation of Australia's domestic emission trading program as part of the Carbon Pollution Reduction Scheme.

*Relevance:*

- Implements all required Kyoto Protocol functionality.
- Deployed on a robust, scalable server architecture for supporting future growth.

### 2.2.11 Carbon Fund Management and Reporting System

*Client:* Undisclosed client

*Period:* 2007 – Ongoing

*Brief Description:* SRA/PQA designed and developed a system to support the management and reporting of data related to carbon funds, which invest in projects included under various offset mechanisms. The system tracks information regarding fund participant investment, purchase agreement contracts between managed carbon funds and GHG offset projects, and the delivery of emissions reduction offsets from projects to the fund participants.

*Relevance:*

- Tracks financial investment in carbon offsets.
- Provides workflow support for carbon fund management, including process integration with CDM issuance and forwarding actions.
- Allows fund participants to track fund investments in the Kyoto Protocol's CDM and JI markets and voluntary carbon markets.
- Addressed IT security concerns and standards imposed by global financial institution.

### 3. Availability of Current System

As demonstrated above, SRA/PQA has extensive experience in designing, developing, and operating software registry systems to support a wide range of emissions trading programs. Drawing on the depth and breadth of our corporate experience with developing tracking systems in support of CAMD's SO<sub>2</sub> and NO<sub>x</sub> trading programs, the Kyoto Protocol registry system, and other state and regional trading programs, we have developed a newly designed emissions trading platform and look forward to using it as the platform for ARB's Market Tracking System. The design draws from over two decades of experience with data systems supporting emissions trading programs and applies the best available modern software development approaches, architecture, and tools. SRA/PQA would be pleased to provide a demonstration of this product or discuss the technology underlying the application as part of a follow up discussion.

We believe that our application is ideally suited to serve as the basis for ARB's Market Tracking System. The core web application supports the functional requirements that are essential to any emissions trading registry system: registration of participants and representatives, a robust accounting system providing serialization of allowances while ensuring that a given allowance is held in exactly one account, and secure transaction support. The system provides a framework for customizing business rules based on specific program requirements and has been designed with flexibility in mind, recognizing that each program has unique needs and constraints. More generally, the application has been designed with several key goals:

#### SRA'S TRACKING SYSTEM SOLUTION

SRA/PQA has developed a next generation emissions trading registry platform that draws on decades of emissions trading program expertise while utilizing modern approaches, architecture, and tools. System design incorporates the following goals:

- ◆ Flexibility and Rapid Application Development
- ◆ Scalability and Performance
- ◆ Enterprise Integration
- ◆ Exceptional Quality
- ◆ Accessibility and Internationalization

- Flexibility and Rapid Application Development. Our approach reduces code complexity and is implemented with technologies that maximize developer productivity. This allows us to respond quickly to the needs of our clients. A plug-in architecture allows us to selectively implement features for use by individual clients without impacting the core functionality of the application.
- Scalability and Performance. Building on proven, widely deployed technologies that accommodate load balancing and caching, the system provides performance and scalability in terms of both user and data volumes. We have facilitated these features by providing flexibility with the hosting and deployment model, which allows for leveraging the scalability features of virtually any industry standard application server and relational database system.
- Enterprise Integration. The design anticipates the need to integrate with enterprise applications and portals by easing the integration of Web Services and employing standards based interfaces. Developed on open, cross-platform technology, the system facilitates deployment by integrating with the operating system, database server, networking, and hardware of choice in a given client's infrastructure.
- Exceptional Quality. Automated unit, integration, and functional tests continuously measure application stability and tested code coverage. Developed with test-driven design and development practices, the code is thoroughly and repeatedly tested on a daily basis without requiring hundreds of man-hours of quality assurance effort. Quality assurance efforts are able to focus on areas such as

usability, instead of basic functional checks. Incorporation of user stories and corresponding acceptance criteria ensure that each feature meets the program's requirements. Transparency throughout the development process and frequent releases of code to our clients provide for close client relationships and help ensure that client expectations are met.

- **Accessibility and Internationalization.** Use of well-established frameworks for internationalization and a focus on accessibility from day one ensure that a client's system will meet key accessibility requirements.
- **Maintainability.** Our approach leverages well-defined software design patterns allowing new developers to come up to speed quickly and established developers to rapidly identify issues. This, along with the flexibility of the software architecture and a rigorous source control and continuous integration model, facilitates cost-effective maintainability of the codebase over time.

We understand that, in addition to developing a system that meets requirements and ensures high performance and availability, it is important to establish rigorous security processes and policies, implement appropriate controls, and secure personal information. SRA/PQA has significant capability providing support of this nature and has a team of more than 270 information and security experts from organizations like the National Security Council, the Department of Justice, and the Department of Defense. This team is experienced in providing a range of services, including designing and implementing strategic privacy programs, building and analyzing business processes that support privacy initiatives, conducting risk analyses, monitoring compliance, integrating privacy-oriented technology into system design and operation, and providing training on privacy/security issues.

#### **4. Suggested Modifications**

As requested by ARB, the following section provides suggestions regarding the content of the Market Tracking System and how it could be improved or more clearly represented in an RFP. It focuses on process or policy issues that could affect the Market Tracking System (what you implement), not technology choices or criteria (how you implement). It is likely that the content is undergoing considerable scrutiny at this point in the program and our experts in emissions trading programs would be pleased to discuss these or other issues as part of a follow up discussion. Senior staff who have been involved in emissions trading design, regulation development, and all types of emissions trading program implementation support could be included in this discussion.

- **Level of detail in regulation**

From our experience in implementing cap-and-trade registries similar to the envisioned Market Tracking System, options for systems implementation can sometimes be constrained by defining details in the authorizing laws or regulations without sufficient input from information technology experts. For example, to optimize process flows and to best leverage available systems, the regulation should allow ARB to define specific account types and transaction types as part of designing and implementing the Market Tracking System.

- **Integration of offset processing into Market Tracking System**

The schematic in Appendix C to the RFI portrays "Offset Processing" as outside the boundary of the Market Tracking System. To ease the burden of processing offset project validation and emission

reduction monitoring and verifications submissions, ARB may find a workflow management system valuable in coordinating offset submissions and reviewing interactions between the market and the regulator. ARB may find incorporating such a system for processing offset submissions in the Market Tracking System itself will support both the project sponsor and ARB as the regulator. Specific points for integration between offset processing and the Market Tracking System could extend beyond specifying the quantity of offsets credits for issuance and the receiving account to also include: 1) consolidated registration as a project developer and account holder; 2) a “one-stop” repository for tracking submissions, review decisions, and notifications; 3) public reporting of offset documentation, review decisions, or other project information; and 4) managing mechanisms for enforcement such as notifying the market and tracking cancellation or replacement of offset credits. With linkages to external markets in mind, reporting offset project information to regulators of each program will be important to ensure offset instruments issued across cap-and-trade programs and the underlying emission reductions are “unique” and “additional.” Making such project information public would also help build confidence and ensure the liquidity of offset credits in the market.

#### ■ **Harmonize data attributes across programs**

With the stated goal of future linkages to other GHG cap-and-trade programs, it will be important to design the Market Tracking System for integration with the systems of other cap-and-trade programs, specifically to align or map offset credits and offset project data attributes across programs. The Market Tracking System should be designed to support the import and export of offset credits through system functionality that ensures the emissions reduction corresponding to a single offset credit is reflected in only one program’s registry at any point in time (to prevent double counting). Experience with existing emissions trading systems and offset registry systems provides the basis for linking programs. SRA/PQA staff have confronted similar issues working with the UNFCCC Secretariat in the design of the Data Exchange Standards for the Kyoto Protocol.

#### ■ **Integration of auction system and Market Tracking System**

The schematic in Appendix C of the RFI portrays the “Instrument Auction” as a third party system. Interaction between an auction system and the Market Tracking System should be designed for tight integration to reduce program administrative costs and to ease the burden of participation in the market. In addition to communicating the quantity of allowances awarded at auction and the receiving account, integration between the auction system and Market Tracking System should include a consolidated registration of organizations and representatives as a bidder will need to identify an account in the Market Tracking System to receive any allowance permits won. SRA/PQA successfully collaborated with other stakeholders to develop an auction system integration model for the RGGI-COATS system.

#### ■ **Compliance Processing**

The schematic in Appendix C shows the “Surrender and Compliance” function in the space of the Market Tracking System, but the RFI does not include a statement on the functionality needed to support compliance assessments or the level of transparency into the process required for either participants or the public. The Market Tracking System could be designed to process compliance assessments since the ARB Online GHG Reporting Tool data could provide the basis for compliance when integrated. The reconciliation of tons of GHG emitted and compliance instruments “surrendered” by a compliance entity for “retirement” in a given compliance period should be automated to avoid the administrative cost of this

activity. PQA/SRA has developed compliance processing functionality in support of several programs and would be happy to discuss this experience with ARB in more detail.

#### ■ **Linkages with financial markets**

In general, integrating the Market Tracking System with financial markets will require ARB to define the specific linkages required for creating transparent markets to clearly identify the data and the level at which data will be tracked for each type of transaction. Definition of such linkages with financial markets should involve stakeholders representing the financial market participants and entities serving them, including the electronic confirmation service providers and the selected trading facilities envisioned as a “discussion concept” in the PDR. In the implementation phase, a thorough communications plan will be essential to ensure accurate and complete transaction data is reported by all participants, including definition of responsibility for notifying the Executive Officer of inaccurate transaction data reported in the Market Tracking System and subsequent enforcement actions to be expected.

In their public comments pertaining to the draft PDR, IETA commented on PDR’s suggestion that trading facilities report all transactions to the Board and that the Executive Officer review and approve each transaction for regulatory compliance. IETA argued that this will “add an unacceptable layer of regulatory uncertainty to CA GHG transactions that will negate the transparency, efficiency, and financial assurance afforded by exchange-traded or cleared OTC transactions.” Although we do not have a preference or opinion on this policy issue, it is important for ARB to be aware that inclusion of system-level support for this level of market oversight may be a potentially significant cost driver in terms of the hosting solution required to support transaction volumes, the administration of the review and approval process, and the monitoring required to ensure that all transactions are registered and contracts are not simply netted out in the clearing process. This could be a very complicated implementation issue, particularly if ARB’s goal is to not inhibit market activity.

#### ■ **Defining affiliations with other registrants that must be disclosed**

Section 95870 of the PDR requires registrants for the Market Tracking System to disclose “affiliations” with other registrants. ARB should provide further definition regarding how such affiliations will be reported and how to track and manage the data so it will be useable information in conducting market oversight analysis. Particularly with regard to the “holding limit” as applied to affiliated entities in Section 96080, it is important to consider the administrative costs of monitoring affiliated entities’ holdings of compliance instruments. Ideally, such monitoring should be an automated component of the Market Tracking System. It is recommended that ARB consider expanding the regulation to clearly define the type of, and format in which, affiliations must be disclosed so the data can be modeled in a system.



## 5. Timeframe and Cost

### 5.1 Timeframe

The timeframe for the development of a system that can support user registration in late 2011 and trading in January 2012 appears to be reasonable. Factors that could jeopardize achieving the timeframe deliverables would be delay in contract award, delays in acceptance of requirements, software releases, lack of support for user acceptance testing, or similar required project involvement on the part of ARB. If unavoidable delays occur, it is possible that the core objectives and deliverables to enable operation of the program could still be achieved if a phased approach was adopted, allowing lower priority features or options to be implemented during 2011. This approach has been used frequently when regulatory deadlines dictate program startup timeframes.

### 5.2 Cost Assessment

At this stage and without having a better understanding of the Market Tracking System requirements and ARB's goals with respect to the development process, schedule, and implementation responsibilities, we do not believe that it would be helpful to ARB to attempt to estimate costs for initial design, development, implementation, and ongoing system maintenance and operations. However, to assist ARB in understanding the variety of factors that could potentially influence cost, we would welcome the opportunity to discuss these in further detail within the context of a follow-up discussion. Please note that we recognize that the cost or budget for the program is a significant concern. We are accustomed to working successfully within clients' budgets and would be willing to assist ARB in identifying how to obtain maximum value given available funding. In addition, we would be willing to discuss cost information for systems of similar size and scope with ARB if confidentiality was assured.

#### PROVEN TRACK RECORD

Recent large-scale information technology projects implemented by SRA/PQA, such as EPA's national Emissions Inventory System, have been delivered on-time and on-budget. We attribute this success to close client collaboration, transparency in accountability, and high standards of project management.

## 6. Conclusion

As demonstrated throughout this response, SRA/PQA's depth and breadth of experience implementing systems and solutions in support of emissions trading programs is directly relevant to ARB's goals for the Market Tracking System. Beginning with the support of the Acid Rain Program, this experience spans from the very beginning of cap-and-trade as a viable policy tool through to today. This unique perspective, coupled with our software development capability and technical and systems integration expertise, makes us an ideal partner for the implementation of the Market Tracking System.