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**Seyed Sadredin**  
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DATE: December 16, 2010

TO: SJVUAPCD Governing Board

FROM: Seyed Sadredin, Executive Director/APCO  
Project Coordinator: Scott Nester

RE: **FIVE-YEAR EVALUATION OF THE INDIRECT SOURCE REVIEW PROGRAM**

**RECOMMENDATION:**

Receive and file the Five-Year Evaluation of the Indirect Source Review (ISR) Program, and affirm, without change, Rule 9510 (Indirect Source Review) and Rule 3180 (Administrative Fees for Indirect Source Review) as previously adopted.

**BACKGROUND:**

As part of the Valley Air District's innovative and progressive strategy to achieve state and federal health-based air quality standards, your Board adopted Rule 9510 (Indirect Source Review) on December 15, 2005 to reduce emissions of oxides of nitrogen (NOx) and particulate matter (PM10) from development projects. The Valley Air District was the first air agency in the nation to control emissions from indirect sources, which are buildings or facilities that attract mobile emission sources such as cars and trucks, but may or may not have stationary or area-wide emission sources.

The ISR rule requires developers to mitigate their construction emissions and operational emissions by established percentages, or pay mitigation fees if the emissions are not mitigated by the required amount. The District uses the mitigation fees to fund pollution control projects.

When the ISR rule was adopted, the Governing Board directed staff to re-evaluate the ISR program no later than December 31, 2010, after holding at least one series of public workshops. The attached report summarizes the activity and results of the Indirect Source Review rule since it was adopted in 2005, and provides a basis for Governing Board affirmation. This report also summarizes the results of the District's Voluntary Emission Reduction Agreement (VERA) program and includes ISR Annual Reports for 2009 and 2010.

**DISCUSSION:**

The ISR rule was adopted in late 2005 in response to the clear need to implement a comprehensive strategy to reduce emissions to achieve health-based state and federal air quality standards. The Valley's population is estimated to grow over 20% each decade between 1990 and 2020, and the corresponding emissions from additional vehicles and expanding cities are a significant concern. The ISR rule is designed to encourage beneficial changes in land development patterns and practices, and reduce emissions of NOx and PM10.

Developers of projects that are subject to ISR must reduce emissions generated during the project's construction and operational phases, or pay off-site mitigation fees. One hundred percent of all off-site mitigation fees are used by the District's Emission Reduction Incentive Program to fund emission reduction projects, achieving emission reductions on behalf of the project. Rule 3180 also requires the submission of nominal fees to cover the District's costs of administering the ISR program.

In 2006, the San Joaquin Valley started to feel the impacts of the national home mortgage crisis and economic recession that have since slowed the region's development and construction industries. As described in the staff report, construction employment, which is an accurate indicator of production activity, dropped 50% in the San Joaquin Valley between the beginning of 2006 and mid-2010. This trend matches the contraction of the statewide market. In spite of the continuing economic downturn, the ISR rule has achieved emission reductions and started to effect positive change in land development practices and processes.

**ISR Implementation and Results**

To assure that land-use agencies and project proponents are aware of the ISR rule and implement it as appropriate, the District has conducted an extensive outreach effort. The District has met with planning staff of the Valley's counties and cities and provided an estimated 3,000 one-on-one consultations concerning ISR. These efforts have resulted in favorable changes in development processes and practices. Two examples are that several agencies have embedded ISR implementation into their processes for selecting construction contractors, and virtually all developers have voluntarily begun to incorporate many air-friendly design changes into their projects. Additionally, significant reductions in emissions have occurred through the use of cleaner construction equipment. In 2006, the first year of implementation, only 14% of approved ISR projects reduced construction exhaust through the use of a construction fleet that is cleaner than the state average. Through the 2010 reporting period, voluntary use of clean construction equipment has increased to 85%.

The District has also observed an increase in the number of projects with annual emissions below two tons of NOx and two tons of PM10. Such projects are exempt from payment of off-site mitigation fees. This trend is likely the combination of developers scaling back their project plans and the wider incorporation of on-site

emission reduction measures. Emission reduction measures commonly seen in such projects include the use of clean construction equipment, pedestrian-friendly project design, and proximity to local-serving retail and public transportation. In addition, many lesser but still cumulatively significant reductions in emissions have been garnered by a range of effective design features, like installation of solar power, integrated mixed-use development design, bike lanes, high-efficiency housing design, and many others. Another noteworthy change is that developers of large distribution centers reduced their operational impacts through voluntarily committing to use newer, cleaner fleet vehicles and maintaining a fleet replacement schedule that ensures older trucks are replaced in a timely manner.

The ISR rule is designed to achieve on-site emission reductions during the construction and operational phases, and off-site emission reductions funded using off-site mitigation fees. In Table A, the projected reductions are the total tons of emission reductions required of active development projects by the ISR rule over a ten year period.

**Table A, Projected ISR Emission Reductions (tons)**

On-site NOx Reductions	2,380
Off-site NOx Reductions	1,695
<b>Total NOx Reductions</b>	<b>4,075</b>
On-site PM10 Reductions	1,006
Off-site PM10 Reductions	1,586
<b>Total PM10 Reductions</b>	<b>2,592</b>

Table B shows the total off-site mitigation fees invoiced since the start of the ISR program. Accounting for projects canceled at the request of proponents, the average ISR off-site mitigation fees are approximately \$29,900 per project. As described in the attached staff report, the last two years have seen a significant decline in project-average fees, likely caused by more on-site mitigation and the preference for smaller projects. ISR fees for residential projects averaged \$417 per dwelling unit, which equates to \$2.24 per month on a 5%, 30-year home loan. Accounting for pending payments as described in the staff report, average ISR application and administrative fees (Rule 3180) are approximately \$2,200 per project.

**Table B, ISR Fees Invoiced**

	<b>Total</b>	<b>Canceled</b>	<b>Active</b>
ISR Applications	696	156	540
Invoiced Off-site Mitigation Fees	\$31,959,521	\$15,809,524	\$16,149,997

From the start of the ISR program in 2006 through October 2010, the District has received ISR off-site mitigation fees totaling \$9,826,894. District expenditure of ISR mitigation fees has been limited pending resolution of legal challenges to Rule 9510. As the District has prevailed in the case brought in state court, the District is now able to utilize these funds to obtain additional emission reductions in the Valley. To-date the ISR program has funded off-site emission reduction projects totaling \$2,150,816 and achieved 1,245 tons of emission reductions.

**Table C, Emission Reductions & Cost Effectiveness of ISR Off-site Mitigation Projects**

	<b>Total</b>
NOx Reductions, tons	1,201
PM10 Reductions, tons	44
<b>Total Reductions, tons</b>	<b>1,245</b>
ISR funds expended	\$2,150,816
Cost Effectiveness, \$/ton	\$1,728

Table C shows the emission reductions and cost effectiveness of mitigation projects made possible with ISR off-site mitigation funds. The majority of ISR off-site fees spent to-date have been dedicated to agricultural tractors. In early 2010, the District collaborated in a new program with the US Department of Agriculture Natural Resources Conservation Service (NRCS) to utilize \$2 million to co-fund the replacement of 102 tractors. The District and NRCS combined funding to replace existing, in-use tractors equipped with uncontrolled (Tier Zero) engines with new tractors equipped with Tier 3 or cleaner engines. The remarkably good cost effectiveness achieved in this project – less than \$2,000 of District funds per ton reduced - was only possible because of the matching funds from NRCS and the relatively large benefit of upgrading from Tier Zero to Tier 3. It is expected that the unit-cost of reductions for the next set of ISR mitigation projects will be significantly higher, and will continue to increase over time as incremental reductions shrink and equipment prices climb.

**Public Review**

District staff presented the attached staff report at a workshop on December 2, 2010. Seven members of the public attended the workshop, representing Valley cities, environmental consultants, and faith communities. The five attendees who commented were generally enthusiastic about the success of the ISR program, and their suggestions included the following.

- Faith community representatives encouraged the district to have a public discussion on how ISR mitigation fees should be spent. Additionally, they requested that funds be targeted to improve air quality near large populations, not just in rural areas. In response to these suggestions, District staff notes that the District pursues urban reductions through several programs including the wood burning heater upgrade program, lawnmower trade-in program, and automobile scrapping/repair program, and seeks public input and adopts a strategic grant spending plan each year as part of the budget process.
- The District should also highlight that the ISR program is holistically benefitting the Valley’s quality of life in areas besides air quality. For example, promotion of transit helps people gain and retain employment in disadvantaged areas, and sidewalks and bike lanes promote physical activity and physical health.



## **Conclusion**

The nationwide economic recession has seriously impacted the Valley's land-development and construction industries during the last five years. The downturn in construction activity has resulted in fewer projects being subject to ISR than was previously expected. Despite the downturn in activity, the development industry has achieved emission reductions from the projects that were approved and are being carried forward.

Utilization of ISR off-site mitigation funds for incentive programs was anticipated to begin in 2006. However, these funds have been restricted in light of litigation, thus the full extent of anticipated ISR off-site emissions reductions are not yet realized. Recent legal decisions have had the effect of releasing approximately \$7 million for District use in emissions reductions projects, which should result in intensified emissions reductions over the next few years. Through established accountability measures, ISR ensures that the District will utilize off-site fees to fund quantifiable and enforceable off-site projects that reduce emissions of NOx and PM10.

The conclusion of staff's evaluation of the Indirect Source Review program is that it plays an important role in the District's overall emission reduction efforts. There is no indication that the rule is overly burdensome to the development industry, developments are increasingly air-friendly because of the rule, and the minimal per-unit cost directly delivers significant emission reductions that are not obtainable through other, more traditional regulatory approaches. Staff's evaluation indicated no need to modify the ISR rule or Rule 3180 at this time.

## **FISCAL IMPACT:**

No fiscal impact is expected from this action. Revenues and appropriations for the implementation of the ISR program are accounted for in each annual District Budget.

### ***Attachments:***

- A. *Staff Report: Five-Year Evaluation of the Indirect Source Review Program (23 pages)*
- B. *2010 Annual Report on the District's Indirect Source Review Program (11 pages)*
- C. *2009 Annual Report on the District's Indirect Source Review Program (12 pages)*



**San Joaquin Valley**  
AIR POLLUTION CONTROL DISTRICT

**STAFF REPORT**

**Five-Year Evaluation  
of the  
Indirect Source Review Program**

**Rule 9510 (Indirect Source Review)  
and  
Rule 3180 (Administrative Fees for Indirect Source Review)**

DRAFT

For Governing Board Consideration  
December 16, 2010

# SAN JOAQUIN VALLEY AIR POLLUTION CONTROL DISTRICT

## GOVERNING BOARD, 2010

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**John G. Telles M.D.**, Appointed by Governor  
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**Hub Walsh**, Supervisor, Merced County  
**Raymond A. Watson**, Supervisor, Kern County

### EXECUTIVE DIRECTOR / AIR POLLUTION CONTROL OFFICER

Seyed Sadredin

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## I. EXECUTIVE SUMMARY

District Rule 9510 (Indirect Source Review), was adopted by the District's Governing Board to reduce the impacts of growth in emissions resulting from new land development in the San Joaquin Valley. Rule 9510 (ISR) is a commitment in the EPA-approved PM10 Attainment Demonstration Plan. The objective of the rule is to reduce emissions of oxides of nitrogen (NOx) and particulate matter less than 10 microns in diameter (PM10) associated with construction and operational activities of development projects occurring within the San Joaquin Valley. When it was adopted, District staff anticipated that the rule would reduce development project impacts on air quality by approximately 11 tons per day (NOx and PM10) in 2010. This projection was made before the downturn in the global economy and construction in the United States, California, and the San Joaquin Valley.

Rule 9510 applies to new development projects that would equal or exceed specific sizes (applicability thresholds). The applicability thresholds are established at levels intended to capture projects that emit at least two tons of NOx or two tons of PM10 per year. The rule contains provisions exempting projects that are subject to the District's stationary source permitting requirements.

Developers of projects subject to Rule 9510 must reduce emissions occurring during construction and operational phases, or pay off-site mitigation fees. Developers can employ numerous techniques to reduce emissions, such as pedestrian-friendly designs for residential developments, using lower-emission construction equipment, or locating the development near public transit routes. If the project's emission reductions do not equal the standards set in the ISR rule, the developer provides fees that allow the District to mitigate those emissions through funding off-site emission reduction projects. One hundred percent of all off-site mitigation fees are used by the District's Grant Program to fund emission reduction projects, achieving emission reductions on behalf of the development project. Additionally, pursuant to Rule 3180 (Administrative Fees for Indirect Source Review), developers pay an application fee and an administrative fee equal to 4% of the required off-site fees. These fees cover the District's cost of administering the ISR and off-site emission reduction programs.

From the start of the ISR program in 2006 through October 2010, the District has received ISR off-site mitigation fees totaling \$9,826,894. To-date the ISR program has funded off-site emission reduction projects totaling \$2,150,816 and achieved 1,245 tons of emission reductions. District expenditure of ISR mitigation fees has been limited pending resolution of legal challenges to District Rule 9510. As the District has prevailed in the case brought in state court, the District is now able to utilize these funds to obtain additional emission reductions in the Valley. The District's Voluntary Emission Reduction Agreement (VERA) program, which is similar to the ISR off-site mitigation component, has also received funds that the District has employed to reduce emissions from unregulated sources. From 2006 through October 2010, the VERA program received \$11,982,773 and paid \$10,958,189 to achieve 1,393 tons per year of emission reductions. It should be noted that ISR and VERA have different accounting metrics: ISR reductions are accounted for in cumulative tons over a ten-year period while VERA reductions are accounted for in tons per year.

Comparing the latest full reporting period with the peak reporting period of 2007-2008, the ISR program experienced a 41% decrease in Air Impact Assessment (AIA) applications and an 86% decrease in off-site mitigation fee receipts. These trends are attributable to the economic recession in California and the associated decline in new housing starts and commercial

development, and as discussed below, indicate that on-site emission reductions are becoming preferred to off-site mitigation fees.

This report was prepared pursuant to direction from the Governing Board when the ISR rule was adopted. Specifically, the Board directed District staff to prepare a report on the implementation of Rule 9510 and Rule 3180 (Administrative Fees for Indirect Source Review) and present it to the Board after a public workshop by the end of 2010.

## II. INTRODUCTION

The population of the San Joaquin Valley Air Basin (SJVAB) increased by 22% between 1990 and 2000, by 24% between 2000 and 2010, and the California Department of Finance projects another 26% increase between 2010 and 2020. Population growth results in increased area source emissions from activities such as increased consumer product use, fuel combustion, and landscape maintenance. Additionally, the total number of vehicle miles traveled (VMT) increases at an even faster rate than the population growth rate. The projected growth in these so-called "indirect source" emissions erodes the benefits of emission reductions achieved through the District's stationary source program and the state and federal mobile source controls.

The District has longstanding statutory authority to regulate indirect sources of air pollution. Pursuant to this authority, the District made a federally enforceable commitment to regulate indirect sources when it adopted its PM10 Attainment Plan in June 2003. Subsequently, the California Legislature passed Senate Bill 709, Florez, in the fall of 2003, which Governor Gray Davis subsequently signed and codified into the Health and Safety Code in §40604. This legislation required the District to adopt, by regulation, a schedule of fees to be assessed on area-wide or indirect sources of emissions that are regulated by the District.

Rule 9510 was adopted by the District's Board on December 15, 2005, and implementation commenced March 1, 2006. The ISR rule was adopted by the District's Board to reduce the impacts of growth in emissions resulting from new land development in the San Joaquin Valley. The rule applies to new residential and non-residential development projects, including transportation and transit projects, which equal or exceed established applicability thresholds. The applicability thresholds are set at levels intended to capture projects that emit at least two tons of NOx or two tons of PM10 per year.

Developers of projects subject to Rule 9510 must reduce emissions occurring during construction and operational phases, or pay off-site mitigation fees. One hundred percent of all off-site mitigation fees are used by the District's Grant Program to fund emission reduction projects, achieving emission reductions on behalf of the project. Rule 3180 (Administrative Fees for Indirect Source Review) also requires the submission of fees to cover the District's costs of administering the ISR program. These administrative fee revenues are used for evaluation of emissions from ISR-subject land-use projects, compliance assistance and enforcement, and contracting for off-site mitigation projects.

### Legal Challenges to the ISR Rule

Soon after Rule 9510 was adopted, in June 2006 the Building Industry Association (BIA) filed suit in Fresno County Superior Court challenging the validity of the ISR rule. The Superior Court



ultimately rejected all 11 of the BIA's claims and upheld Rule 9510 in March 2008<sup>1</sup>. The BIA appealed the ruling and was unsuccessful, and then petitioned the California Supreme Court to review the Court of Appeal's ruling; the Supreme Court declined to hear the case. In June 2007, the National Association of Home Builders (NAHB) filed a federal case in the US District Court for the Eastern District of California. The federal court disagreed with NAHB and upheld the ISR rule in September 2008<sup>2</sup>. NAHB appealed the ruling to the Court of Appeals for the Ninth Circuit. The District and NAHB have briefed and argued the appeal, but the Court has stayed action on the matter pending EPA's anticipated action on approving Rule 9510 as part of the State Implementation Plan.

Because of the continuing legal challenges to the ISR rule, the District deferred expenditure of the majority of ISR off-site mitigation fees during the early years of implementation. In 2010, the District Governing Board released all fees collected under the rule for expenditure on emission mitigation projects, and the rule is achieving emissions reductions as planned.

### III. IMPLEMENTATION

#### **Rule 9510 (Indirect Source Review)**

To assure that land-use agencies and project proponents are aware of the ISR rule and implement it as appropriate, the District has conducted an extensive outreach effort. The District maintains a dedicated staff of air quality specialists to assist the public in complying with District Rule 9510. This staff is skilled in the interpretation and application of the Indirect Source Review Rule, has expertise in quantification of development project impacts on air quality and is knowledgeable of project design features that reduce project emissions. This staff has also has expertise in application of the California Environmental Quality Act (CEQA) and is knowledgeable of the land-use planning and the entitlement processes. As a customer service to the public, staff meets with project proponents to discuss compliance with District Rule 9510 and to assist them in identifying ways to reduce project related impacts on air quality; concomitantly reducing potential off-site mitigation fees. To-date, District staff has provided an estimated 3,000 one-on-one consultations concerning ISR.

The District has met with planning departments of the San Joaquin Valley's counties and cities, councils of government, Caltrans and the Fresno Metropolitan Flood Control District, and assisted them in understanding ISR. Additionally, the District conducted nine public workshops, providing training on completing the application process and assessing project related impacts on air quality. These efforts have resulted in favorable changes in development processes and practices. Most notable is that certain large cities, counties, and CalTrans, have embedded ISR compliance into their processes for awarding construction contracts. Contractors are required to comply with District Rule 9510 construction emission reduction provisions, and have the option of achieving the emission reductions through the use of a clean construction fleet or paying the off-site mitigation fees. To date, many contractors, if not all, have been able to achieve the required reductions through on-site use of clean construction equipment.

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<sup>1</sup> *California Building Industry Ass'n. v. San Joaquin Valley APCD*, Fresno County Case No. 06 CECG 02100 DS13.

<sup>2</sup> *National Association of Home Builders v. San Joaquin Valley Unified Air Pollution Control District*, Federal District Court, Eastern District of California Case No. 1:07-CV-00820-LJO-DLB.

Included as the Appendix to this report, the District has prepared an extensive list of on-site emission mitigation measures to help developers identify ways to reduce their emissions. Although the list is long, it is not exhaustive and developers are encouraged to suggest new emission reduction measures. As shown in the Appendix, emission reduction measures have been grouped into categories based on the type of emission reduction activity, i.e., Building Design, Transportation/ Pedestrian, or Project Design.

Through implementation of the ISR rule District staff is seeing positive changes in development practices. Since adoption of the rule, developers have voluntarily begun to incorporate many air-friendly design changes into their projects. For instance, significant reductions in emissions have occurred through the use of cleaner construction equipment. In 2006, the first year of implementation, only 14% of approved projects reduced construction exhaust impacts through use of construction equipment that is cleaner than the state fleet average. Through the 2010 reporting period, voluntary use of clean construction equipment has increased to 85%.

The District has also observed an increase in the number of projects with annual emissions below two tons of NOx and two tons of PM10. Such projects are exempt from payment of off-site mitigation fees. This trend is likely the combination of more small projects being built and the incorporation of on-site emission reduction measures. Emission reduction measures commonly seen in such projects include the use of clean construction equipment, pedestrian-friendly project design, and proximity to local-serving retail and public transportation. In addition, many lesser but still cumulatively significant reductions in emissions have been garnered by a whole range of effective design principles, like installation of solar power, integrated mixed-use development design, bike lanes, high-efficiency housing design, and many others. Another noteworthy change is that developers of large distribution centers reduced their operational impacts through voluntarily committing to use newer, cleaner fleet vehicles and maintaining a fleet replacement schedule that ensures older trucks are replaced in a timely manner.

Development projects that would be subject to ISR are typically subject to CEQA. Although compliance with regulatory requirements such as ISR is not considered mitigation under CEQA, doing so does have the positive benefit of reducing project related environmental impacts. Since District implementation of the ISR rule, environmental assessments prepared for CEQA purposes have begun to incorporate emissions reductions achieved through compliance with the rule into the air quality impact analysis. Compliance with ISR rule provisions, which requires a 33.3% reduction in operational NOx and a 50% reduction in operational PM emissions can reduce project related impacts on air quality to below their respective CEQA thresholds of significance.

### **Voluntary Emission Reduction Agreements**

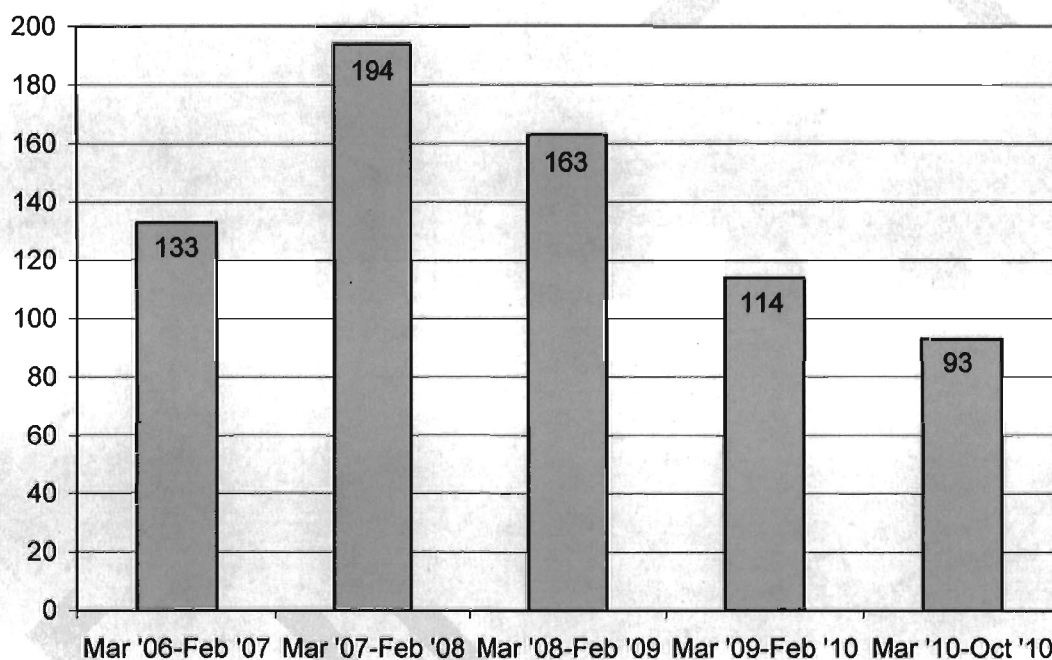
A Voluntary Emission Reduction Agreement (VERA) is an air quality mitigation measure by which a developer voluntarily enters into a contractual agreement with the District to reduce a development project's impact on air quality to less than significant levels. By fully mitigating the project's impact on air quality, a developer can address one of the issues that have led to CEQA legal challenges to development projects within the San Joaquin Valley Air Basin. Implementation of a VERA is complementary to ISR; project emissions are characterized, mitigation funds are paid to the District, the District administers the funds to secure the required emission reduction projects. For development projects subject to ISR, the developer must also comply with applicable rule provisions. To avoid double counting, emission reductions achieved through implementation of a VERA are credited alongside ISR reductions. This report therefore

addresses revenues and emission reductions achieved through the VERA program in addition to ISR revenues and reductions.

### **ISR Operational Statistics**

A summary of ISR Air Impact Assessment (AIA) applications received since 2006, the first year of implementation, is presented in Figure 1. AIA application receipts have declined by 41% between the peak in 2007-2008 and the latest full reporting period. This decline is attributed to the economic climate in the California and the associated decline in new housing starts and commercial development. Since 2006, 156 applications have been canceled or modified at the request of the project proponent.

**Figure 1, Number of ISR Applications Received**



## **IV. FISCAL SUMMARY**

### **ISR Off-site Mitigation Fee Invoices**

Table 1 shows off-site mitigation fee invoices since the inception of the ISR Rule, as well as the average per project. As illustrated in Table 1, the downturn in the national economy and the resultant impact on the construction industry has affected ISR activities and revenues. Between March 2006 and October 2010, the District issued invoices totaling \$31,959,521, and canceled invoices totaling \$15,809,524 at developers' request because their projects were delayed, changed, or canceled. Since the start of the ISR program, the District received \$9,826,894 in off-site mitigation fees. Given the current economic uncertainty and the potential for future project cancellations, it is speculative to estimate the revenues that will be received from the remaining balance of approximately \$6 million pending payment.



**Table 1, ISR Off-site Mitigation Fees Invoiced**

	Mar 2006 – Feb 2007	Mar 2007 – Feb 2008	Mar 2008 – Feb 2009	Mar 2009 – Feb 2010	Mar 2010 – Oct 2010	Canceled Invoices	Total
ISR Applications	133	194	162	114	93	156	540
Invoiced Fees	\$4,994,643	\$13,374,575	\$9,104,317	\$2,802,069	\$1,683,947	\$15,809,524	\$16,149,997
Avg Fee Per ISR Project	\$37,554	\$68,941	\$55,855	\$24,580	\$18,107		\$29,907

Table 2 shows year-by-year summaries of residential development projects that have gone through ISR, and the additional costs resulting from ISR off-site mitigation fees, that potentially would be passed on to the homebuyer. The estimate of additional cost to the homebuyer is \$417 per dwelling unit, which equates to \$2.24 per month on a 5%, 30-year home loan. Note that off-site emission mitigation fees per dwelling unit have dropped more than 70% between 2006 and August 2010, indicating that total project emissions are lower and/or more emissions are being reduced on-site.

**Table 2, ISR Residential Projects**

	2006	2007	2008	2009	2010***	Total
Projected Fees, \$ *	\$2,926,316	\$3,687,625	\$714,920	\$269,665	\$189,017	\$7,787,543
Number of Projects	34	36	17	9	11	107
Projected Fees, \$/Project	\$86,068	\$102,434	\$42,054	\$29,963	\$17,183	\$72,781**
Number of Dwelling Units	5,996	8,514	1,691	1,098	1,391	18,690
Projected Fees, \$/Dwelling Unit	\$488	\$433	\$423	\$246	\$136	\$417**

\* Off-site mitigation emissions fee amounts are based on all AIAs received, as development projects may be abandoned or changed before commencing construction

\*\* Historical Average

\*\*\* through August 15, 2010

### ISR and VERA Fee Receipts

Table 3 shows the actual fee receipts for ISR since the inception of the ISR rule. Figure 2 below shows an 86% decline in receipts of ISR off-site mitigation fees between the peak reporting period and the most recent. This trend corresponds to the decline in ISR applications shown in Figure 1. The greater percentage decline in fee receipts indicates that ISR projects have become inherently cleaner and smaller in scope. Since 2006 the VERA program has received \$11,982,773 in voluntary funding.

**Table 3, ISR Off-Site Mitigation Fee Receipts**

	Mar 2006 – Feb 2007	Mar 2007 – Feb 2008	Mar 2008 – Feb 2009	Mar 2009 – Feb 2010	Mar 2010 – Oct 2010	Total
ISR Off-site Mitigation	\$1,543,697	\$5,392,453	\$1,864,241	\$761,782	\$264,721	\$9,826,894

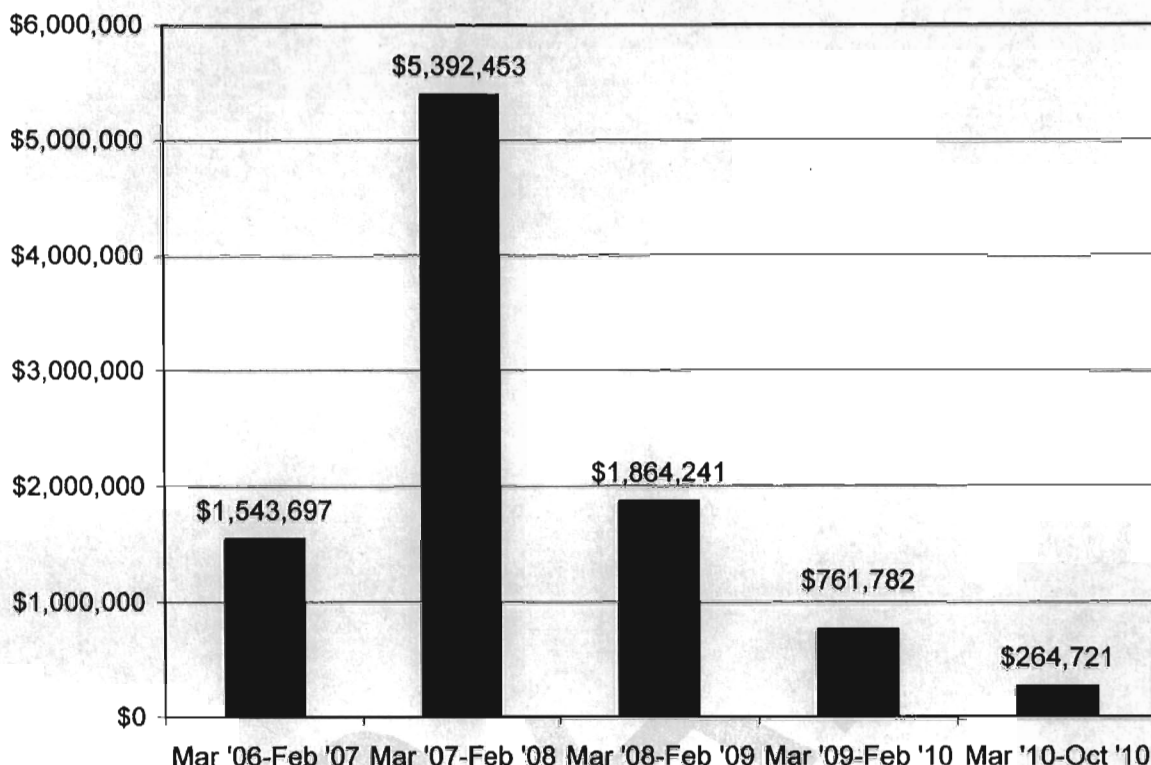
**Figure 2, ISR Off-site Mitigation Fees Received****Application and Administrative Fees**

Table 4 shows fees paid pursuant to Rule 3180 (Administrative Fees for Indirect Source Review). The Application fees are paid up-front by the project proponent, and are used by the District for staffing to evaluate AIA applications for each project. Administrative fees are set at 4% of the project's offsite mitigation fees, and are used for staffing to administer grants for off-site mitigation projects. Administrative fees are paid at the same time as off-site mitigation fees, which is typically well after application fees are paid. Estimating that active Administrative fee invoices are \$646,000 (4% of the total active invoiced off-site mitigation fees in Table 1), and adding actual, paid Application fees of \$542,455, the average total fee for Rule 3180 is approximately \$2,200 per project.

**Table 4, ISR Application and Administrative Fees Paid\***

	Mar 2006 – Feb 2007	Mar 2007 – Feb 2008	Mar 2008 – Feb 2009	Mar 2009 – Feb 2010	Mar 2010 – Oct 2010	Total
Application Fees	\$56,051	\$115,869	\$232,751	\$72,912	\$64,872	\$542,455
Administrative Fees	\$60,323	\$207,710	\$91,439	\$31,530	\$11,173	\$402,175

\* does not show pending administrative fees.



## V. EMISSIONS REDUCTION SUMMARY

### Projected Emission Reductions

Projected emission reductions are a combination of emission reductions to be achieved during construction, in the future through implementation of design elements at full project build-out, and through off-site emission reductions projects funded using off-site mitigation fees. In Table 5, the Projected Reductions shown for each year are the totals required by the ISR rule over the 10 years of the development projects. This data comes from finalized AIAs for all projects reviewed during that reporting period, but actual future emission reductions may vary from what is shown because a project may be changed (which would require further evaluation under ISR) or completely abandoned by the developer. Additionally, off-site emission reductions shown for each period are the emissions reductions that were used to calculate the off-site mitigation fee; actual off-site reductions may vary or might not have occurred yet (Table 6 below shows mitigation project activity to-date). The table also shows the emissions reductions associated with canceled or modified applications. The emission reduction totals in the table below are expected to occur unless additional development projects are changed or abandoned.

**Table 5, ISR Projected Reductions**

	Mar 2006 – Feb 2007	Mar 2007 – Feb 2008	Mar 2008 – Feb 2009	Mar 2009 – Feb 2010	Mar 2010 – Oct 2010	Canceled/ Modified Applications	Total
<b>Projected NOx Reductions, tons</b>							
On-site	90	1,010	1,081	441	290	532	2,380
Off-site	407	817	862	359	191	941	1,695
Total	497	1,827	1,943	800	481	1473	4,075
<b>Projected PM10 Reductions, tons</b>							
On-site	62	305	968	339	193	861	1,006
Off-site	352	773	733	401	141	814	1,586
Total	414	1,078	1,701	740	334	1675	2,592

### Achieved Emission Reductions and Cost Effectiveness

To-date over \$13 million in ISR and VERA mitigation fee revenue has been used to fund air pollution control projects that have achieved real emission reductions. Since the inception of the ISR and VERA programs, the majority of mitigation projects have involved agricultural irrigation pump engines because of their good cost effectiveness for NOx and PM10 reductions. Over 400 agricultural pump engines have been retrofitted, repowered, or replaced with electric motors using ISR and VERA off-site mitigation funds. Other types of equipment that have been upgraded include engines used for grain grinders, pellet mills, air compressors, oil well drilling and servicing, portable generators, and agricultural tractors.

Table 6 shows the emission reductions and cost effectiveness of mitigation projects made possible with ISR off-site mitigation funds. In light of the legal issues related to ISR, the majority of ISR funds have remained on hold pending court decisions. The District was able in early 2010, however, to utilize \$2 million in an innovative effort to reduce emissions in the Valley. The District collaborated with the US Department of Agriculture Natural Resources Conservation Service (NRCS) to co-fund agricultural tractor replacement projects using \$2 million of ISR off-site fees. Funds utilized by the NRCS were provided through the Environmental Quality Incentives Program (EQIP) Conservation Innovation Grants of the 2008 Farm Bill. The District

and NRCS combined funding to replace existing, in-use agricultural tractors equipped with uncontrolled (Tier 0) engines with new tractors equipped with Tier 3 or cleaner engines. Total funding provided by both agencies paid up to 70% of eligible tractor costs. In an effort to achieve maximum emissions reductions, the District ranked all eligible project applications received and selected only the most cost-effective projects to co-fund. In total, the District was able to co-fund 84 projects, replacing 102 tractors. For 21 projects, two existing tractors were replaced with one new tractor. This remarkably good cost effectiveness – less than \$2,000 per ton reduced - was only achievable with the matching funds from NRCS. It is expected that the cost of reductions for the next set of ISR mitigation projects will be significantly higher, and that the cost of reductions will continue to increase over time as incremental reductions shrink and equipment prices climb.

**Table 6, Emission Reductions and Cost Effectiveness of ISR Off-site Mitigation Projects**

	Mar 2008 – Feb 2009	Mar 2009 – Feb 2010	Mar 2010 – Oct 2010	Total
NOx Reductions, tons	29	160	1,012	1,201
PM10 Reductions, tons	1	0	43	44
Total Reductions, tons	30	160	1,055	1,245
ISR funds expended	\$150,816	\$241,741	\$1,758,259	\$2,150,816
Cost Effectiveness, \$/ton	\$4,977	\$1,508	\$1,667	\$1,728

Table 7 shows emission reductions, expenses, and cost effectiveness for the VERA program. Distinguishing the results of ISR from those of VERA is necessary because the accounting terms are different in each program, and this affects the emission reductions and cost effectiveness values. VERA emission reductions are counted in terms of “tons per year” as those projects are generally designed to reduce emissions by specified annual amounts. ISR mitigation projects, on the other hand, are designed to reduce total “lifetime tons” of emissions: the reductions shown in Table 6 are accumulated over multiple years (ten years for the agricultural tractor strategy with NRCS).

**Table 7, Emission Reductions and Cost Effectiveness of VERA Mitigation Projects**

	Total
NOx Reductions, tons/yr	1,341
PM10 Reductions, tons/yr	52.4
Total Reductions, tons/yr	1,393
VERA funds expended	\$10,958,189
Cost Effectiveness, \$/ton/yr	\$7,867

## VI. INDUSTRY TRENDS, 2006-2010

Construction activity in the San Joaquin Valley and throughout California peaked in 2005 and dropped to record lows in 2009 and 2010. According to an August 2009 report by the Business Forecasting Center at the University of the Pacific<sup>3</sup>,

<sup>3</sup> Business Forecasting Center, Eberhardt School of Business, University of the Pacific. “Unemployment in the San Joaquin Valley in 2009: Fish or Foreclosure.” August 2009.

“In a typical year, the San Joaquin Valley requires nearly 25,000 new housing units to keep pace with new household formation in a region approaching 4 million in population. Data from the Construction Industry Research Board (CIRB) shows that the home building boom peaked from 2003 to 2005, when the San Joaquin Valley was producing over 30,000 new units per year. In 2006, home building fell by 25% from the peak, to a level of 26,000 units. Production fell below 20,000 units in 2007, and dropped below 10,000 units in 2008 for the first time since CIRB records began in 1980. Through the first 6 months of 2009, residential building is on pace for another record low of 6,500 units, an over 80% decline from peak levels. In the past year of deep recession, the construction contraction has spread to the non-residential sector which has declined by nearly 50%.”

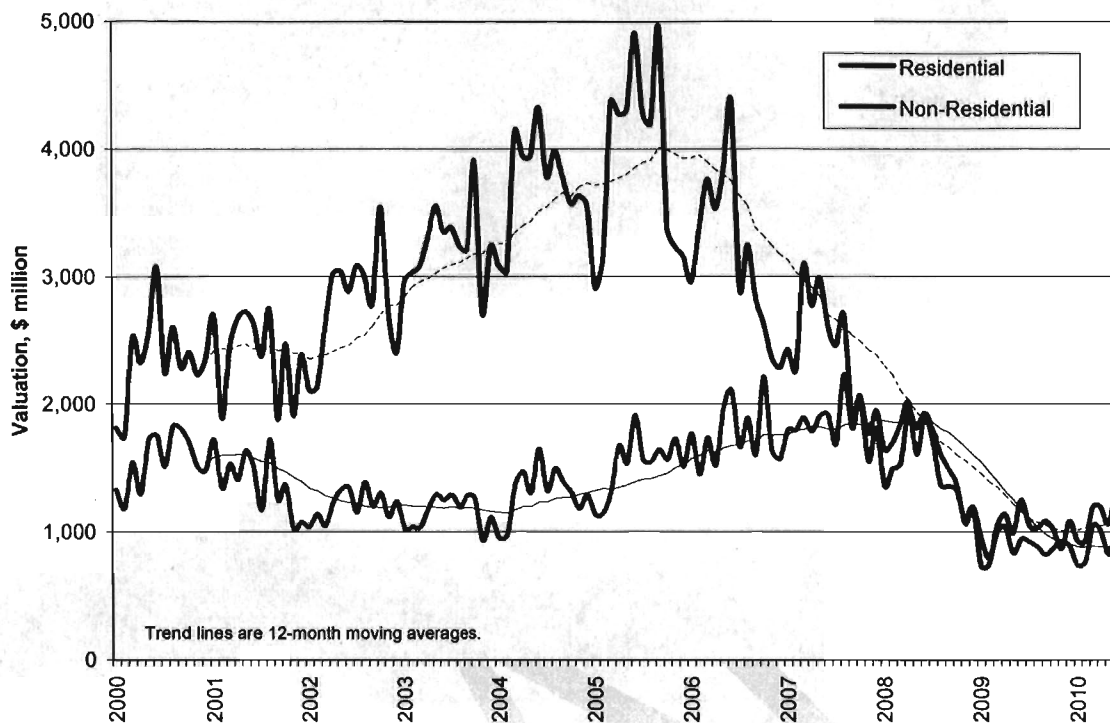
The University of the Pacific report estimates that valuation of San Joaquin Valley construction permits dropped from \$6.6 billion in 2006 to \$2.1 billion in 2009, a decrease of \$4.5 billion over the course of three years. The report estimates 80% of that loss was in residential construction, and the remainder in non-residential construction. The report also estimates direct job losses in the Valley construction industry could range from 23,900 to 32,300, and the total employment impact – which includes indirect job losses – at nearly 47,000. The report indicates that this employment impact accounted for 2.5 percentage points of the Valley’s total unemployment rate.

The decline in construction activity is also evidenced in the rate of applications for the ISR rule. As shown in Table 2, the average of the residential units addressed by ISR during the first two years of the program was 7,255, while the average in the latest two years was 1,245, an 83% drop. The decline of San Joaquin Valley construction is matched by California’s statewide trends, shown in Figure 3. This graph, which uses permit valuation data from the California Department of Finance<sup>4</sup>, indicates that statewide construction has continued to stagnate into 2010.

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<sup>4</sup> California Department of Finance. Financial and Economic Data, Latest Construction Data. [http://www.dof.ca.gov/HTML/FS\\_DATA/LatestEconData/FS\\_Construction.htm](http://www.dof.ca.gov/HTML/FS_DATA/LatestEconData/FS_Construction.htm)

**Figure 3, California Construction Permits – Monthly Permit Valuation**

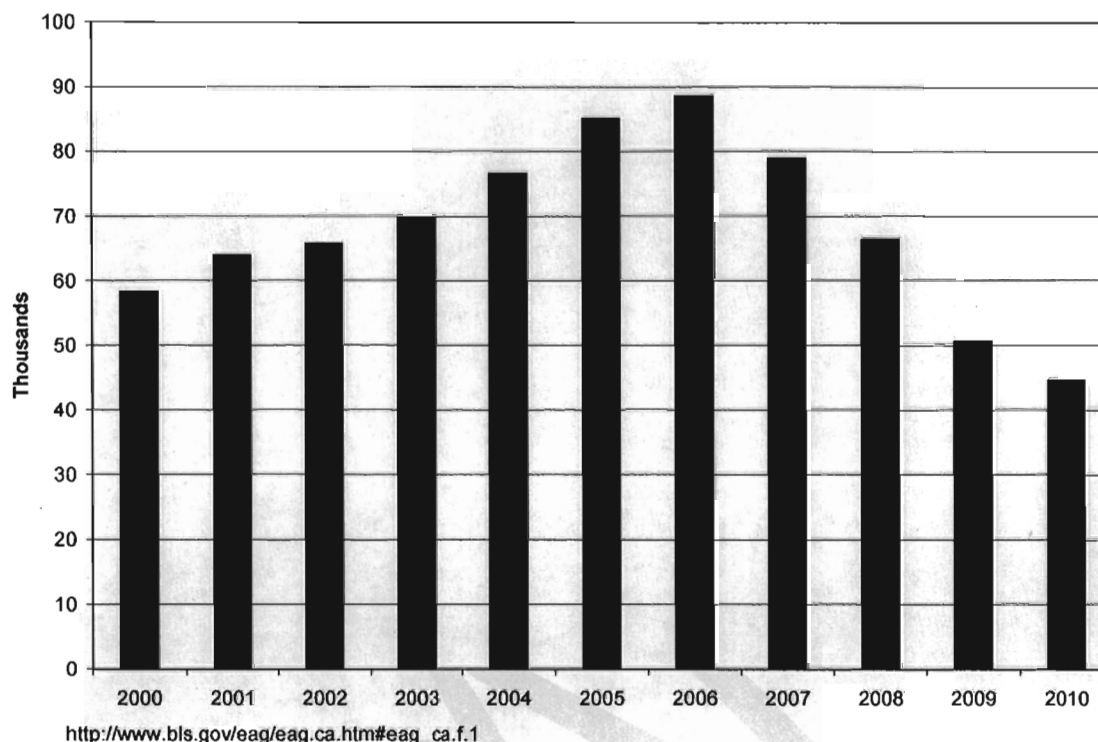


[http://www.dof.ca.gov/HTML/FS\\_DATA/LatestEconData/FS\\_Construction.htm](http://www.dof.ca.gov/HTML/FS_DATA/LatestEconData/FS_Construction.htm)

Figure 4 shows that construction industry employment in the San Joaquin Valley follows a profile similar to statewide permit valuation<sup>5</sup>. Some differences are noted, however. The peak in permit valuation leads the peak in employment by a year, and the total decline in permit valuation is 65% off the 2005 peak while employment declined by 50% from the 2006 peak. Employment data are a better indicator of real construction activity than permit valuation, since permitting actions may be speculative. Data for 2010 in Figure 4 reflects monthly averages through the end of July.

<sup>5</sup> US Department of Commerce, Bureau of Labor Statistics, Construction employment data, [http://www.bls.gov/eag/eag.ca.htm#eag\\_ca.f.1](http://www.bls.gov/eag/eag.ca.htm#eag_ca.f.1)



**Figure 4, Construction Employment, San Joaquin Valley**

## VII. ASSESSMENT OF THE ISR PROGRAM

The nationwide economic recession has seriously impacted the Valley's land-development and construction industries during the last five years. The downturn in construction activity has resulted in fewer projects being subject to ISR than was previously expected. Despite the downturn in activity, after approval of the ISR rule the industry has adopted significant improvements in land development practices after the approval of the ISR rule. Developers have increased the number of air-friendly design features in their projects, contractors are employing cleaner construction equipment, and transportation distribution centers are employing cleaner truck fleets. As evidence of the overall success of ISR in changing land-use development practices, Table 1 shows that per-project emissions have decreased, while Table 5 shows the ratio of on-site reductions to off-site reductions has increased five-fold since ISR was first adopted.

Utilization of ISR off-site mitigation funds for incentive programs was anticipated to begin in 2006. However, these funds have been restricted in light of litigation, thus the full extent of anticipated ISR emissions reductions are not yet realized. Recent legal decisions have had the effect of releasing approximately \$7 million for District use in emissions reductions projects. While the District anticipated a steady utilization of these funds for incentive programs, full implementation should result in intensified emissions reductions over the next few years. Through established accountability measures, ISR ensures that the District will utilize off-site fees to fund quantifiable and enforceable off-site projects that reduce surplus emissions of NOx and PM10.



## APPENDIX

### On-site Emission Reduction Mitigation Measures

The San Joaquin Valley Air Pollution Control District (District) has prepared the following list of on-site mitigation measures to help developers identify ways to reduce air impacts associated with development projects occurring within the San Joaquin Valley Air Basin. Please note that this is not an exhaustive list, and developers are encouraged to suggest new mitigation measures for addition to the list. For convenience, mitigation measures have been grouped into categories based on the type of emission reduction activity, i.e., Building Design, Transportation/Pedestrian, or Project Design. However, a given mitigation measure may be applicable to more than one development activity.

### Alternative Transit Mitigation Measures

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1. Project is located within 1/4-1/2 mile of a transit stop.
2. Project is located within one mile of a park and ride lot operated by a transportation agency.
3. Other trip reduction services on site or within 1/4 mile of site.
4. Provide Class I and Class II bicycle parking/storage facilities on-site. Bicycle parking facilities should be near destination points and easy to find. At least one bicycle parking space for every 20 vehicle parking spaces.
5. Provide shower and locker facilities to encourage employees to bike and/or walk to work, typically one shower and three lockers for every 25 employees.
6. Provide Class I bicycle parking at apartment complexes or condos without garages.
7. Install Class I or II bike lanes on arterial/collector streets, or where a suitable route exists.
8. Provide building access and paths which are physically separated from street parking lot traffic and that eliminate physical barriers such as walls, berms, landscaping and slopes that impede the use of pedestrians, bicycle facilities, or public transportation vehicles.
9. Provide continuous sidewalks separated from the roadway by landscaping and on street parking.
10. Provide on and off-site pedestrian facility improvements such as trails linking them to designated pedestrian commuting routes and/or on-site overpasses and wider sidewalks.
11. Link cul-de-sacs and dead-end streets to encourage pedestrian and bicycle travel.
12. Provide traffic reduction modifications to project roads, such as: narrower streets, speed platforms, bulb-outs and intersection modifications designed to reduce vehicle speeds and to encourage pedestrian and bicycle travel.
13. Provide preferential parking spaces near the entrance of buildings for those who carpool/vanpool/rideshare and provide signage.
14. Provide guaranteed ride home.
15. Provide carpool support system.
16. Provide car-sharing services support system.

17. Employ or appoint an Employee Transportation Coordinator to work with the TMA and the District.
18. Implement a rideshare program.
19. Provide incentives to employees to carpool/vanpool, take public transportation, telecommute, walk, bike, etc.
20. Participate in an employee "flash-pass" program, which provides free travel on transit buses.
21. Provide an employer subsidized shuttle service to connect to existing transit sites.
22. Implement a lunchtime shuttle to reduce single occupant vehicle trips.
23. Provide electric shuttle or minibus service to transit stops.
24. Provide free transfers between all shuttles and transit.
25. Operation of a shuttle bus to shopping, health care, public services sites, etc. to reduce automobile use.
26. Implement alternative work schedules such as compressed workweek schedules where weekly work hours are compressed into fewer than five days. Examples of these options are: 9/80, 4/40, 3/36.

#### **Bicycle Infrastructure Mitigation Measures**

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1. Project is located within 1/2 mile of existing or planned Class I or II bike lanes on arterial/collector streets, or where a suitable parallel route exists.
2. Provide Class I and Class II bicycle parking/storage facilities on-site. Bicycle parking facilities should be near destination points and easy to find. At least one bicycle parking space for every 20 vehicle parking spaces.
3. Provide Class I bicycle parking at apartment complexes or condos without garages.
4. Install Class I or II bike lanes on arterial/collector streets, or where a suitable route exists.
5. Provide building access and paths which are physically separated from street parking lot traffic and that eliminate physical barriers such as walls, berms, landscaping and slopes that impede the use of pedestrians, bicycle facilities, or public transportation vehicles.
6. Link cul-de-sacs and dead-end streets to encourage pedestrian and bicycle travel
7. Provide traffic reduction modifications to project roads, such as: narrower streets, speed platforms, bulb-outs and intersection modifications designed to reduce vehicle speeds and to encourage pedestrian and bicycle travel.
8. Provide incentives to employees to carpool/vanpool, take public transportation, telecommute, walk, bike, etc.

#### **Commercial Developments Mitigation Measures**

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1. Project is located within one mile of a park and ride lot operated by a transportation agency.
2. Other trip reduction services on site or within 1/4 mile of site.

3. Projects that minimize the need for trips in high density residential, mixed, or retail/commercial use areas that are located within a 1/2 mile of project centers.
4. Provide Class I and Class II bicycle parking/storage facilities on-site. Bicycle parking facilities should be near destination points and easy to find. At least one bicycle parking space for every 20 vehicle parking spaces.
5. Provide shower and locker facilities to encourage employees to bike and/or walk to work, typically one shower and three lockers for every 25 employees.
6. Install Class I or II bike lanes on arterial/collector streets, or where a suitable route exists.
7. Provide building access and paths which are physically separated from street parking lot traffic and that eliminate physical barriers such as walls, berms, landscaping and slopes that impede the use of pedestrians, bicycle facilities, or public transportation vehicles.
8. Provide traffic reduction modifications to project roads, such as: narrower streets, speed platforms, bulb-outs and intersection modifications designed to reduce vehicle speeds and to encourage pedestrian and bicycle travel.
9. Provide a display case or kiosk displaying transportation information in a prominent area accessible to employees, residents, or visitors.
10. Display Bike Route Maps, Bus Schedules, and any other transportation information such as carpooling, car sharing.
11. Project design uses models by the Local Government Commission (LGC) in the "Smart Growth Guidebook," such as: street block patterns that form an interconnected grid, short block faces, numerous alleys and narrow streets.
12. Develop and implement parking pricing strategies, such as charging parking lot fees to low occupancy (single occupant vehicles) vehicles.
13. Provide preferential parking spaces near the entrance of buildings for those who carpool/vanpool/rideshare and provide signage.
14. Install efficient heating and other appliances, such as water heaters, cooking equipment, refrigerators, furnaces and boiler units beyond Title 24 requirements (see Title 24, Part 6, Energy Efficiency Standards for Residential and Nonresidential Buildings:<http://www.energy.ca.gov/title24/standard>)
15. Improve the thermal integrity/efficiency of buildings, and reduce the thermal load with automated and timed temperature controls or occupant sensors.
16. Solar Design
17. Use devices that minimize the combustion of fossil fuels.
18. Install high efficiency Energy Star heating or ground source heat pumps.
19. Install energy efficient interior lighting.
20. Install built-in energy efficient appliances.
21. Install electrical outlets on the exterior walls of both the front and back of residences or all commercial buildings to promote the use of electric landscape maintenance equipment.
22. Install electric vehicle recharging station with both conductive and inductive charging capabilities in residential garages / parking lots.

23. Project provides and/or requires use of electric maintenance equipment; including, but not limited to electric lawn mowers, electric leaf blowers, etc.
24. Prohibit gas powered landscape maintenance equipment within developments.

### **Energy Efficiency Mitigation Measures**

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1. Install efficient heating and other appliances, such as water heaters, cooking equipment, refrigerators, furnaces and boiler units beyond Title 24 requirements (see Title 24, Part 6, Energy Efficiency Standards for Residential and Nonresidential Buildings: <http://www.energy.ca.gov/title24/standard>).
2. Improve the thermal integrity/efficiency of buildings, and reduce the thermal load with automated and timed temperature controls or occupant sensors.
3. Solar Design.
4. Use devices that minimize the combustion of fossil fuels.
5. Install high efficiency Energy Star heating or ground source heat pumps.
6. Install energy efficient interior lighting.
7. Install built-in energy efficient appliances.
8. Install electrical outlets on the exterior walls of both the front and back of residences or all commercial buildings to promote the use of electric landscape maintenance equipment.
9. Install electric vehicle recharging station with both conductive and inductive charging capabilities in residential garages / parking lots.
10. Install a gas outlet for use with outdoor cooking appliances, and in any proposed fireplaces, including outdoor recreational fireplaces or pits.
11. Install HEPA (High Efficiency Particle Arrestance) Filters.
12. Install "whole-house" or "fresh-air" ventilation system.
13. Project provides and/or requires use of electric maintenance equipment; including, but not limited to electric lawn mowers, electric leaf blowers, etc.
14. Prohibit gas powered landscape maintenance equipment within developments.

### **Fleet Improvements Mitigation Measures**

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1. Replace diesel fleet with alternative fuel engine technology and infrastructure.
2. Retrofit existing equipment to reduce emissions using methods such as particulate filters, oxidation catalysts, or other approved technologies.
3. Adopt a Vehicle Idling Policy requiring all vehicles under company control to adhere to a 5 minute idling policy.
4. Add-on control devices, e.g., particulate traps, catalytic oxidizers on construction equipment.
5. Repower/Retrofit heavy-duty diesel fleet with cleaner diesel engine technology and/or diesel particulate filter after-treatment technology.



6. Replace auxiliary power units with cleaner engine technology, alternative fuels, or require electric connection while at loading dock.
7. Replace diesel fleet vehicles with cleaner fueled low emission vehicles (i.e. school buses, buses, on- and off- road heavy duty vehicles, lighter duty trucks and passenger vehicles).

### **Landscaping Mitigation Measures**

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1. Provide continuous sidewalks separated from the roadway by landscaping and on-street parking.
2. Install electrical outlets on the exterior walls of both the front and back of residences or all commercial buildings to promote the use of electric landscape maintenance equipment.
3. Project provides and/or requires use of electric maintenance equipment; including, but not limited to electric lawn mowers, electric leaf blowers, etc.
4. Prohibit gas powered landscape maintenance equipment within developments.

### **Mixed Use Developments Mitigation Measures**

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1. Project is located within one mile of a park and ride lot operated by a transportation agency.
2. Other trip reduction services on site or within 1/4 mile of site.
3. Projects that minimize the need for trips in high density residential, mixed, or retail/commercial use areas that are located within a 1/2 mile of project centers.
4. Provide Class I and Class II bicycle parking/storage facilities on-site. Bicycle parking facilities should be near destination points and easy to find. At least one bicycle parking space for every 20 vehicle parking spaces.
5. Provide shower and locker facilities to encourage employees to bike and/or walk to work, typically one shower and three lockers for every 25 employees.
6. Provide Class I bicycle parking at apartment complexes or condos without garages.
7. Install Class I or II bike lanes on arterial/collector streets, or where a suitable route exists.
8. Provide building access and paths which are physically separated from street parking lot traffic and that eliminate physical barriers such as walls, berms, landscaping and slopes that impede the use of pedestrians, bicycle facilities, or public transportation vehicles.
9. Link cul-de-sacs and dead-end streets to encourage pedestrian and bicycle travel.
10. Provide traffic reduction modifications to project roads, such as: narrower streets, speed platforms, bulb-outs and intersection modifications designed to reduce vehicle speeds and to encourage pedestrian and bicycle travel.
11. Provide a display case or kiosk displaying transportation information in a prominent area accessible to employees, residents, or visitors.
12. Display Bike Route Maps, Bus Schedules, and any other transportation information such as carpooling, car sharing.



13. Project design uses models by the Local Government Commission (LGC) in the "Smart Growth Guidebook," such as: street block patterns that form an interconnected grid, short block faces, numerous alleys and narrow streets.
14. Develop and implement parking pricing strategies, such as charging parking lot fees to low occupancy (single occupant vehicles) vehicles.
15. Provide preferential parking spaces near the entrance of buildings for those who carpool/vanpool/rideshare and provide signage.
16. Install "whole-house" or "fresh-air" ventilation system.
17. Project provides and/or requires use of electric maintenance equipment; including, but not limited to electric lawn mowers, electric leaf blowers, etc.
18. Prohibit gas powered landscape maintenance equipment within developments.

### **Parking Lot Mitigation Measures**

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1. Provide Class I and Class II bicycle parking/storage facilities on-site. Bicycle parking facilities should be near destination points and easy to find. At least one bicycle parking space for every 20 vehicle parking spaces.
2. Provide building access and paths which are physically separated from street parking lot traffic and that eliminate physical barriers such as walls, berms, landscaping and slopes that impede the use of pedestrians, bicycle facilities, or public transportation vehicles.
3. Provide a parking lot design that includes clearly marked and shaded pedestrian pathways between transit facilities and building entrances.
4. Provide a display case or kiosk displaying transportation information in a prominent area accessible to employees, residents, or visitors.
5. Develop and implement parking pricing strategies, such as charging parking lot fees to low occupancy (single occupant vehicles) vehicles.
6. Provide preferential parking spaces near the entrance of buildings for those who carpool/vanpool/rideshare and provide signage.
7. Install electric vehicle recharging station with both conductive and inductive charging capabilities in residential garages / parking lots.

### **Public Transportation Measures**

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1. Project is located within 1/4-1/2 mile of a transit stop.
2. Project is located within one mile of a park and ride lot operated by a transportation agency.
3. Other trip reduction services on site or within 1/4 mile of site.
4. Provide a parking lot design that includes clearly marked and shaded pedestrian pathways between transit facilities and building entrances.
5. Provide pedestrian access between bus service and major transportation points and to destination points within the project.

6. Provide a display case or kiosk displaying transportation information in a prominent area accessible to employees, residents, or visitors.
7. Provide incentives to employees to carpool/vanpool, take public transportation, telecommute, walk, bike, etc.
8. Participate in an employee "flash-pass" program, which provides free travel on transit buses.
9. Provide transit pass subsidy (100%) and/or commute alternative allowance.
10. Provide an employer subsidized shuttle service to connect to existing transit sites.

### **Residential Developments Mitigation Measures**

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1. Projects that minimize the need for trips in high density residential, mixed, or retail/commercial use areas that are located within a 1/2 mile of project centers.
2. Increase residential density.
3. Designate a portion of residential units as deed-restricted below-market-rate (BMR) housing; Affordable Housing.
4. Provide Class I and Class II bicycle parking/storage facilities on-site. Bicycle parking facilities should be near destination points and easy to find. At least one bicycle parking space for every 20 vehicle parking spaces.
5. Provide Class I bicycle parking at apartment complexes or condos without garages.
6. Install Class I or II bike lanes on arterial/collector streets, or where a suitable route exists.
7. Provide building access and paths which are physically separated from street parking lot traffic and that eliminate physical barriers such as walls, berms, landscaping and slopes that impede the use of pedestrians, bicycle facilities, or public transportation vehicles.
8. Link cul-de-sacs and dead-end streets to encourage pedestrian and bicycle travel.
9. Provide traffic reduction modifications to project roads, such as: narrower streets, speed platforms, bulb-outs and intersection modifications designed to reduce vehicle speeds and to encourage pedestrian and bicycle travel.
10. Provide a display case or kiosk displaying transportation information in a prominent area accessible to employees, residents, or visitors.
11. Display Bike Route Maps, Bus Schedules, and any other transportation information such as carpooling, car sharing.
12. Project design uses models by the Local Government Commission (LGC) in the "Smart Growth Guidebook," such as: street block patterns that form an interconnected grid, short block faces, numerous alleys and narrow streets.
13. Install efficient heating and other appliances, such as water heaters, cooking equipment, refrigerators, furnaces and boiler units beyond Title 24 requirements (see Title 24, Part 6, Energy Efficiency Standards for Residential and Nonresidential Buildings:<http://www.energy.ca.gov/title24/standard>)
14. Improve the thermal integrity/efficiency of buildings, and reduce the thermal load with automated and timed temperature controls or occupant sensors.

15. Solar Design.
16. Use devices that minimize the combustion of fossil fuels.
17. Install high efficiency Energy Star heating or ground source heat pumps.
18. Install energy efficient interior lighting.
19. Install built-in energy efficient appliances.
20. Install electrical outlets on the exterior walls of both the front and back of residences or all commercial buildings to promote the use of electric landscape maintenance equipment.
21. Install electric vehicle recharging station with both conductive and inductive charging capabilities in residential garages / parking lots.
22. Install a gas outlet for use with outdoor cooking appliances, and in any proposed fireplaces, including outdoor recreational fireplaces or pits.
23. Install "whole-house" or "fresh-air" ventilation system.
24. Reduce Wood Burning Fireplaces and/or Woodstoves above that required by District Rule 4901.
25. Project provides and/or requires use of electric maintenance equipment; including, but not limited to electric lawn mowers, electric leaf blowers, etc.
26. Prohibit gas powered landscape maintenance equipment within developments.

#### **Street Design Mitigation Measures**

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1. Install Class I or II bike lanes on arterial/collector streets, or where a suitable route exists.
2. Provide building access and paths which are physically separated from street parking lot traffic and that eliminate physical barriers such as walls, berms, landscaping and slopes that impede the use of pedestrians, bicycle facilities, or public transportation vehicles.
3. Provide continuous sidewalks separated from the roadway by landscaping and on-street parking.
4. Provide on and off-site pedestrian facility improvements such as trails linking them to designated pedestrian commuting routes and/or on-site overpasses and wider sidewalks.
5. Link cul-de-sacs and dead-end streets to encourage pedestrian and bicycle travel.
6. Provide traffic reduction modifications to project roads, such as: narrower streets, speed platforms, bulb-outs and intersection modifications designed to reduce vehicle speeds and to encourage pedestrian and bicycle travel.
7. Provide pedestrian access between bus service and major transportation points and to destination points within the project.
8. Project design uses models by the Local Government Commission (LGC) in the "Smart Growth Guidebook," such as: street block patterns that form an interconnected grid, short block faces, numerous alleys and narrow streets.

### **Worker Alternatives Mitigation Measures**

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1. Provide Class I and Class II bicycle parking/storage facilities on-site. Bicycle parking facilities should be near destination points and easy to find. At least one bicycle parking space for every 20 vehicle parking spaces.
2. Provide shower and locker facilities to encourage employees to bike and/or walk to work, typically one shower and three lockers for every 25 employees.
3. Provide a parking lot design that includes clearly marked and shaded pedestrian pathways between transit facilities and building entrances.
4. Provide pedestrian access between bus service and major transportation points and to destination points within the project.
5. Provide a display case or kiosk displaying transportation information in a prominent area accessible to employees, residents, or visitors.
6. Display Bike Route Maps, Bus Schedules, and any other transportation information such as carpooling, car sharing.
7. Provide preferential parking spaces near the entrance of buildings for those who carpool/vanpool/rideshare and provide signage.
8. Provide guaranteed ride home.
9. Provide carpool support system.
10. Provide car-sharing services support system.
11. Employ or appoint an Employee Transportation Coordinator to work with the TMA and the District.
12. Implement a rideshare program.
13. Provide incentives to employees to carpool/vanpool, take public transportation, telecommute, walk, bike, etc.
14. Participate in an employee "flash-pass" program, which provides free travel on transit buses.
15. Provide transit pass subsidy (100%) and/or commute alternative allowance.
16. Provide an employer subsidized shuttle service to connect to existing transit sites.
17. Implement a lunchtime shuttle to reduce single occupant vehicle trips.
18. Implement alternative work schedules such as compressed workweek schedules where weekly work hours are compressed into fewer than five days. Examples of these options are : 9/80, 4/40, 3/36.



**San Joaquin Valley**  
AIR POLLUTION CONTROL DISTRICT

**San Joaquin Valley Air Pollution Control District**

**2010 Annual Report**

**Indirect Source Review Program**

**Reporting Period:  
March 1, 2009 to February 28, 2010**



**San Joaquin Valley Unified  
Air Pollution Control District**

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December 2010**

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**Ann Johnston**  
Mayor, City of Stockton

**Hub Walsh**  
Supervisor, Merced County

**Mike Lane**  
Councilmember, City of Visalia

**Raymond A. Watson**  
Supervisor, Kern County

**Executive Director/Air Pollution Control Officer**  
Seyed Sadredin



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## I. EXECUTIVE SUMMARY

This "2010 Annual Report on the District's Indirect Source Review Program" was prepared by the San Joaquin Valley Unified Air Pollution Control District. District Rule 9510, (Indirect Source Review), was adopted by the District's Governing Board to reduce the impacts of growth in emissions resulting from new land development in the San Joaquin Valley. Rule 9510 (ISR) is a commitment in the EPA approved PM10 Attainment Demonstration Plan. The objective of the rule is to reduce emissions of NOx and PM10 associated with construction and operational activities of development projects occurring within the San Joaquin Valley. When it was adopted, District staff anticipated that the rule would reduce development project impacts on air quality by approximately 11 tons per day (NOx+PM10) in 2010. This projection was made before the downturn in the global economy and construction in the US, California, and the San Joaquin Valley.

District Rule 9510 applies to new development projects that would equal or exceed specific size limits called "applicability thresholds". The applicability thresholds were established at levels intended to capture projects that emit at least two tons of nitrogen oxides (NOx) or two tons of particulate matter smaller than ten microns in aerodynamic diameter (PM10) per year. The rule contains provisions exempting stationary source projects that are subject to the District's stationary source permitting requirements.

Developers of projects subject to Rule 9510 must reduce emissions occurring during construction and operational phases, or pay off-site mitigation fees. One hundred percent of all offsite mitigation fees are used by the District's Emission Reduction Incentive Program (ERIP) to fund emission reduction projects, achieving emission reductions in behalf of the project. Additionally, developers pay an administrative fee equal to four percent (4%) of the required off-site fees. This fee is to cover the District's cost of administering the off-site emission reduction program.

For the 2009-2010 ISR annual reporting period, the District's ISR account held a beginning balance of \$9,525,459. During this reporting period, the District received off-site mitigation fees totaling \$678,003 resulting in a grand total of \$10,203,462. The District funded off-site emission reduction projects totaling \$406,833 leaving an unexpended balance of \$9,796,629. Projects funded by the District achieved emission reductions totaling 179.37 tons NOx and 0.35 tons PM10, for a combined total of 179.72 tons and a cost effectiveness of \$2,263.71 per ton. District expenditure of mitigation fees was limited during this reporting period, pending resolution of legal challenges to District Rule 9510. The District has prevailed in these legal challenges thus, the District is now able to utilize these funds to further emission reductions in the valley.

Compared with the 2008-2009 reporting period, the ISR program experienced a 30% decrease in Air Impact Assessment (AIA) applications (114 applications received this year versus 163 last year) and a 63% decrease in payment of off-site mitigation fees (\$678,003 received this year compared to \$1,864,241 last year). These trends are attributable to the unfavorable economic climate in the State of California and the associated decline in new housing starts and commercial development.

## II. INTRODUCTION

The District's population increased by 22% between 1990 and 2000, and California's Department of Finance has projected that the San Joaquin Valley Air Basin (SJVAB) will experience an overall increase in population of 24% between 2000 and 2010, and an additional 26% increase between 2010 and 2020. Population growth results in increased area source emissions from activities such as consumer product use, fuel combustion, and landscape maintenance. Additionally, the total number of vehicle miles traveled (VMT) increases at an even faster rate than population growth. The projected growth in these so called "indirect source" emissions erodes the benefits of emission reductions achieved through the District's stationary source program and the state and federal mobile source controls.

The District has longstanding statutory authority to regulate indirect sources of air pollution. Pursuant to this authority, the District made a federally enforceable commitment to regulate indirect sources when it adopted its PM10 Attainment Plan in June 2003. Subsequently, the California State Legislature passed Senate Bill 709, Florez, in the fall of 2003, which Governor Gray Davis subsequently signed and codified into the Health and Safety Code in §40604. This additional legislation required the District to adopt, by regulation, a schedule of fees to be assessed on area wide or indirect sources of emissions that are regulated by the District.

District Rule 9510 (Indirect Source Review) was adopted by the District's Board on December 15, 2005, and became effective March 1, 2006. District Rule 9510 (ISR) was adopted by the District's Board to reduce the impacts of growth in emissions resulting from new land development in the San Joaquin Valley. The rule applies to new residential and non-residential development projects, including transportation and transit projects, which equal or exceed established applicability thresholds. The applicability thresholds are established at levels intended to capture projects that emit at least two tons of nitrogen oxides (NOx) or two tons of particulate matter smaller than ten microns in aerodynamic diameter (PM10) per year. Upon full implementation, it is anticipated that the rule will reduce development project impacts on air quality by 10.1 tons per day (NOx+PM10).

Developers of projects subject to ISR must reduce emissions occurring during construction and operational phases, or pay off-site mitigation fees. One hundred percent of all offsite mitigation fees are used by the District's Emission Reduction Incentive Program (ERIP) to fund emission reduction projects, achieving emission reductions in behalf of the project. Additionally, developers pay an administrative fee equal to four percent (4%) of the required off-site fees. This fee is to cover the District's cost of administering the off-site emission reduction program.

This report was prepared pursuant to provisions of Rule 9510 that require the District to prepare an annual report regarding expenditure of received funds and achieved emission reductions. Pursuant to Rule 9510, Section 10.4, the annual report should include the following:

- Total amount of Off-Site Fees received;
- Total monies spent;
- Total monies remaining;
- Any refunds distributed;
- A list of all projects funded;
- Total emissions reductions realized; and
- The overall cost-effectiveness factor for the projects funded.

### **III. IMPLEMENTATION**

#### District Rule 9510 (Indirect Source Review)

Through implementation of the ISR rule District staff is seeing positive changes in development practices. Since adoption of the rule, developers have voluntarily begun to incorporate many air-friendly design changes into their projects. For instance, significant reductions in emissions have occurred through the use of cleaner construction equipment. In 2006, the first year of implementation, only 14.3% of approved projects reduced construction exhaust impacts through use of construction equipment that is cleaner than the state fleet average. During the 2010 reporting period, voluntary use of clean construction equipment increased to 85%.

Another noteworthy change is that developers of large distribution centers reduced operational impacts through voluntarily committing to use newer, heavy-duty on-road fleet vehicles and maintaining a fleet replacement schedule that ensures older vehicles are replaced in a timely manner. In addition, many lesser but still cumulatively significant reductions in emissions have been garnered by a whole range of effective design principles, like installation of solar power, integrated mixed-use development design, bike lanes, high-efficiency housing design, and many others.

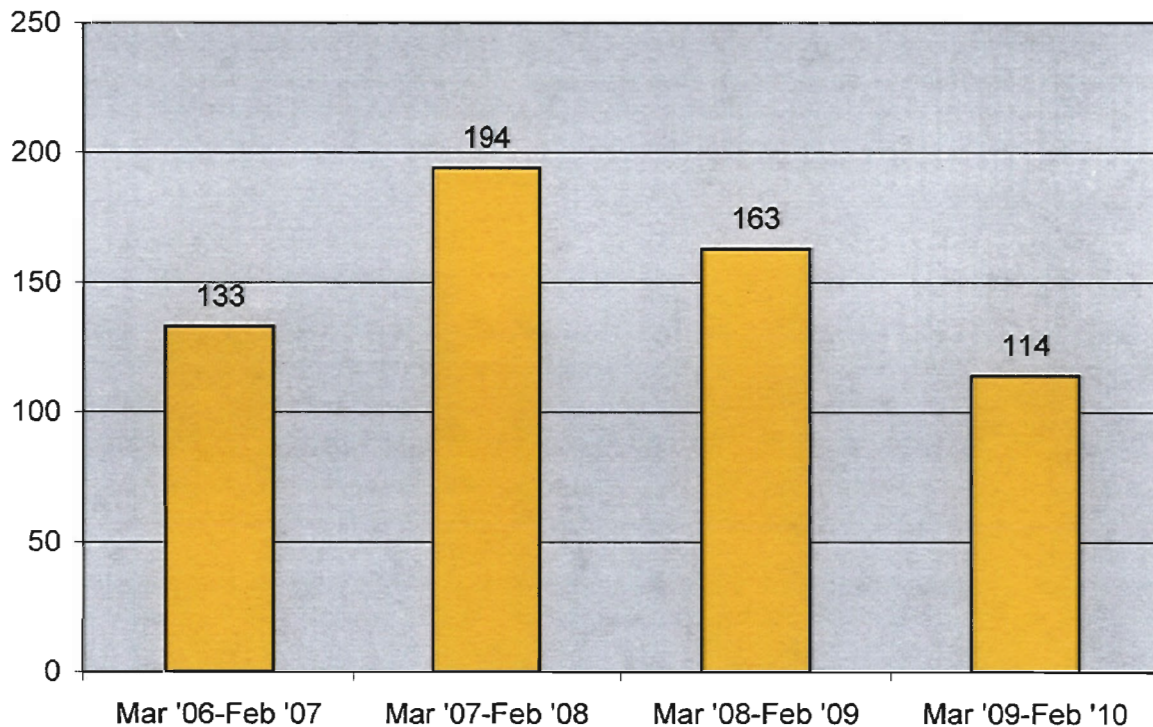
#### Voluntary Emission Reduction Agreements

A Voluntary Emission Reduction Agreement (VERA) is an air quality mitigation measure by which a developer voluntarily enters into a contractual agreement with the District to reduce a development project's impact on air quality beyond that achieved by compliance with District Rule 9510. By fully mitigating the project's impact on air quality, a developer can address one of the issues that have led to California Environmental Quality Act (CEQA) legal challenges to development projects within the San Joaquin Valley Air Basin.

Implementation of a VERA is complementary to ISR; project emissions are characterized, mitigation funds are paid to the District, the District administers the funds to secure the required emission reduction projects. For development projects subject to ISR, the developer must also comply with applicable rule provisions. To avoid double counting, emission reductions achieved through implementation of a VERA are credited towards satisfying ISR requirements. This report therefore includes revenues and emission reductions achieved through the VERA process.

A summary of Air Impact Assessment (AIA) applications received since 2006, the first year of implementation, is presented in Figure 1. Compared with the 2008-2009 reporting period, the ISR program experienced a 30% decrease in Air Impact Assessment (AIA) applications (114 applications versus 163 applications).

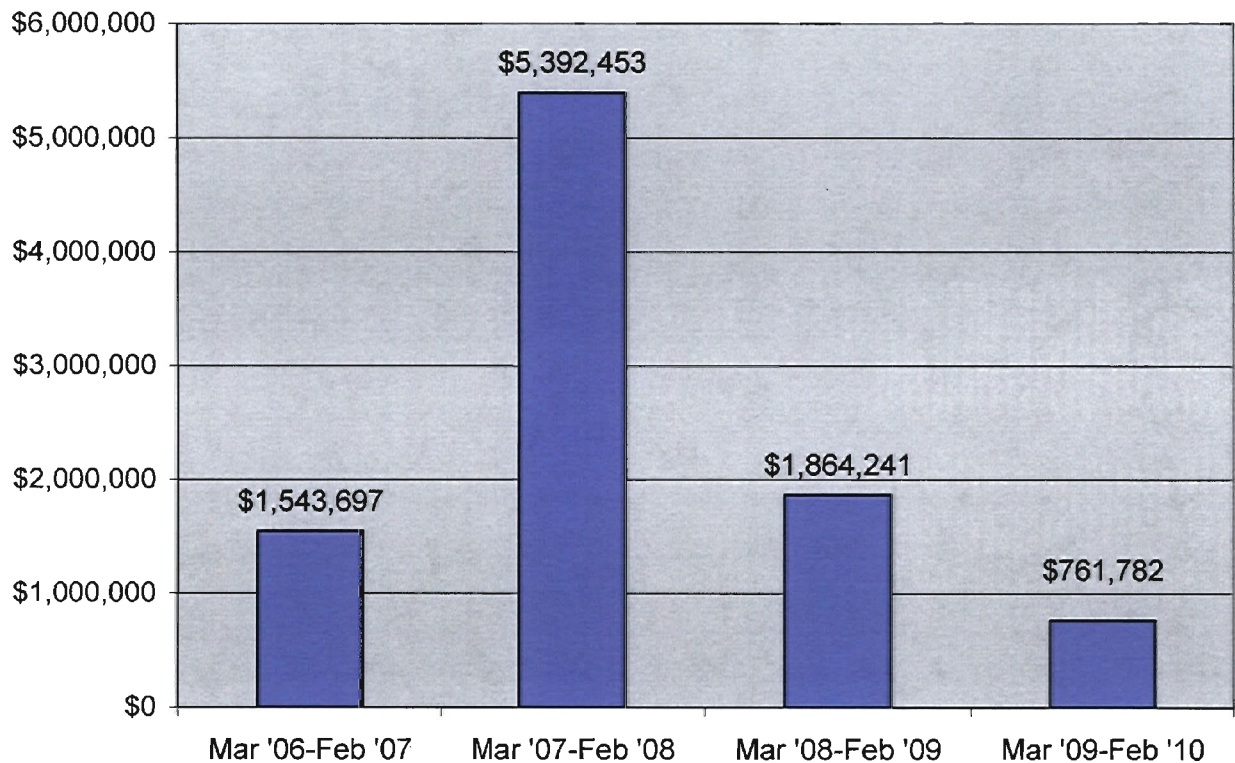
**Figure 1: Number of ISR Applications Received From 2006 to Feb 28, 2010**





As presented in Figure 2 below, there was a concomitant decrease in revenues from off-site mitigation fees. During this reporting period, off-site mitigation fees decreased by 63% (\$678,003 received this year compared to \$1,864,241 last year). These trends are attributable to the unfavorable economic climate in the State of California and the associated decline in new housing starts and commercial development.

**Figure 2: ISR Off-site Mitigation Fees Received From 2006 to Feb 28, 2010**



#### IV. FISCAL SUMMARY

As presented in Table 1, the ISR off-site mitigation fee account held a beginning balance of \$9,525,459. During this reporting period, the District received off-site mitigation fees totaling \$678,003 resulting in a grand total of \$10,203,462. The District funded off-site emission reduction projects totaling \$406,833 leaving an unexpended balance of \$9,796,629.

**Table 1: ISR/VERA Fiscal Summary (March 1, 2009 - February 28, 2010)**

	ISR	VERA	Total
Beginning Balance	\$8,649,575	\$875,884	\$9,525,459
Off-Site Mitigation Fees Received/Refunded	\$761,782	-\$83,779 <sup>1</sup>	\$678,003
Available Balance	\$9,411,357	\$792,105	\$10,203,462
Amount Spent	-\$241,741	-\$165,092	-\$406,833
Ending Balance	\$9,169,616	\$627,013	\$9,796,629

<sup>1</sup>Reimbursement of excess off-site mitigation fees

#### V. EMISSIONS REDUCTION SUMMARY

##### Achieved Emission Reductions

During this reporting period, the District used ISR and VERA fees to fund 49 emission reduction projects. The majority of funded projects consist of re-powering various type of diesel powered industrial portable equipment such as agricultural irrigation pumps and generators, with either cleaner diesel engines or by conversion to electric motors. However, the significant reductions were achieved through replacement of diesel powered agricultural tractors. Emission reduction projects achieved total reductions of 179.37 tons NO<sub>x</sub> and 0.35 tons PM<sub>10</sub>, for a combined total of 179.72 tons and a cost effectiveness of \$2,263.71 per ton (Table 2). Additionally, funded projects reduced emissions of reactive organic gases (ROG) by 1.25 tons.

The achieved cost effectiveness is substantially lower than the previous reporting period (\$8,249 per ton), and is attributable to funding agricultural tractor replacement projects. Agricultural tractors, which experience high hours of operation within the San Joaquin Valley, are thus demonstrated to be highly cost effective emission reduction projects. A complete list of all projects funded is presented in Appendix A.

**Table 2: ISR/VERA Emission Reductions (March 1, 2009 - February 28, 2010)**

Achieved Emission Reductions (Ton)				Amount Spent (\$)	Cost Effectiveness (\$/Ton)
Source	NOx	PM10	Total		
ISR	160.35	0	160.35	\$241,741	\$1,507.59
VERA	19.02	0.35	19.37	\$165,092	\$8,523
<b>Grand Total</b>	<b>179.37</b>	<b>0.35</b>	<b>179.72</b>	<b>\$406,833</b>	<b>\$2,263.71</b>

Projected Emission Reductions

Projected emission reductions are a combination of emission reductions to be achieved in the future through implementation of project design elements at full project build out and through funding off-site emission reductions projects, using off-site mitigation fees. For this reporting period, implementation of ISR resulted in combined projected on-site and off-site emission reductions totaling 800.6 tons of NOx and 740.1 tons of PM10 (Table 3).

**Table 3: Emission Reductions From Approved ISR Projects (March 1, 2009 - February 28, 2010)**

Projected Emission Reductions (Tons)			
Source	NOx	PM10	Total
On-site Emission Reductions	441.2	338.8	<b>780.0</b>
Off-site Emission Reductions	359.4	401.3	<b>760.7</b>
<b>Total</b>	<b>800.6</b>	<b>740.1</b>	<b>1540.7</b>

## APPENDIX A

List of all emission reduction projects funded by the ISR program

EMISSION REDUCTIONS PROJECTS  
ISR Annual Report / March 2009 – Feb 2010

<b>Application ID</b>	<b>Units</b>	<b>Equipment Type</b>	<b>NOx (ton)</b>	<b>PM (ton)</b>
3552	1	Irrigation Pump	1.88	0.01
6506	1	Irrigation Pump	2.57	0.05
6508	1	Irrigation Pump	1.63	0.03
6508	2	Irrigation Pump	1.26	0.03
6508	3	Irrigation Pump	1.71	0.03
6508	4	Irrigation Pump	2.18	0.04
6508	5	Irrigation Pump	2.16	0.04
6508	6	Irrigation Pump	1.85	0.04
6508	7	Irrigation Pump	1.93	0.04
6508	8	Irrigation Pump	1.85	0.04
7055	1	Agricultural Tractor	14.46	0
7112	1	Agricultural Tractor	21.74	0
7117	1	Agricultural Tractor	11.9	0
7167	1	Agricultural Tractor	4.5	0
7268	1	Agricultural Tractor	17.26	0
7317	1	Agricultural Tractor	6.17	0
7368	1	Agricultural Tractor	16.88	0
7938	1	Agricultural Tractor	16.86	0
7983	1	Agricultural Tractor	13.15	0
8129	1	Agricultural Loader	23.44	0
8212	1	Agricultural Tractor	13.99	0
		<b>Total Reductions</b>	<b>179.37</b>	<b>0.35</b>





**San Joaquin Valley**  
AIR POLLUTION CONTROL DISTRICT

**San Joaquin Valley Air Pollution Control District**

**2009 Annual Report**

**Indirect Source Review Program**

**Reporting Period:  
March 1, 2008 to February 28, 2009**

**San Joaquin Valley Unified  
Air Pollution Control District**

**Governing Board  
December 2010**

**Tony Barba, Chair**  
Supervisor, Kings County

**J. Steven Worthley, Vice Chair**  
Supervisor, Tulare County

**Randy Miller**  
Councilmember, City of Taft

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**William O'Brien**  
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Supervisor, San Joaquin County

**Ronn Dominici**  
Supervisor, Madera County

**John G. Telles M.D.**  
Appointed by Governor

**Henry Jay Forman, Ph.D**  
Appointed by Governor

**Chris Vierra**  
Councilmember, City of Ceres

**Ann Johnston**  
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Developers of projects subject to Rule 9510 must reduce emissions occurring during construction and operational phases, or pay off-site mitigation fees. One hundred percent of all off-site mitigation fees are used by the District's Emission Reduction Incentive Program (ERIP) to fund emission reduction projects, achieving emission reductions in behalf of the project. Additionally, developers pay an administrative fee equal to four percent (4%) of the required off-site fees. This fee is to cover the District's cost of administering the off-site emission reduction program.

For the 2008-2009 ISR annual reporting period, the District's ISR account held a beginning balance of \$9,858,975. During this reporting period, the District received off-site mitigation fees totaling \$2,016,314 resulting in a grand total of \$11,875,289. The District funded off-site emission reduction projects totaling \$2,349,829 leaving an unexpended balance of \$9,525,459. Projects funded by the District achieved emission reductions totaling 275.16 tons NOx and 9.69 tons PM10, for a combined total of 284.85 tons and a cost effectiveness of \$8,249 per ton. District expenditure of mitigation fees was limited during this reporting period, pending resolution of legal challenges to District Rule 9510.

Compared with the 2007-2008 reporting period, the ISR program experienced a 16% decrease in Air Impact Assessment (AIA) applications (163 applications received this year versus 194 last year) and a 65% decrease in payment of off-site mitigation fees (\$1,864,241 received this year compared to \$5,392,453 last year). These trends are attributable to the unfavorable economic climate in the State of California and the associated decline in new housing starts and commercial development.



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The District's population increased by 22% between 1990 and 2000, and California's Department of Finance has projected that the San Joaquin Valley Air Basin (SJVAB) will experience an overall increase in population of 24% between 2000 and 2010, and an additional 26% increase between 2010 and 2020. Population growth results in increased area source emissions from activities such as consumer product use, fuel combustion, and landscape maintenance. Additionally, the total number of vehicle miles traveled (VMT) increases at an even faster rate than population growth. The projected growth in these so called "indirect source" emissions erodes the benefits of emission reductions achieved through the District's stationary source program and the state and federal mobile source controls.

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### **III. IMPLEMENTATION**

#### District Rule 9510 (Indirect Source Review)

Through implementation of the ISR rule District staff is seeing positive changes in development practices. Since adoption of the rule developers have voluntarily begun to incorporate many air-friendly design changes into their projects. For instance, significant reductions in emissions have occurred through the use of cleaner construction equipment. In 2006, the first year of implementation, only 14.3% of approved projects reduced construction exhaust impacts through use of construction equipment that is cleaner than the state fleet average. During the 2009 reporting period, voluntary use of clean construction equipment increased to 68%.

Another note worthy change is that developers of large distribution centers reduced operational impacts through voluntarily committing to use newer, heavy-heavy duty on-road fleet vehicles and maintaining a fleet replacement schedule that ensures older vehicles are replaced in a timely manner. In addition, many lesser but still cumulatively significant reductions in emissions have been garnered by a whole range of effective design principles, like installation of solar power, integrated mixed-use development design, bike lanes, high-efficiency housing design, and many others.

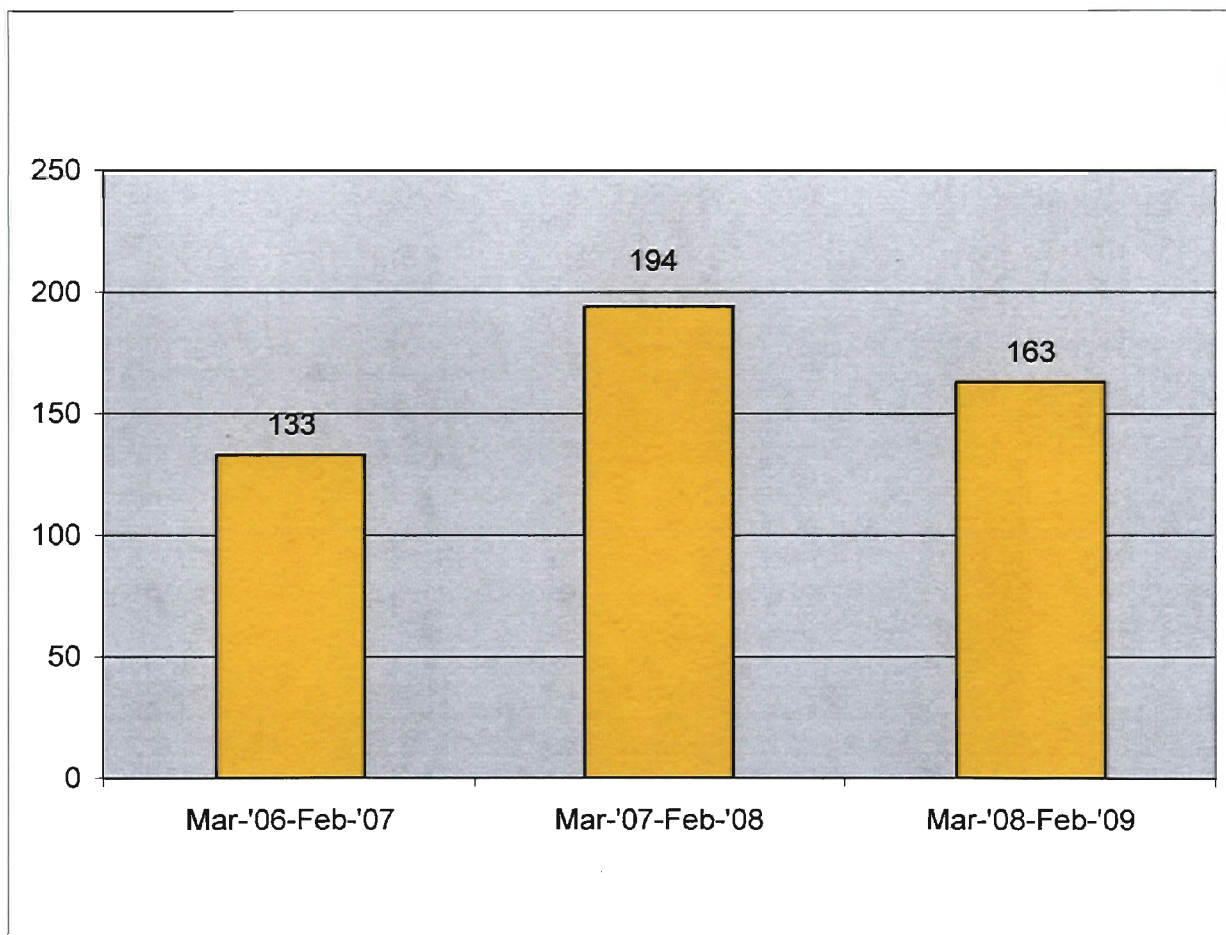
#### Voluntary Emission Reduction Agreements

A Voluntary Emission Reduction Agreement (VERA) is an air quality mitigation measure by which a developer voluntarily enters into a contractual agreement with the District to reduce a development project's impact on air quality beyond that achieved by compliance with District Rule 9510. By fully mitigating the project's impact on air quality, a developer can address one of the issues that have led to California Environmental Quality Act (CEQA) legal challenges to development projects within the San Joaquin Valley Air Basin.

Implementation of a VERA is complementary to ISR; project emissions are characterized, mitigation funds are paid to the District, the District administers the funds to secure the required emission reduction projects. For development projects subject to ISR, the developer must also comply with applicable rule provisions. To avoid double counting, emission reductions achieved through implementation of a VERA are credited towards satisfying ISR requirements. This report therefore includes revenues and emission reductions achieved through the VERA process.

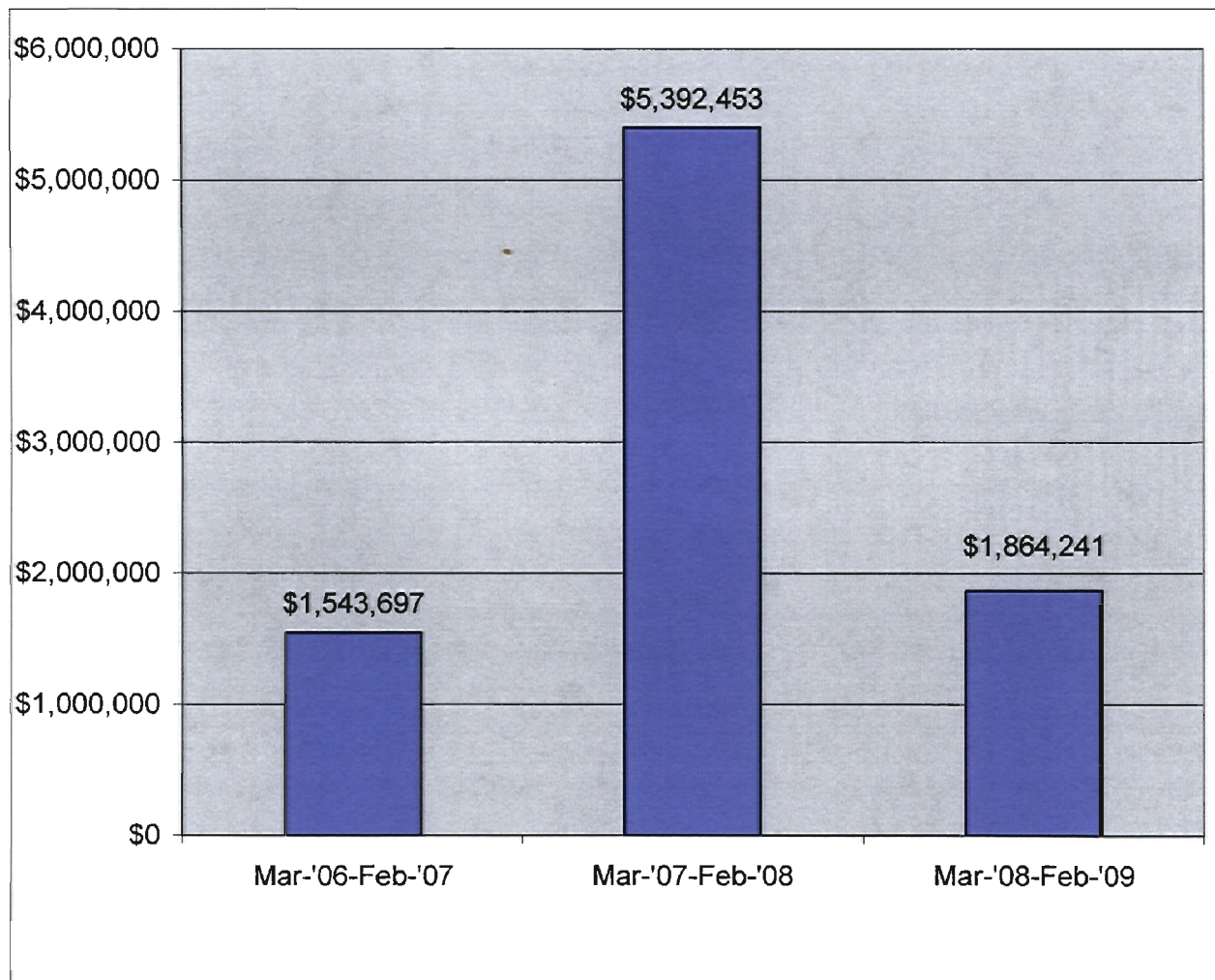
A summary of Air Impact Assessment (AIA) applications received since 2006, the first year of implementation, is presented in Figure 1. Compared with the 2007-2008 reporting period, the ISR program experienced a 16% decrease in Air Impact Assessment (AIA) applications (163 applications versus 194 applications).

**Figure 1: Number of ISR Applications Received From 2006 to Feb 28, 2009**



As presented in Figure 2 below, there was a concomitant decrease in revenues from off-site mitigation fees. During this reporting period, off-site mitigation fees decreased by 65% (\$1,864,241 received this year compared to \$5,392,453 last year). These trends are attributable to the unfavorable economic climate in the State of California and the associated decline in new housing starts and commercial development.

**Figure 2: ISR Off-site Mitigation Fees Received From 2006 to Feb 28, 2009**



## IV. FISCAL SUMMARY

As presented in Table 1, the ISR off-site mitigation fee account held a beginning balance of \$9,858,975. During this reporting period, the District received off-site mitigation fees totaling \$2,016,314 resulting in a grand total of \$11,875,289. The District funded off-site emission reduction projects totaling \$2,349,829 leaving an unexpended balance of \$9,525,459.

**Table 1: ISR/VERA Fiscal Summary (March 1, 2008 - February 28, 2009)**

	ISR	VERA	Total
Beginning Balance	\$6,936,150	\$2,922,825	<b>\$9,858,975</b>
Off-Site Mitigation Fees Received/Refunded	\$1,864,241	\$152,073	<b>\$2,016,314</b>
Available Balance	\$8,800,391	\$3,074,898	<b>\$11,875,289</b>
Amount Spent	-\$150,816	-\$2,199,013	<b>-\$2,349,829</b>
Ending Balance	\$8,649,575	\$875,884	<b>\$9,525,459</b>

## V. EMISSIONS REDUCTION SUMMARY

### Achieved Emission Reductions

During this reporting period, the District used ISR and VERA fees to fund 516 emission reduction projects. The majority of funded projects consist of re-powering various type of diesel powered industrial portable equipment such as agricultural irrigation pumps and generators, with either cleaner diesel engines or by conversion to electric motors. These emission reduction projects achieved total reductions of 275.16 tons NOx and 9.69 tons PM10, for a combined total of 284.85 tons and a cost effectiveness of \$8,249 per ton (Table 2). Additionally, funded projects reduced emissions of reactive organic gases (ROG) by 33.34 tons.

Out of an abundance of caution, pending resolution of legal challenges to District Rule 9510, District expenditure of mitigation fees was limited during this reporting period. A complete list of all projects funded is presented in Appendix A.



**Table 2: ISR/VERA Emission Reductions (March 1, 2008 - February 28, 2009)**

Achieved Emission Reductions (Ton)				Amount Spent (\$)	Cost Effectiveness (\$/Ton)
Source	NOx	PM10	Total		
ISR	29.22	1.08	30.30	\$150,816	\$4,977.43
VERA	245.94	8.61	254.55	\$2,199,013	\$8,638.83
<b>Grand Total</b>	<b>275.16</b>	<b>9.69</b>	<b>284.85</b>	<b>\$2,349,829</b>	<b>\$8,249.36</b>

Projected Emission Reductions

Projected emission reductions are a combination of emission reductions to be achieved in the future through implementation of project design elements at full project build out and through funding off-site emission reductions projects, using off-site mitigation fees. For this reporting period, implementation of ISR resulted in combined projected on-site and off-site emission reductions totaling 1,942 tons of NOx and 1,701 tons of PM10 (Table 3).

**Table 3: Emission Reductions From Approved ISR Projects (March 1, 2008 - February 28, 2009)**

Projected Emission Reductions (Tons)			
Source	NOx	PM10	Total
On-site Emission Reductions	1,080.5	968.3	2,048.8
Off-site Emission Reductions	861.7	733.0	1,595.7
<b>Total</b>	<b>1,942.2</b>	<b>1,701.3</b>	<b>3,643.5</b>

## APPENDIX A

List of all emission reduction projects funded by the ISR program

EMISSION REDUCTIONS PROJECTS  
ISR Annual Report / March 2008 – Feb 2009

Application ID	Units	Equipment Type	NOx (ton)	PM 10 (ton)
3269	1	Irrigation Pump	2.15	0.08
3514	1	Irrigation Pump	0.33	-0.01
3514	2	Irrigation Pump	0.33	-0.01
3514	3	Irrigation Pump	0.33	-0.01
3514	4	Irrigation Pump	0.33	-0.01
3514	5	Irrigation Pump	0.33	-0.01
3514	6	Irrigation Pump	0.33	-0.01
4009	3	Irrigation Pump	3.39	0.12
4009	5	Irrigation Pump	2.45	0.09
4009	6	Irrigation Pump	3.9	0.14
4009	9	Irrigation Pump	6.76	0.24
4009	11	Irrigation Pump	1.16	0.04
4009	12	Irrigation Pump	3.55	0.12
4009	13	Irrigation Pump	1.91	0.06
4009	14	Irrigation Pump	1.7	0.06
4009	17	Irrigation Pump	2.83	0.09
4009	18	Irrigation Pump	6.79	0.22
4009	19	Irrigation Pump	2.01	0.07
4009	20	Irrigation Pump	3.73	0.13
4009	22	Irrigation Pump	4.22	0.15
4009	23	Irrigation Pump	1.54	0.06
4009	24	Irrigation Pump	3.11	0.11
4009	25	Irrigation Pump	1.76	0.06
4009	27	Irrigation Pump	2.59	0.09
4009	30	Irrigation Pump	3.54	0.12
2942	3	Drill Unit	3.07	0.13
2942	9	Hydraulic Power Pack	3.18	0.13
2949	1	Drill Service Pump	2.77	0.12
2949	3	Drill Service Pump	2.9	0.12
2949	4	Drill Service Pump	2.54	0.11
4030	1	Irrigation Pump	4.45	0.15
4030	2	Irrigation Pump	4.52	0.17

4030	3	Irrigation Pump	4.19	0.15
4030	8	Irrigation Pump	4.28	0.16
4030	9	Irrigation Pump	4.32	0.14
4030	10	Irrigation Pump	4.26	0.17
4030	11	Irrigation Pump	3.94	0.14
4030	12	Irrigation Pump	4.11	0.14
3252	1	Irrigation Pump	2.21	0.08
3252	2	Irrigation Pump	2.21	0.08
3252	3	Irrigation Pump	3.17	0.11
3252	5	Irrigation Pump	3.17	0.11
3252	7	Irrigation Pump	2.21	0.08
3252	12	Irrigation Pump	2.21	0.08
3252	13	Irrigation Pump	2.21	0.08
3371	1	Drill Rig	1.1	0.05
3372	11	Generator	16.35	0.55
4031	1	Irrigation Pump	3.11	0.12
4031	2	Irrigation Pump	3.29	0.11
4031	3	Irrigation Pump	3.07	0.1
4031	4	Irrigation Pump	3.04	0.1
4048	1	Irrigation Pump	1.38	0.05
4048	3	Irrigation Pump	1.98	0.07
4048	4	Irrigation Pump	1.4	0.05
4048	5	Irrigation Pump	3.03	0.11
4048	7	Irrigation Pump	9.6	0.32
4153	1	Generator	12.87	0.48
4153	2	Generator	18.45	0.62
4153	3	Generator	12.87	0.48
4153	4	Generator	12.87	0.48
4153	5	Generator	14.54	0.48
4966	1	Irrigation Pump	1.76	0.06
4966	2	Irrigation Pump	1.98	0.07
4966	3	Irrigation Pump	1.55	0.06
4966	4	Irrigation Pump	1.66	0.06
4966	5	Irrigation Pump	1.49	0.06
4613	1	Irrigation Pump	4.36	0.16
4734	1	Irrigation Pump	1.19	0.05
4741	1	Irrigation Pump	0.31	0.01
4741	2	Irrigation Pump	0.31	0.01
		<b>Total Reductions</b>	<b>275.16</b>	<b>9.69</b>