NOTICES OF FINAL RULEMAKING

The Administrative Procedure Act requires the publication of the final rules of the state's agencies. Final rules are those which have appeared in the *Register* first as proposed rules and have been through the formal rulemaking process including approval by the Governor's Regulatory Review Council or the Attorney General. The Secretary of State shall publish the notice along with the Preamble and the full text in the next available issue of the *Register* after the final rules have been submitted for filing and publication.

NOTICE OF FINAL RULEMAKING

TITLE 2. ADMINISTRATION

CHAPTER 8. STATE RETIREMENT SYSTEM BOARD

[R06-478]

PREAMBLE

1. **Sections Affected** — **Rulemaking Action**

R2-8-501	Amend
R2-8-502	Amend
R2-8-503	Amend
R2-8-507	Amend
R2-8-508	Amend
R2-8-509	Amend
R2-8-510	Amend
R2-8-511	Amend
R2-8-512	Amend
R2-8-513	Amend
R2-8-513.01	New Section
R2-8-513.02	New Section
R2-8-514	Amend
R2-8-515	Amend
R2-8-516	Amend
R2-8-517	Amend
R2-8-518	Amend
R2-8-519	Amend
R2-8-520	Amend

2. **The specific authority for the rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):**

Authorizing statutes: A.R.S. §§ 38-714(F)(5), 38-715(C)(3)

Implementing statutes: A.R.S. §§ 8-711, 38-730, 38-742, 38-743, 38-744, 38-745, 38-747, 38-769, 38-921, 38-922

3. **The effective date of the rules:**

December 5, 2006

This rule becomes effective upon filing with the Secretary of State. This immediate effective date is allowed under A.R.S. § 41-1032(A)(4), which allows a rule to become effective immediately when it provides a benefit to the public and a penalty is not associated with a violation of the rule. It is a benefit to the public to have current, up-to-date rules that provide current procedures for purchasing service credit. This rule does not impose any additional requirements upon the public, and there is no penalty associated with the violation of this rule.

4. **A list of all previous notices appearing in the Register addressing the proposed rule:**

Notice of Rulemaking Docket Opening: 12 A.A.R. 835, March 17, 2006

Notice of Rulemaking Docket Opening: 12 A.A.R. 3194, September 1, 2006

Notice of Proposed Rulemaking: 12 A.A.R. 3106, September 1, 2006

5. **The name and address of agency personnel with whom persons may communicate regarding the rule:**

Name: Nancy O. Johnson, Rules Coordinator

Address: Arizona State Retirement System
3300 N. Central, 14th Fl.
Phoenix, AZ 85012

Telephone:	(602) 308-5172
Fax:	(602) 264-6113
E-mail:	nancyj@azasrs.gov
	or
Name:	Patrick M. Klein, Assistant Director, External Affairs
Address:	Arizona State Retirement System 3300 N. Central Ave., 14th Floor Phoenix, AZ 85012
Telephone:	(602) 240-2044
Fax:	(602) 240-5303
E-mail:	patk@azasrs.gov

6. An explanation of the rule, including the agency's reasons for initiating the rule:

A.R.S. §§ 38-743, 38-744, 38-745, and 38-747 allow a current, contributing member of ASRS to purchase credited service, upon which ASRS benefits are based. The current rules became effective June 30, 2005. Since that time the ASRS has identified several areas in the Purchasing Service Credit rules that need adjustment in order for the program to conform to federal and state law, run more smoothly, and treat all members fairly.

The rulemaking will:

1. Increase the amount of time a member has to return a signed Irrevocable Payroll Deduction Authorization and provide the circumstances under which exceptions to the time limitations will be made,
2. Amend the document requirements for purchasing military service credit,
3. Clarify the difference between terminating and transferring employment,
4. Define additional terms,
5. Adjust various items of procedure in the process for purchasing service credit, and
6. Make technical and clarifying changes to the rules.

7. A reference to any study relevant to the rule that the agency reviewed and relied on in its evaluation of or justification for the rule or did not rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:

The agency did not review any study relevant to the rule.

8. A showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant authority of a political subdivision of this state:

Not applicable

9. The summary of the economic, small business, and consumer impact:

Annual costs/revenues changes are designated as minimal when less than $1,000, moderate when between $1,000 and $10,000, and substantial when $10,000 or greater in additional costs or revenues.

The ASRS will bear moderate to substantial costs for promulgating and enforcing the rules. Costs for promulgating the rules include staff time to write, review, and direct the rules through the rulemaking process.

The majority of the rule changes have no monetary impact, as they are changes to clarify language in the rule or processes for purchasing service credit.

One change that does have a financial impact on ASRS members is a change in the way salary is calculated for Presidential Call-up service. The rule change was made to conform to federal law and a change in A.R.S. § 38-745 that requires the salary calculation to take into account any increases in salary the member would have received had the member not been called to active military service by Presidential Call-up. That change has a minimal to moderate impact on each employee member, and minimal to substantial impact on each ASRS employer member, depending on how many employee members the employer has who are called to active duty under R2-8-510, and whether the employee's salary would have increased during their active duty time.

The additional language in R2-8-520, indicating that survivors may not purchase the remaining balance of a deceased member's Irrevocable Payroll Deduction Authorization has no impact because statute does not provide for the purchase of service credit by anyone other than a member.

10. A description of the changes between the proposed rules, including supplemental notices, and final rules (if applicable):

1. A change was made to R2-8-511(A)(10)(c) for clarification, and is not a substantial change. The language, "in a reasonable time" was changed to "within 90 days of being notified of the audit results."

2. Other minor technical and grammatical changes were made at the suggestion of G.R.R.C. staff.

11. A summary of the comments made regarding the rule and the agency response to them:
None

12. Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:
Not applicable

13. Incorporation by reference and their location in the rules:
Not applicable

14. Was this rule previously made as an emergency rule?
No

15. The full text of the rule follows:

TITLE 2. ADMINISTRATION

CHAPTER 8. STATE RETIREMENT SYSTEM BOARD

ARTICLE 5. PURCHASING SERVICE CREDIT

Section
R2-8-501. Definitions
R2-8-502. Request to Purchase Service Credit and Notification of Cost
R2-8-503. Requirements Applicable to All Service Credit Purchases
R2-8-507. Required Documentation and Calculations for Forfeited Service Credit
R2-8-508. Required Documentation and Calculations for Leave of Absence Service Credit
R2-8-509. Required Documentation and Calculations for Military Service Credit
R2-8-510. Required Documentation and Calculations for Presidential Call-up Service Credit
R2-8-511. Required Documentation and Calculations for Other Public Service Credit
R2-8-512. Purchasing Service Credit by Check, Cashier's Check, or Money Order
R2-8-513. Purchasing Service Credit by Irrevocable Payroll Deduction Authorization
R2-8-513.01. Irrevocable Payroll Deduction Authorization and Transfer of Employment to a Different ASRS Employer
R2-8-513.02. Termination Date
R2-8-514. Purchasing Service Credit by Direct Rollover
R2-8-515. Purchasing Service Credit by Trustee-to-Trustee Transfer
R2-8-516. Purchasing Service Credit by Indirect IRA Rollover
R2-8-517. Purchasing Service Credit by Distributed Rollover Contribution
R2-8-518. Purchasing Service Credit by Partial Lump Sum Retirement Distribution
R2-8-519. Purchasing Service Credit by Termination Pay Distribution
R2-8-520. Separation from Employment and Request to Return Retirement Contributions or Death of Member While Purchasing Service Credit by an Irrevocable Payroll Deduction Authorization

ARTICLE 5. PURCHASING SERVICE CREDIT

R2-8-501. Definitions

The following definitions apply to this Article unless otherwise specified:

1. "Active duty" has the same meaning as in 32 U.S.C. 101.
2. "Active duty termination date" means the day a member:
   a. Separates from active military duty;
   b. Is released from active duty-related hospitalization or one year after initiation of active duty-related hospitalization, whichever date is earlier; or
   c. Dies as a result of active military duty.
3. ~~2~~. "Active member" means the same as in A.R.S. § 38-711.
4. ~~3~~. "Active reserve duty" means participating in required meetings and annual training in a Reserve or National Guard branch of the United States uniformed service~~, for which the member receives pay~~.
5. ~~4~~. "Actuarial present value" means an amount in today's dollars of a member's future retirement benefit calculated using the actuarial assumptions in R2-8-123 and the:
   a. Member's current years of credited service to the nearest month;
   b. Member's age to the nearest day;
   c. Amount of service credit the member wishes to purchase to the nearest month, except for the calculation in R2-8-506(A)(2); and

d. Member's current annual compensation.

~~5~~6. "ASRS" means the same as in A.R.S. § 38-711.

~~6~~7. "ASRS employer" means the same as "employer" in A.R.S. § 38-711.

8. "Authorized employer representative" means an individual who has been delegated the authority to act on behalf of an ASRS employer to provide the ASRS with information.

~~7~~9. "Authorized representative" means an individual who has been delegated the authority to act on behalf of a custodian, trustee, plan administrator, or, if applicable, a member.

~~8~~10."Compensation" means the same as in A.R.S. § 38-769.

~~9~~11."Credited service" means the same as in A.R.S. § 38-711.

~~10~~12."*Current annual compensation" means the greater of:*

a. Annualized compensation of the full pay period immediately before the date of a request to ASRS to purchase credited service pursuant to section 38-743 or 38-745.

b. Annualized compensation of the partial year if a member has less than twelve months total credited service on the date of a request to purchase credited service pursuant to section 38-743 or 38-745.

c. The sum of the twelve months of compensation immediately before the date of a request to ASRS to purchase credited service pursuant to section 38-743 or 38-745.

d. The sum of the thirty-six months of compensation immediately before the date of a request to ASRS to purchase credited service pursuant to section 38-743 or 38-745 divided by three.

e. If the member has retired one or more times from ASRS, the average monthly compensation that was used for calculating the member's last pension benefit times twelve. A.R.S. § 38-711(10)

~~11~~13."Current years of credited service" means the amount of credited service a member has earned or purchased, and the amount of service credit for which an ~~irrevocable payroll deduction authorization~~ Irrevocable Payroll Deduction Authorization is in effect for which the member has not yet completed payment, but does not include any current requests to purchase service credit for which the member has not yet paid.

~~12~~ 14."Custodian" means a financial institution that holds financial assets for guaranteed safekeeping.

~~13~~ 15."Day" means a calendar day, and excludes the:

a. Day of the act or event from which a designated period of time begins to run; and

b. Last day of the period if a Saturday, Sunday, or official state holiday.

~~14~~16."Direct rollover" means distribution of eligible funds made payable to the ASRS as a contribution for the benefit of an eligible member from a retirement plan listed in A.R.S. § 38-747 (H)(2) or (H)(3).

~~15~~17."Eligible funds" means payments listed in A.R.S. § 38-747(H)(2) and (3).

~~16~~18."Eligible member" means an active member of the Plan or a Plan member who is receiving benefits under the Long Term Disability Program established by A.R.S. Title 38, Chapter 5, Article 2.1.

~~17~~19."Error" means a typographical mistake, incorrect information, or other inaccuracy, whether intentional or unintentional.

~~18~~20."Forms of payment" means check, cashier's check, money order, ~~irrevocable payroll deduction authorization~~ Irrevocable Payroll Deduction Authorization, direct rollover, trustee-to-trustee transfer, IRA rollover, partial lump sum distribution, and termination pay distribution.

~~19~~21."Forfeited service" means credited service for which the ASRS has returned retirement contributions to the member under A.R.S. § 38-740.

~~20~~22."Immediate family member" means:

a. A member's spouse or life partner;

b. A member's natural, step, or adopted sibling;

c. A member's natural, step, or adopted child;

d. A member's natural, step, or adoptive parent; or

e. An individual for whom the member has legal guardianship.

~~21~~23."Indirect IRA rollover" means funds already distributed to the eligible member from a retirement plan listed in A.R.S. § 38-747(H)(3) that are then paid by the eligible member to the ASRS as a contribution for the benefit of the eligible member.

~~22~~24."IRA" means an Individual Retirement Account or Annuity under IRC § 408.

~~23~~25."IRC" means the Internal Revenue Code.

~~24~~26."Irrevocable payroll deduction authorization" means ~~a~~ an irrevocable contract between an eligible member, an ASRS employer and the ASRS, that requires the ASRS employer to withhold payments from a member's pay for a specified amount and for a specified number of payments, as provided in A.R.S. § 38-747~~, and that is irrevocable~~.

~~25~~27."Leave of absence" means the same as in A.R.S. § 38-711.

~~26~~28."Life partner" means an individual who lives with a member as a spouse, but without being legally married.

~~27~~29."Member" means the same as in A.R.S. § 38-711.

~~28~~30."Military service" means active duty or active reserve duty with any branch of the United States uniformed services.

~~29. "Military call-up" means a directive from the President of the United States initiating active duty for personnel of~~

~~active or inactive National Guard and Reserve branches of the United States uniformed services.~~

~~30~~31. "Military service record" means a United States uniformed services document that provides proof of active duty or active reserve duty time, including ~~the~~ a military form DD-214 or other military form that provides the following information:

a. The member's full name;
b. The member's Social Security number;
~~c. The member's date of birth;~~
~~d~~c. Type of discharge the member received;
~~e~~d. Active duty dates, if applicable; and
~~f~~e. Active reserve duty dates, if applicable~~; and.~~
~~g. Points received for active duty or active reserve duty.~~

~~31~~32. "Other public service" means previous employment listed in A.R.S. § 38-743 (A).

~~32~~33. "PDA pay-off letter" means written correspondence from the ASRS to a member that specifies the amount necessary to be paid by the member to complete an ~~irrevocable payroll deduction authorization~~ Irrevocable Payroll Deduction Authorization and receive the credited service specified in the ~~irrevocable payroll deduction authorization~~ Irrevocable Payroll Deduction Authorization.

~~33~~34. "Person" means the same as in A.R.S. § 1-215.

~~34~~35. "Plan" means the same as "defined benefit plan" in A.R.S. § 38-769, and administered by the ASRS.

~~35~~36. "Plan Administrator" means the person authorized to represent a specific eligible plan as addressed in IRC § 414 (g).

~~36~~37. "Political subdivision" means the same as in A.R.S. § 38-711.

~~37~~38. "Political subdivision entity" means the same as in A.R.S. § 38-711.

39. "Presidential Call-up" means a directive from the President of the United States, Cabinet Secretary, or Secretary of any United States uniformed service, initiating active duty for personnel of active military, or active or inactive National Guard and Reserve branches of the United States uniformed services.

~~38~~40. "Public employer" means the United States government, a state of the United States, a political subdivision of a state of the United States, or a political subdivision entity.

~~39~~41. "Rollover" means a contribution to the ASRS by an eligible member of an eligible rollover distribution from one or more of the retirement plans listed in A.R.S. § 38-747 (H)(2) and (3).

~~40~~42. "Service credit" means forfeited service under A.R.S. § 38-742, leave of absence under A.R.S. § 38-744, military service and Presidential ~~call up~~ Call-up service under A.R.S. § 38-745, and other public service under A.R.S. § 38-743 that an eligible member may purchase.

~~41~~43. "SP invoice" means a written correspondence from the ASRS informing an eligible member of the amount of money required to purchase a specified amount of service credit.

44. "Terminate employment" means to end the employment relationship between a member and an ASRS employer with the intent that the member not return to employment with that ASRS employer.

~~42~~45. "Termination pay distribution" means an ASRS employer's payment to the ASRS of an eligible member's termination pay to purchase service credit as specified in § 38-747(B)(2).

~~43~~46. "Three full calendar months" means the first day of the first full month through the last day of the third full month.

47. "Transfer employment" means to terminate employment with one ASRS employer with which a member has an Irrevocable Payroll Deduction Authorization:

a. After accepting an offer to work for a new ASRS employer, or
b. While working as an active member for a different ASRS employer.

~~44~~48. "Trustee-to-trustee transfer" means a transfer of assets to the ASRS as authorized in A.R.S. § 38-747(I), from a retirement program listed in R2-8-515(A) from which, at the time of the transfer, a member is not eligible to receive a distribution.

~~45~~49. "Uniformed services" means the United States Army, Army Reserve, Army National Guard, Navy, Navy Reserve, Air Force, Air Force Reserve, Air Force National Guard, Marine Corps, Marine Corps Reserve, Coast Guard, Coast Guard Reserves, the National Oceanic and Atmospheric Administration, and the Public Health Service.

~~46~~50. "United States" means the same as in A.R.S. § 1-215.

~~47~~51. "Window credit" means overpayments made on previously purchased service credit by eligible members of the ASRS as provided by Laws 1997, Chapter 280, Section 21, and Laws 2003, Chapter 164, Section 3.

R2-8-502. Request to Purchase Service Credit and Notification of Cost

A. An eligible member may request to purchase service credit verbally, in writing, or electronically. The eligible member shall provide the eligible member's mailing address and designate which category of service credit the eligible member is requesting to purchase.

B. The ASRS shall send a letter acknowledging the request to purchase service credit to the mailing address provided by the eligible member. The ASRS shall provide, with the acknowledgment letter, any form specified in this Article that corresponds to the category of service credit the eligible member requests to purchase and indicate in the acknowledgment letter the deadline for providing supporting documentation of service credit to the ASRS.

C. Except as provided in R2-8-519(A), the eligible member shall provide documentation of service credit as required by this Article within 90 days of the eligible member's request to purchase service credit. If the ASRS has not received complete and correct documents within 90 days of the request to purchase service credit, the ASRS shall cancel the eligible member's request to purchase service credit. The eligible member may make a new request to purchase service credit.

D. Upon receipt of the documentation required by this Article from the eligible member and if the eligible member's request to purchase service credit meets the requirements of this Article, the ASRS shall provide the following to the eligible member:

1. A SP invoice stating the cost to purchase the amount of service credit the member is eligible to purchase and the date payment is due; ~~and~~
2. A Service Purchase Payment Request form requesting the following information:
   a. The member's name;
   b. The member's Social Security number;
   c. The member's mailing address;
   d. The member's daytime telephone number;
   e. ID number listed on the SP invoice;
   f. Either the ~~The~~ number of years or partial years of service credit the member wishes to purchase or the cost for the number of years or partial years of service the member wishes to purchase, not exceeding the years or partial years and cost specified on the SP Invoice;
   g. If the member elects to pay for the service credit by trustee-to-trustee transfer, IRA rollover, distributed rollover contribution, or direct rollover, the anticipated number of rollovers or transfers;
   h. If the member elects to pay by ~~irrevocable payroll deduction authorization~~ Irrevocable Payroll Deduction Authorization, the amount of money the member wishes to pay per pay period;
   i. If the member elects to pay for the service credit by check, the check number and amount of the check;
   j. If the member elects to pay any cost remaining at retirement or termination of employment with a termination pay distribution, the retirement date or last date of work;
   k. If the member is retiring and wishes to pay by a partial lump sum retirement distribution ~~or termination pay distribution~~, the member's requested retirement date; and
   l. The member's signature and date of the signature; and
3. Other forms the member may need to complete the request for service credit purchase.

R2-8-503. Requirements Applicable to All Service Credit Purchases

A. To purchase service credit at the amount provided in an SP invoice, an eligible member shall purchase the service credit by check or money order, or request an ~~irrevocable payroll deduction authorization~~ Irrevocable Payroll Deduction Authorization, rollover, transfer, termination pay distribution, or partial lump sum retirement distribution as specified in this Article, ~~within 30 days after the date on the SP invoice~~ by the due date specified on the SP invoice.

B. An eligible member may purchase all of the service credit or a portion of the service credit. If the eligible member wishes to purchase only a portion of the service credit, the eligible member shall specify, on the Service Purchase Payment Request form identified in R2-8-502(D)(2): ~~make a new request for purchase and ASRS shall recalculate the cost. A new request to purchase a portion of the service credit initially requested automatically terminates the initial request.~~

1. The dollar amount the eligible member wishes to purchase, up to the amount specified on the SP invoice, or
2. The number of years or partial years the eligible member wishes to purchase, not exceeding the years or partial years specified on the SP invoice.

C. If the eligible member elects to purchase only a portion of the service credit, the cost and amount of service credit the eligible member identifies on the Service Purchase Payment Request form is only an estimate and may be more or less than the actual cost or amount of service credit purchased by the eligible member.

D. The eligible member shall not request to purchase additional service credit based on the SP invoice until the member has completed the purchase of the previously requested portion of service credit or cancel the request as specified in subsection (F).

~~C~~E. ASRS shall not consider more than one active request at a time from a member to purchase service credit in a single category. The categories are:

1. Leave of absence,
2. Military service,
3. Presidential ~~call-up~~ Call-up service,
4. Forfeited service, and
5. Other public service.

~~D~~F. An eligible member may cancel an active request to purchase a specific category of service credit verbally or in writing, and submit a new request in the same category of service credit for a different amount of service credit.

~~E~~G. If an eligible member is entitled to a window credit, the eligible member may apply the window credit to purchase service credit. To apply a window credit to a purchase of service credit, the eligible member shall make a request to the ASRS in writing ~~within 30 days after the date~~ by the due date specified on the SP invoice and include the following information:

1. The amount the member wants to apply,
2. The member's signature, and
3. The date of the member's signature.

~~F~~**H**. The amount of service credit an eligible member may purchase and the benefits an eligible member may receive are subject to the limitations prescribed in A.R.S. § 38-747(E).

~~G~~**I**. On or before the due date specified on the SP Invoice, ASRS shall extend the time for an eligible member to respond to an SP invoice as follows:

1. If the member notifies the ASRS of an ASRS error ~~within 30 days after the date on the SP invoice~~, the time is extended 30 days after the date the ASRS sends notification to the eligible member that the ASRS has corrected the error;
2. If an ASRS internal ~~legal~~ review is made of the member's service credit purchase request, the time is extended 30 days after the date ASRS sends notification to the member that the review is completed;
3. If the member appeals an issue regarding the SP invoice under Article 4 of this Chapter, the time is extended 30 days after the date ASRS sends notification to the member that a decision on the appeal has been made; or
4. If an unforeseeable event occurs that is outside of the member's control, such as an incapacitating illness of the member or death of an immediate family member, and the member notifies the ASRS of the event, the ASRS shall extend the time by up to six months, after a review of the unforeseeable event to determine the length of the extension.

R2-8-507. Required Documentation and Calculations for Forfeited Service Credit

A. An eligible member who requests to purchase service credit for forfeited service under A.R.S. § 38-742 shall provide to the ASRS:

1. The eligible member's:
   a. Full name and, if applicable, ~~nicknames or~~ other names used while working for an ASRS employer for which the eligible member is requesting to purchase service credit;
   b. Mailing address;
   c. Telephone number, if applicable;
   d. Social Security number;
2. The name of each ASRS employer, if known, for which the eligible member is requesting to purchase service credit for forfeited service;
3. The year the eligible member began working for each ASRS employer and the year the eligible member left each employment, if known; and
4. The year the eligible member believes the ASRS returned retirement contributions to the member.

B. The amount the eligible member shall pay to purchase service credit for previously forfeited service is the amount of retirement contributions that the ASRS returned to the eligible member, plus interest on that amount from the date ~~of~~ on the return of retirement contributions check to the date of redeposit at the interest rate determined by the Board as specified in A.R.S. § 38-742.

R2-8-508. Required Documentation and Calculations for Leave of Absence Service Credit

A. An eligible member may request to purchase service credit for an approved leave of absence from an ASRS employer under A.R.S. § 38-744. To request to purchase service credit for an approved leave of absence the eligible member shall provide to the ASRS:

1. ~~The items listed in R2-8-507(A)(1);~~ An Approved Leave of Absence form that includes:
   a. The following information completed by the eligible member:
      i. The eligible member's full name and, if applicable, other names used while working for the ASRS employer;
      ii. The eligible member's Social Security number;
      iii. The eligible member's mailing address;
      iv. The eligible member's daytime telephone number;
      v. A statement that the eligible member understands that up to one year of leave of absence service credit may be purchased for each approved leave of absence, if the eligible member returns to work for the employer that approved the leave of absence unless employment could not be resumed because of disability or non-availability of a position;
      vi. A statement that the eligible member understands that the ASRS uses the actuarial present value calculation method to determine the cost of the service purchase request;
      vii. A statement that the eligible member authorizes the ASRS employer to provide any necessary personal information to ASRS in order to process this request; and
      viii. The member's dated signature; and
   b. The following information completed by the ASRS employer;
      i. The beginning date and ending date of the approved leave of absence;
      ii. The date the eligible member returned to work or a statement of why employment was not resumed;

iii. Name of the employer;
iv. The authorized employer representative's name;
v. The authorized employer representative's telephone number and, if applicable, fax number; and
vi. The authorized employer representative's dated signature verifying that the approved leave of absence benefited or was in the best interest of the employer; and

~~2. The name of the ASRS employer;~~
~~3. A written statement from the ASRS employer specifying the beginning and ending dates of the leave of absence and the eligible member's salary on the day before the leave of absence; and~~
42. A copy of the guidelines referenced in A.R.S. § 38-744, if applicable.

B. The amount the member shall pay to purchase service credit for leave of absence is determined as provided in R2-8-506.

R2-8-509. Required Documentation and Calculations for Military Service Credit

A. An eligible member may request to purchase military service credit under A.R.S. § 38-745(A) and (B). To request to purchase military service credit, the eligible member shall provide to the ASRS:
1. The items listed in R2-8-507(A)(1)~~, and~~;
2. A copy of the eligible member's military service record~~.~~; and
3. A completed, signed, dated, and notarized Affidavit of Military Service form that contains:
   a. The member's full name;
   b. The member's social Security number;
   c. The branch of the uniformed services the member was in;
   d. Whether the member was active duty or active reserve duty;
   e. The years and months by fiscal year that the member was in active duty or active reserve duty for which the member wishes to purchase service credit;
   f. Acknowledgement that the member has attached:
      i. Proof of honorable discharge for each type of military service listed on the form; and
      ii. The member's military service record that supports all of the service listed on the affidavit;
   g. The following statements of understanding initialed by the member:
      i. I understand that any person who knowingly makes any false statement or who falsifies or permits to be falsified any record of the retirement plan with an intent to defraud the plan is guilty of a class 6 felony per Arizona Revised Statutes Section 38-793.
      ii. I understand this transaction is subject to audit and if any errors or misrepresentations are discovered as a result of this audit, my total credited service with the ASRS will be adjusted as necessary and if I am retired, my retirement benefit will also be adjusted;
      iii. I understand that the service listed on this affidavit does not include time that I either volunteered or was ordered into active duty military service as part of a Presidential Call-up. This service is purchased under Presidential Call-up and requires a Presidential Call-up form to be completed by your employer; and
      iv. I understand that any time I have listed on this affidavit for Reserve or National Guard time reflects the months that I attended at least one drill or assembly for each month listed.

B. The amount the eligible member pays to purchase military service credit is determined as provided in R2-8-506.

C. ASRS determines the amount of service credit an eligible member receives for active duty and active reserve duty time by the ~~points the eligible member received from the military while on active reserve duty. Unless the eligible member produces documentation that shows otherwise, four points equals one weekend of active reserve duty~~ time listed on the Affidavit of Military Service form, if the service listed is supported by the information contained in the member's military service record.

R2-8-510. Required Documentation and Calculations for Presidential Call-up Service Credit

A. An eligible member or the eligible member's beneficiary ~~may request to purchase~~ who meets the requirements under A.R.S. § 38-745(C) shall receive up to 60 months of Presidential ~~call-up~~ Call-up service under A.R.S. § 38-745(C) through (I). ~~To request~~ In order to determine the amount of contributions the ASRS employer owes to purchase service credit for Presidential ~~call up~~ Call-up service, the eligible member's ASRS employer shall provide to the ASRS~~:~~
~~1. The items listed in R2-8-507(A)(1);~~
~~2. A~~ a copy of the eligible member's military service record~~;~~ and
~~3. A~~ a completed Presidential Call-up form that includes the following:
~~a.~~1. ~~The salary received by the eligible member on the day before the eligible member's active military service pursuant to the Presidential call-up~~ The member's full name;
2. The member's Social Security number;
3. The start date of Presidential Call-up Service;
4. The end date of Presidential Call-up Service;
5. Whether the member received paid leave while on Presidential Call-up;
6. The date the member returned to work for the ASRS employer;

7. The salary for each fiscal year while the member is on Presidential Call-up, including any salary increases the eligible member would have received had the member not left employment due to Presidential Call-up, if applicable;
8. The ASRS employer's name and address;
9. The name of a contact individual for the ASRS employer, and that individual's business and fax telephone numbers;
10. The contact individual's signature and date of signature;
11. If applicable, the earlier of:
    a. The date that the member was released from the hospital for injuries sustained as a result of participating in a Presidential Call-up; or
    b. The date that the member was hospitalized for one year for injuries sustained as a result of participating in a Presidential Call-up;
    ~~b. Statement that the eligible member returned to employment within 90 days after the active duty termination date, if applicable;~~ and

~~e~~12. ~~Member's~~ A copy of the member's death certificate, if applicable.

B. An ASRS employer shall make the request to purchase service credit for Presidential Call-up service within 30 days after the member's active duty termination date.

~~**B**~~**C**. The ASRS calculates the amount the ASRS employer pays to purchase Presidential ~~call-up~~ Call-up service by multiplying the eligible member's salary at the time active duty commences, by the contribution rate in effect for the period of active duty, and by the years or partial years of service elapsing from the active duty commencement date through the active duty termination date. ~~The active duty termination date is:~~

~~1. The date the eligible member separates from active military duty;~~
~~2. The date the eligible member is released from active duty related hospitalization or one year after initiation of active duty related hospitalization, whichever date is earlier; or~~
~~3. The date the eligible member dies as a result of active military duty.~~

Included in the calculation are any salary increases the member would have received if the member had not left work to participate in a Presidential Call-up.

D. The ASRS shall send the ASRS employer a statement of cost for purchase of the Presidential Call-up service credit, based on the calculation in subsection (B). Within 90 days from the date on the ASRS statement of cost, the ASRS employer shall pay to the ASRS the amount on the statement. If the ASRS employer fails to make full payment within the 90 days, interest shall accrue on the unpaid balance at the assumed actuarial investment earnings rate approved by the Board in effect on the date of the statement of cost.

~~**C**~~**E.** If an ASRS employer deducts retirement and long-term disability contributions from an eligible member's pay while the eligible member is on Presidential ~~call-up~~ Call-up service, the ASRS shall return the contributions to the ASRS employer after the ASRS receives the information in subsection (A).

~~**D**~~**F**. If an ASRS employer deducts retirement contributions from an eligible member's pay while the eligible member is on Presidential ~~call-up~~ Call-up service, and the eligible member does not return to the ASRS employer after separation from active military service, the ASRS shall apply the retirement contributions to the member's credited service.

R2-8-511. Required Documentation and Calculations for Other Public Service Credit

A. An eligible member who requests to purchase other public service credit under A.R.S. § 38-743 shall provide to the ASRS a completed Affidavit of Other Public Service form, signed and dated by the member, and notarized, that includes the following:

1. The member's full name;
2. The member's Social Security number;
3. ~~The member's mailing address~~ Other names used by the member during employment with the other public service employer, if applicable;
4. ~~The member's home telephone number, if applicable;~~
5. ~~The member's daytime telephone number;~~
6~~4~~. The name~~,~~ and mailing address~~, and business telephone number~~ of the other public service ~~employer's retirement system~~ employer;
7~~5~~. The position the member held while working for the other public service employer;
6. A contact name and telephone number of an individual in the other public service employer's human resources department who can verify employment, if known;
8~~7~~. The ~~amount of service to be purchased~~ years and months by fiscal year of other public service the member worked and wishes to purchase;
9~~8~~. If the other public service employer was a non-ASRS employer, a statement of whether the member participated in the non-ASRS employer's retirement plan;
10~~9~~. If the member participated in a non-ASRS public service employer's retirement plan, the name of the retirement plan, identifying whichever one of the following applies:
    a. The approximate date the member took a return of retirement contributions;
    b. ~~That~~ The plan is non-contributory and the member ~~was not vested and~~ is not eligible for benefits ~~and has waived~~

~~all rights to any future benefits~~ from the plan; or

c. That, if not using all of the retirement contributions as a pre-tax rollover, the member will request a return of retirement contributions and forfeit all rights to any benefits from the plan~~;~~ and provide the ASRS with documentation that the member has forfeited all rights to benefits from the plan no later than the due date specified on the SP invoice; and

~~11~~10.Acknowledgement that:

a. Knowingly making a false statement or falsifying or permitting falsification of any record of the ASRS with an intent to defraud ASRS is a Class 6 felony, pursuant to A.R.S. § 38-793;

b. The service purchase transaction is subject to audit and if any errors are discovered the ASRS shall adjust a member's total credited service with the ASRS ~~if any errors are discovered;~~,

~~e.~~ ~~Any overpayment is refunded at retirement,~~ or if the member is already retired, adjustments to the member's credited service will affect the member's retirement benefit; and

~~d.~~ ~~Any overpayment in pre-tax dollars that is refunded will have tax consequences;~~

~~e~~c. If an audit determines that the member is eligible for a benefit from the other public service employer's retirement plan, the member is required to take necessary steps to forfeit the benefit, and if the forfeiture is not completed within 90 days of being notified of the audit results, the service credit purchase listed on this application will be revoked and any funds paid to purchase the service credit will be refunded to the member~~; and~~

~~f.~~ ~~If the member cannot provide documentation that the member is no longer eligible for a benefit from the other public service employer's retirement plan, any ASRS service that the member has purchased based on employment with the other public service employer listed on the Affidavit of Other Public Service will be revoked and the money will be refunded to the member~~.

B. The amount the member shall pay to purchase other public service credit is determined as provided in R2-8-506.

R2-8-512. Purchasing Service Credit by Check, Cashier's Check, or Money Order

A. An eligible member may purchase service credit by check, cashier's check, or money order.

B. Within 30 days of the issue date on the SP invoice or PDA payoff letter, the member shall ensure that the ASRS receives ~~member shall return to the ASRS~~ the completed Service Purchase Payment Request form with the information specified in R2-8-502(D)(2)~~,~~ and a check, cashier's check, or money order made to the order of the Arizona State Retirement System in the amount to purchase the requested service credit.

C. If an eligible member purchases service credit by check, cashier's check, or money order in conjunction with one or more rollovers, trustee-to-trustee transfers, or termination pay, the member shall make payment within 30 days after the date the ASRS sends written confirmation that the ASRS received the final rollover, trustee-to-trustee transfer, or termination pay payment.

R2-8-513. Purchasing Service Credit by Irrevocable Payroll Deduction Authorization

A. An eligible member may purchase service credit by ~~irrevocable payroll deduction authorization~~ Irrevocable payroll Deduction Authorization.

B. ~~Within 30 days of the date~~ By the due date specified on the SP invoice, the member shall ensure that the ASRS receives ~~member shall return to the ASRS~~ the completed Service Purchase Payment Request form with the information specified in R2-8-502 (D)(2).

C. If the eligible member elects to pay for service credit by ~~irrevocable payroll deduction authorization~~ Irrevocable Payroll Deduction Authorization, ASRS shall prepare an Irrevocable Payroll Deduction Authorization and send it to the eligible member for signature. The member shall ensure that the ASRS receives ~~eligible member shall~~ the signed Irrevocable Payroll Deduction Authorization ~~to the ASRS~~ within ~~14~~ 30 days after the date on the Irrevocable Payroll Deduction Authorization. The signed Irrevocable Payroll Deduction Authorization becomes irrevocable upon receipt by the ASRS.

D. At the time the eligible member signs the Irrevocable Payroll Deduction Authorization the eligible member may elect to use termination pay towards the balance of the ~~irrevocable payroll deduction authorization~~ Irrevocable Payroll Deduction Authorization if the eligible member terminates employment. If the eligible member chooses this option, the eligible member shall ~~complete a Termination Pay Addendum to the Irrevocable Payroll Deduction Authorization, attach it to the signed Irrevocable Payroll Deduction Authorization, and return it to the ASRS within 30 days after the date on the Irrevocable Payroll Deduction Authorization~~ complete the Termination Pay Addendum to the Irrevocable Payroll Deduction Authorization and return it to the ASRS along with the remainder of the Irrevocable Payroll Deduction Authorization that ~~The Termination Pay Addendum to the Irrevocable Payroll Deduction Authorization~~ includes the following:

~~1. The member's Social Security number;~~

~~2. The agreement number;~~

~~3~~1. A statement that the member:

a. Understands and agrees that the member must continue working at least three full calendar months after the date of submission of the form before termination pay may be used on a pre-tax basis,

b. Understands that if the termination payment exceeds the balance owed on the Irrevocable Payroll Deduction Authorization, the overage will be returned to the ASRS employer to be distributed to the member; and

c. Elects to irrevocably agree to have termination pay that may be payable to the member upon termination of employment sent to the ASRS on a pre-tax basis and used toward any remaining balance of the ~~irrevocable payroll deduction authorization~~ Irrevocable Payroll Deduction Authorization if all scheduled payroll deductions have not been completed upon termination of service; and

~~4~~2. A statement that either all termination pay or a specified amount of termination pay is to be applied to the balance of the Irrevocable Payroll Deduction Authorization.

E. The ASRS shall:

1. Charge interest on the unpaid balance at the assumed actuarial investment earnings rate approved by the Board in effect at the time the authorization was entered into;
2. Limit the payroll deduction time period to a maximum of 20 years; and
3. Require a minimum payment of $10.00 per payroll period, or payment in an amount to purchase at least .001 year of service credit per payroll period, whichever is greater.

F. ~~The ASRS employer shall begin payroll deductions no later than six months from the date on the signed Irrevocable Payroll Deduction Authorization.~~ The ASRS shall transmit the Irrevocable Payroll Deduction Authorization to the active member's ASRS employer, and the ASRS employer shall implement the deduction on the first pay period after receiving the Irrevocable Payroll Deduction Authorization.

G. If a deduction is not made under an Irrevocable Payroll Deduction Authorization within six months after the member signs the authorization, the authorization lapses and the member may make another request, which is recalculated based on the new request date unless the failure to begin deductions is due to an ASRS error.

~~G~~H. A ~~member with an irrevocable payroll deduction authorization who takes a~~ period of leave of absence, long-term disability, or Presidential Call-up shall not cancel the ~~irrevocable payroll deduction authorization~~ Irrevocable Payroll Deduction Authorization. The ASRS employer shall resume deductions immediately upon the member's return to that employment ~~with the ASRS employer that granted the leave.~~ The period during which the member is on leave of absence, on long-term disability, or leaves work because of a Presidential Call-up is not included in the 20-year payment time limitation under subsection (E)(2). If the member does not return to active working status, whether due to termination of employment or retirement, the member may elect to purchase the balance of unpaid service under the Irrevocable Payroll Deduction Authorization at the time of termination or retirement as specified in this Section.

~~H~~I. Deductions made pursuant to an ~~irrevocable payroll deduction authorization~~ Irrevocable Payroll Deduction Authorization continue until the:

1. Irrevocable ~~payroll deduction authorization~~ Payroll Deduction Authorization is completed;
2. Member retires, whether or not the member continues employment as allowed in A.R.S. §§ 38-766.01 and 38-764(J); or
3. Member ~~separates from the member's~~ terminates all ASRS ~~employer~~ employment without transferring employment ~~as specified in A.R.S. § 38-747 (B)~~.

~~I~~J. If a member retires or ~~separates from~~ terminates employment from all ASRS employers without transferring employment as stated in R2-8-513.01 before all deductions are made as authorized by the ~~irrevocable payroll deduction authorization~~ Irrevocable Payroll Deduction Authorization, the member's purchase of service credit is canceled unless the member notifies the ASRS in writing during the period 14 days before to 14 days after retirement or ~~separation~~ termination from all ASRS employment of the intent to purchase the remaining amount due in a lump sum.

~~J~~K. When the member notifies ASRS of retirement or ~~separation~~ termination from all ASRS employment and requests to pay off the Irrevocable Payroll Deduction Authorization, the ASRS shall send the member a PDA pay-off letter to the mailing address given by the member. The ASRS shall calculate the amount owed by the member and reduce the amount owed by any excess interest that the member has paid.

~~K~~L. Within 30 days of the date of the PDA pay-off letter, the member shall ensure that the ASRS receives the completed SP Payment Request form with the information specified in R2-8-502(D)(2). ~~the~~ The member may purchase the remaining service credit by one or more of the following methods:

1. By check, cashier's check, or money order made out to the ASRS under R2-8-512;
2. By making a request to the ASRS for a rollover or transfer under R2-8-514 and completing the rollover or transfer within 90 days of the date of the PDA pay-off letter;
3. By requesting a partial lump sum retirement benefit distribution from the ASRS under R2-8-518; or
4. By termination pay distribution under R2-8-519, if the member authorized this option at the time the member signed the Irrevocable Payroll Deduction Authorization.

R2-8-513.01. Irrevocable Payroll Deduction Authorization and Transfer of Employment to a Different ASRS Employer

A. An Irrevocable Payroll Deduction Authorization continues if a member transfers employment.

B. An Irrevocable Payroll Deduction Authorization ends if a member terminates employment without having accepted an offer to work for a new ASRS employer, and the member is not already an active member working for a different ASRS employer. The member shall then pay off the Irrevocable Payroll Deduction Authorization as specified in R2-8-513(J).

C. If a retirement contribution is due from the new ASRS employer within 120 days from the member's termination date

with the previous employer, there is a rebuttable presumption that there is a transfer of employment. If a retirement contribution is not received within 120 days, the Irrevocable Payroll Deduction Authorization terminates.

R2-8-513.02 Termination Date

For the purpose of an Irrevocable Payroll Deduction Authorization, the date a member is considered terminated from an ASRS employer is:

1. For a member terminating employment, the member's last pay period end date with that ASRS employer;
2. For a member on Presidential Call-up who does not return to the same ASRS employer:
   a. Ninety days from the date of separation from Presidential Call-up service;
   b. Ninety days from the date released from the hospital, if injured while on Presidential Call-up service;
   c. The date the member has been hospitalized for one year for injuries sustained as a result of participating in a Presidential Call-up; or
   d. The date of the member's death as a result of participating in a Presidential Call-up;
3. For a member on leave of absence without pay who does not return to the same ASRS employer, the date the ASRS employer required the member to return to work;
4. For a member who is unable to work because of a disability, the later of:
   a. The date the member's request for long-term disability benefits are denied;
   b. The date the member no longer has sick leave and annual leave; or
   c. For a member on long-term disability who does not return to the same ASRS employer or transfer employment, the date long-term disability benefits are terminated.

R2-8-514. Purchasing Service Credit by Direct Rollover

A. An eligible member may purchase service credit or pay off an ~~irrevocable payroll deduction authorization~~ Irrevocable Payroll Deduction Authorization by direct rollover at retirement or ~~separation from~~ termination of employment without transferring employment ~~by direct rollover~~.

B. ~~Within 30 days of the date~~ By the due date specified on the SP invoice, the member shall ensure that the ASRS receives ~~shall to the ASRS~~ the completed Service Purchase Payment Request form with the information specified in R2-8-502 (D)(2).

C. Upon receipt of the completed Service Purchase Payment Request form, the ASRS shall provide a Direct Rollover/Transfer Certification to Purchase Service Credit form, if the ASRS has not already provided the member with the form.

D. The member shall ensure that the ~~member and the plan that is making the distribution complete the Direct Rollover/Transfer Certification to Purchase Service Credit form and return it to the ASRS~~ASRS receives the Direct Rollover/Transfer Certification to Purchase Service Credit form completed by the member and the plan making the distribution within 90 days after the issue date of the SP Invoice.

E. The information requested on the Direct Rollover/Transfer Certification to Purchase Service Credit form includes:

1. Member's full name;
2. Member's Social Security number;
3. Member's mailing address;
4. Member's ~~Daytime~~ daytime telephone number;
~~5. Member's date of birth;~~
~~6~~5. The amount of each rollover or transfer, if ~~known~~ applicable;
~~7~~6. The account number of each plan, if applicable;
~~8~~7. The member's signature certifying that the member understands the requirements, limitations, and entitlements for the rollover/transfer that is being used to purchase service credit, and has read and understands the Direct Rollover/Transfer Certification to Purchase Service Credit form and any accompanying instructions and information sheets;
~~9~~8. The date the member signs the form;
~~10~~9. The authorized representative's name and title;
~~11~~10. The authorized representative's address;
~~12~~11. The authorized representative's telephone number;
~~13~~12. Certification by the authorized representative that:
   a. The plan is either:
      i. A qualified pension, profit sharing, or 401(k) plan described in IRC §401(a), or a qualified annuity plan described in IRC § 403(a);
      ii. A deferred compensation plan described in IRC § 457 (b) maintained by a ~~State~~ state of the United States, a political subdivision of a ~~State~~ state of the United States, or an agency or instrumentality of a ~~State~~ state of the United States;
      iii. An annuity contract described in IRC § 403(b); or
      iv. An IRA described in A.R.S. § 38-747(H)(3);
   b. That the rollover/transfer specified on the form from which the pre-tax funds are being rolled over or transferred is intended to satisfy the requirements of the applicable section of the Internal Revenue Code;

c. The authorized representative is not aware of any plan provision or any other reason that would cause the plan/IRA not to satisfy the applicable section of the Code; and
d. The funds will be sent to the ASRS as a direct plan rollover, IRA rollover, or a trustee-to-trustee transfer; and

~~14~~13. The date and signature of the authorized representative.

F. The ASRS shall provide the member with written notification regarding the eligibility of the rollover.

G. The member shall contact the plan administrator to have the funds distributed and transferred to the ASRS. Except as provided in subsection (H), unless the ASRS receives a check for the correct amount from the plan within 90 days of the issue date on the SP invoice, the ASRS shall cancel the request to purchase service credit as specified in R2-8-502(C).

H. At the written request of the member, the ~~The~~ ASRS shall provide an extension of 60 days in which the check may be received by the ASRS from the plan at the written request of the member, if:
1. The member has followed the procedure in this Article for requesting to purchase service credit,
2. The member has responded to the ASRS correspondence within the time frame set forth in this Article,
3. The eligible plan has not provided to the ASRS the check to pay for the requested service credit purchase within 90 days of the date of the SP invoice, and
4. The member makes the written request for extension before expiration of the 90 days.

I. The member shall ensure that the ASRS receives a check from the plan, made payable to the ASRS, for an amount that does not exceed the amount specified on the SP Invoice.

J. If the payment from the eligible plan exceeds the amount specified on the SP Invoice, the ASRS shall return the entire payment to the ~~eligible plan and notify the~~ member ~~that the ASRS has returned the payment~~.

R2-8-515. Purchasing Service Credit by Trustee-to-Trustee Transfer

A. An eligible member may purchase service credit or pay off an ~~irrevocable payroll deduction authorization~~ Irrevocable Payroll Deduction Authorization at retirement or termination of employment without transferring employment by a trustee-to-trustee transfer if the member participates in:
1. A deferred compensation plan described in IRC § 457 that is maintained by:
   a. The ~~State~~ state of Arizona;
   b. A political subdivision, agency, or instrumentality of the ~~State~~ state of Arizona; or
   c. A political subdivision entity of the ~~State~~ state of Arizona;
2. An annuity contract described in IRC § 403(b); or
3. A retirement program qualified under IRC §§ 401(a) or 403(a).

B. ~~Within 30 days of the date~~ By the due date specified on the SP invoice, the ASRS shall receive from the member ~~shall return to the ASRS~~ the completed Service Purchase Payment Request form described in R2-8-502(D)(2).

C. Upon receipt of the completed Service Purchase Payment Request form, the ASRS shall provide a Direct Rollover/Transfer Certification to Purchase Service Credit form, if the ASRS has not already provided the member with the form.

D. The member shall ensure that the member and the plan administrator complete the Direct Rollover/Transfer Certification to Purchase Service Credit form, containing all of the applicable information identified in R2-8-514 (E), and ~~return the form to the ASRS~~ ensure that the ASRS receives the form within 90 days after the issue date on the SP Invoice.

E. The ASRS shall provide the member with written notification regarding the eligibility of the transfer.

F. The member shall contact the plan administrator to have the funds transferred to the ASRS. Except as provided in subsection (G), unless the ASRS receives the check for the correct amount from the plan within 90 days of the issue date on the SP invoice, the ASRS shall cancel the request to purchase service credit as specified in R2-8-502(C).

G. The ASRS shall provide an extension of 60 days in which the check may be received by the ASRS from the plan at the written request of the member, if:
1. The member has followed the procedure under this Article for requesting to purchase service credit,
2. The member has responded to the ASRS correspondence within the time frame set forth in this Article,
3. The eligible plan has not provided to the ASRS the check to pay for the requested service credit purchase within 90 days of the date of the SP invoice, and
4. The member makes the written request for extension before expiration of the 90 days.

H. The member shall ensure that the ASRS receives a check from the plan, made payable to the ASRS, for an amount that does not exceed the amount specified on the SP Invoice.

I. If the payment from the eligible plan exceeds the amount specified on the SP Invoice, the ASRS shall return the entire payment to the ~~eligible plan~~ member and notify the member ~~that the payment has been returned~~ of the correct amount due.

R2-8-516. Purchasing Service Credit by Indirect IRA Rollover

A. An eligible member may purchase service credit, or pay off an ~~irrevocable payroll deduction authorization~~ Irrevocable Payroll Deduction Authorization at retirement or termination of employment without transferring employment, by an indirect IRA rollover if the rollover purchase is completed within 60 days of the date of distribution of funds from the IRA account, as required by IRC § 408(d)(3)(A). The 60-day time limitation is exclusive of any other time limitations prescribed in this Article and the ASRS shall not extend the 60-day period.

B. ~~Within 30 days of the date~~ By the due date specified on the SP invoice, the member shall ensure that the ASRS receives

~~member shall return to the ASRS~~ the completed Service Purchase Payment Request form described in R2-8-502(D)(2).

C. Upon the receipt of the completed Service Purchase Payment Request form and upon the member's request, the ASRS shall provide to the member an Indirect IRA Rollover Contribution form. The member shall complete the Indirect IRA Rollover Contribution form and ~~it to the ASRS~~ ensure that the ASRS receives the form within 90 days after the issue date on the SP Invoice, along with:
1. A copy of the distribution statement or check stub identifying it as an IRA distribution, showing the date of distribution and amount distributed; or
2. The distribution check endorsed by the member made payable to the ASRS with documentation that it is an IRA distribution.

D. The information requested on the Indirect IRA Rollover Contribution form includes:
1. The member's full name,
2. The member's ~~social security~~ Social Security number,
3. The member's mailing address,
4. The member's daytime telephone number,
~~5. The member's date of birth,~~
~~6~~5. The member's signature certifying that the member understands the statements on the form regarding the distribution the member has received from the IRA and the requirements for an IRA rollover to the ASRS and agrees to the statements, and
~~7~~6. The date the member signs the form.

E. The ASRS shall provide the member with written notification regarding the eligibility of the rollover contribution.

F. After receiving notice from the ASRS that the rollover is an eligible rollover contribution, if the member has not sent payment for the purchase of service credit, the member shall submit payment for the service credit purchase. The member shall make payment by:
1. The distribution check from the IRA made payable to the member and endorsed by the member to make it payable to the ASRS; or
2. Direct payment by the member by check or money order to the ASRS, after the IRA distribution is deposited to the member's account.

G. Except as provided in subsection (H), unless the ASRS receives payment from the member within 90 days of the issue date on the SP invoice, the ASRS shall cancel the request to purchase service credit as specified in R2-8-502(C).

H. The ASRS shall provide an extension of 60 days in which the check may be received by the ASRS under subsection (G) at the written request of the member, if:
1. The member has followed the procedure under this Article for requesting to purchase service credit,
2. The member has responded to the ASRS correspondence within the time frame set forth in this Article,
3. The eligible plan has not provided the ~~ASRS~~ member with the check to pay for the requested service credit purchase within 90 days of the date of the SP invoice, and
4. The member makes the written request for extension before expiration of the 90 days.

I. The member shall ensure that the ASRS receives a check made payable to the ASRS for an amount that does not exceed the amount specified on the SP Invoice.

J. If the payment exceeds the amount specified on the SP Invoice, the ASRS shall return the entire payment to the member.

R2-8-517. Purchasing Service Credit by Distributed Rollover Contribution

A. An eligible member may purchase service credit with a distribution from a prior employer's eligible plan that has already been distributed to the member if the rollover purchase is completed within 60 days of the date of distribution to the member, as required by IRC §§ 402(c)(3)(A), 403(b)(8)(B), and 457(e)(16)(B). The 60-day time limitation is exclusive of any other time limitations prescribed in this Article and the ASRS shall not extend the 60 day period. Eligible plans are:
1. A pension, profit sharing, or other qualified plan described in IRC § 401(a) and (k);
2. A qualified annuity plan described in IRC § 403(a);
3. A deferred compensation plan described in IRC § 457 and maintained by a ~~State~~ state of the United States, or a political subdivision, agency, or instrumentality of a ~~State~~ state of the United States; and
4. A tax deferred annuity described in IRC § 403(b).

B. ~~Within 30 days of the date~~ By the due date specified on the SP invoice, the member shall ensure that the ASRS receives ~~member shall return to the ASRS~~ the completed Service Purchase Payment Request form described in R2-8-502(D)(2).

C. When the ASRS receives the completed Service Purchase Payment Request form and upon the member's request, the ASRS shall provide a Certification by Eligible Plan Rollover Contribution form and Rollover Contribution form.

D. The information requested on the Certification by Eligible Plan Rollover Contribution form includes:
1. ~~Name of the plan~~ The member's dated signature;
2. Member's full name;
3. Member's social security number;
4. Member's mailing address;
5. Certification by the plan administrator that the plan is one of the plans described in subsection (A);

6. Certification by the plan administrator that:
   a. If the plan is described in either IRC §§ 401(a) or 403(a), the plan has received a determination letter from the Internal Revenue Service indicating that the plan is qualified under either IRC §§ 401(a) or 403(a);
   b. If the plan is described in either IRC §§ 401(a) or 403(a), but has not received a determination letter from the Internal Revenue Service, the plan satisfies the requirements of IRC §§ 401(a) or 403(a) or is intended to satisfy the requirements of IRC §§ 401(a) or 403(a) and the plan administrator is not aware of any plan provision or any other reason that would disqualify the plan; or
   c. If the plan is a deferred compensation plan described in IRC § 457 or an annuity contract described in IRC § 403(b), the plan or annuity satisfies the applicable requirements of IRC §§ 457 or 403(b) and the plan administrator is not aware of any plan provision or any other reason that would cause the plan or annuity to not satisfy the applicable provisions of IRC §§ 457 or 403(b);
7. Certification by the plan administrator that the plan permits a direct rollover of an eligible rollover distribution to a defined benefit plan;
8. The full name, title, and signature of the plan administrator;
9. The plan administrator's business address and telephone number; and
10. Date of the signature of the plan administrator.

E. The information requested on the Rollover Contribution form includes:
1. The member's ~~social security~~ Social Security number;
2. The member's full name;
3. The member's mailing address;
4. The member's daytime telephone number;
~~5. The member's date of birth;~~
~~6~~5. The member's signature certifying that:
   a. The member has read the statements on the Rollover Contribution form regarding requirements for a rollover contribution, understands all the statements, and believes the statements, certifications, and any documents attached to the form to be true and correct to the best of the member's knowledge and belief; and
   b. The member understands that:
      i. The ASRS assumes no responsibility for ensuring that the member makes a timely rollover contribution to the ASRS or that the amount rolled over constitutes a valid rollover contribution;
      ii. The member accepts full responsibility for ensuring that the rollover contribution is an eligible rollover contribution before making the contribution to the ASRS;
      iii. If the ASRS accepts the rollover contribution and it is later determined that the contribution was an invalid rollover contribution, the ASRS will distribute the invalid contribution~~, plus any earnings,~~ directly to the member; and
      iv. Any invalid rollover contributions returned to the member may decrease the member's benefits and the Internal Revenue Service and state taxing authorities may require the member to pay taxes, penalties, and interest on the returned contributions; and
~~7~~6. The date the member signed the form.

F. The member shall ensure that the ASRS receives ~~member shall return to the ASRS~~ the Certification by Eligible Plan Rollover Contribution form signed and dated by the plan administrator, the Rollover Contribution form signed and dated by the member, and a copy of the distribution statement showing the:
1. Date of the distribution;
2. Amount of the distribution; and
3. Amount of taxes withheld, if any.

G. The ASRS shall provide the member with written notification regarding the eligibility of the rollover.

H. ~~After receiving notice from the ASRS that the rollover is eligible, the member shall submit payment for the service credit purchase.~~ The member shall make payment by:
1. The distribution check from the eligible plan made payable to the member and endorsed by the member to make it payable to the ASRS; or
2. Direct payment by the member by check or money order to the ASRS, after the eligible plan distribution is deposited to the member's personal financial account.

I. Except as provided in subsection (J), unless the ASRS receives the check from the plan within 90 days of the issue date on the SP invoice, the ASRS shall cancel the request to purchase service credit as specified in R2-8-502(C).

J. At the written request of the member, the ~~The~~ ASRS shall provide an extension of 60 days in which the check may be received by the ASRS from the plan under subsection (I) ~~at the written request of the member~~, if:
1. The member has followed the procedure under this Article for requesting to purchase service credit,
2. The member has responded to the ASRS correspondence within the time frame set forth in this Article,
3. The eligible plan has not provided to the ~~ASRS~~ member with the check to pay for the requested service credit purchase within 90 days of the date of the SP invoice, and

4. The member makes the written request for extension before expiration of the 90 days.

K. The member shall ensure that the ASRS receives a check, made payable to the ASRS, for an amount that does not exceed the amount specified in the written notification identified in subsection (G).

L. If the payment from the eligible plan exceeds the amount specified in the written notification identified in subsection (G,) the ASRS shall return the entire payment to the member.

R2-8-518. Purchasing Service Credit by Partial Lump Sum Retirement Distribution

A. An eligible member who retires may purchase service credit or pay off an ~~irrevocable payroll deduction authorization~~ Irrevocable Payroll Deduction Authorization by partial lump sum retirement distribution. Payment by partial lump sum distribution is applied after all other forms of payment are made.

B. An eligible member who requests to purchase service at retirement by partial lump sum retirement distribution shall make the request to the ASRS before the eligible member's retirement date, and in no case more than six months before retirement.

C. Within 30 days of the issue date on the SP invoice or PDA pay-off letter, the member shall ensure that the ASRS receives ~~member shall return to the ASRS~~ the completed Service Purchase Payment Request form described in R2-8-502(D)(2).

D. The member shall ensure that the Partial Lump Sum Retirement Distribution section of the Application for Retirement Benefit form is completed and ~~returned to~~ received by the ASRS.

E. For the purpose of purchasing service credit or paying off an ~~irrevocable payroll deduction authorization~~ Irrevocable Payroll Deduction Authorization, the information requested on the ~~Partial Lump Sum Retirement Distribution~~ Application for Retirement Benefit form includes:

1. Member's full name;
2. Member's ~~social security~~ Social Security number;
3. Member's daytime telephone number;
4. Member's date of birth;
5. The number of partial lump sum months the member elects ~~to purchase~~;
~~6. A statement the member initials that indicates that the member has read the Special Tax Notice provided by the ASRS regarding the plan payment;~~
~~7. Election of a rollover to purchase the service credit;~~
~~8~~6. Whether the member authorizes the ASRS to increase the number of elected partial lump sum months to an amount necessary to purchase all remaining service, up to a maximum of 36 months;
~~9~~7. Whether the member intends to transfer funds from the member's partial lump sum distribution option to purchase the service credit;
~~10~~8. Whether the member intends to purchase a portion of the member's service credit by rollover from another eligible plan, lump sum, or termination pay;
~~11~~9. Identification number of the Irrevocable Payroll Deduction Authorization, if applicable;
~~12. Amount of partial lump sum to be applied to each irrevocable payroll deduction authorization, if applicable;~~
~~13. The years of service to be purchased for each irrevocable payroll deduction authorization, if applicable;~~
~~14. Request ID number listed on the SP invoice, if applicable;~~
~~15~~10. Amount of partial lump sum to apply to each SP invoice, if applicable;
~~16~~11. Years of service credit to be purchased for each SP invoice, or all service credit; and
~~17~~12. Acknowledgement that the member knows the member may not choose to rollover to an eligible plan if the member chooses to rollover to purchase ASRS service credit.

F. The member shall return the completed P~~artial Lump Sum Retirement Distribution~~ Application for Retirement Benefit form to the ASRS.

~~**G.** The ASRS shall provide the member with written notification regarding the eligibility of the rollover.~~

R2-8-519. Purchasing Service Credit by Termination Pay Distribution

A. To purchase service credit using termination pay distribution, an eligible member shall, no ~~later~~ more than six months before the date the eligible member plans to retire or ~~separate from service~~ terminate employment, request to purchase service credit as specified in R2-8-502 and specify that the member wants to use termination pay distribution to pay for the service credit. Upon receipt of the acknowledgement letter identified in R2-8-502, the eligible member shall provide documentation for service credit as required by this Article, within 30 days of the eligible member's request to purchase service credit.

B. Upon receipt of the documentation required by this Article from the eligible member and if the eligible member's request to purchase service credit meets the requirements of this Article, the ASRS shall provide a:

1. SP invoice stating the ~~calculated~~ cost to purchase the requested amount of service credit and the date the payment is due, and
2. Service Purchase Payment Request form as described in R2-8-502(D)(2)~~, and~~.
~~3. Termination Pay Authorization for the Purchase of Service Credit form.~~

~~**C.** The information requested on the Termination Pay Authorization for the Purchase of Service Credit form includes:~~

~~1. Member's full name,~~
~~2. Member's Social Security number,~~
~~3. Member's daytime telephone number,~~
~~4. Member's date of birth,~~
~~5. The Request ID number listed on the SP invoice,~~
~~6. Name of ASRS employer,~~
~~7. Whether the member elects to use all termination pay or a specific amount of termination pay to purchase service credit,~~
~~8. Signature of the member, certifying that the member understands that:~~
~~a. The member is required to continue working at least three full calendar months after the date the member submits the Termination Pay Authorization for the Purchase of Service Credit form before termination pay may be used on a pre-tax basis;~~
~~b. If the member terminates employment more than six months from the date on the SP invoice, the ASRS shall recalculate the cost for purchasing the service credit and the member is obligated to purchase the service credit at the newly calculated rate and at a possible higher cost;~~
~~c. The Termination Pay Authorization for the Purchase of Service Credit form is binding and irrevocable;~~
~~d. The member's employer is required to make payment directly to the ASRS after mandatory deductions are made, and the member does not have the option of receiving the funds directly from the employer;~~
~~e. The ASRS shall apply service credit to the member's account upon the receipt of payments authorized by the member by the Termination Pay Authorization for the Purchase of Service Credit form;~~
~~f. If the member elects to purchase with termination pay only a portion of the service credit that the member is entitled to purchase, the member may be eligible to use other forms of payment to purchase additional service credit. However, using other forms of payment to purchase additional service credit does not alter, amend, or revoke the terms of the Termination Pay Authorization for the Purchase of Service Credit form;~~
~~g. It is the member's responsibility to ensure that the member's employer properly deducts termination pay, as provided the Termination Pay Authorization for the Purchase of Service Credit form; and~~
~~h. The amount of termination pay the member is allowed to apply to purchase service credit is subject to federal laws.~~

~~D~~**C.** ~~Within 30 days of the date~~ By the due date specified on the SP invoice, the member shall ensure that the ASRS receives ~~member shall return to the ASRS~~ the completed Service Purchase Payment Request form ~~and the completed Termination Pay Authorization for the Purchase of Service Credit form~~.

D. Upon receipt of the Service Purchase Request form, if the member indicates the member wishes to purchase service credit by termination pay distribution, the ASRS shall send the member a Termination Pay Authorization for the Purchase of Service Credit form to complete and return within the time limitation specified in subsection (E) that includes:

1. Member's full name,
2. Member's Social Security number,
3. Member's daytime telephone number,
4. The Request ID number listed on the SP invoice,
5. Name of ASRS employer,
6. Whether the member elects to use all termination pay or a specific amount of termination pay to purchase service credit,
7. Signature of the member, certifying that the member understands that:
   a. The member is required to continue working at least three full calendar months after the date the member submits the Termination Pay Authorization for the Purchase of Service Credit form before termination pay may be used on a pre-tax basis;
   b. If the member terminates employment more than six months after the date on the SP invoice, the member may purchase the service credit at a newly calculated rate and possibly at a higher cost;
   c. The Termination Pay Authorization for the Purchase of Service Credit form is binding and irrevocable;
   d. The member's employer is required to make payment directly to the ASRS after mandatory deductions are made, and the member does not have the option of receiving the funds directly from the employer;
   e. The ASRS shall apply service credit to the member's account upon the receipt of payments authorized by the member by the Termination Pay Authorization for the Purchase of Service Credit form;
   f. If the member elects to purchase with termination pay only a portion of the service credit that the member is entitled to purchase, the member may be eligible to use other forms of payment to purchase additional service credit. However, using other forms of payment to purchase additional service credit does not alter, amend, or revoke the terms of the Termination Pay Authorization for the Purchase of Service Credit form;
   g. It is the member's responsibility to ensure that the member's employer properly deducts termination pay, as provided the Termination Pay Authorization for the Purchase of Service Credit form; and
   h. The amount of termination pay the member is allowed to apply to purchase service credit is subject to federal

laws.

E. In addition to the other time limitations in this Section, to apply termination pay to a service purchase the eligible member shall complete~~,~~ and sign the Termination Pay Authorization for the Purchase of Service Credit form, and the member shall ensure that the ASRS receives the Termination Pay Authorization for the Purchase of Service Credit form at least three full calendar months before the member retires or ~~separates from service~~ terminates employment.

F. The ASRS shall not apply a termination pay distribution to a service credit purchase covered by an ~~irrevocable payroll deduction authorization~~ Irrevocable Payroll Deduction Authorization in effect at the time of termination unless the eligible member signed a Termination Pay Addendum to the Irrevocable Payroll Deduction Authorization specified in R2-8-513(D) at the time the member signed the Irrevocable Payroll Deduction Authorization.

G. If a member elects to use all of the member's available termination pay to purchase service credit, ASRS shall not apply any other form of payment to the service credit purchase until the ASRS receives the termination pay.

R2-8-520. ~~Separation from~~ Termination of Employment and Request to Return Retirement Contributions or Death of Member While Purchasing Service Credit by an Irrevocable Payroll Deduction Authorization

A. If a member ~~separates from~~ terminates employment without transferring employment as specified in R2-8-513.01 while purchasing service credit by an ~~irrevocable payroll deduction authorization~~ Irrevocable Payroll Deduction Authorization and requests return of retirement contributions, the ASRS shall return any payments made for the purchase of service credit including interest earned on those payments as determined by the Board.

B. If a member dies while purchasing service credit, the ASRS shall credit the member's account with:
1. The service credit for which the ASRS received payment before the members death,
2. Interest earned on payment through the date of distribution at the valuation rate established by the Board ~~through the date of distribution~~, and
3. All service purchase payments.

C. If a member dies while purchasing service credit, the ASRS shall not permit the survivor to purchase the remaining balance.

~~C~~D. The ASRS shall not refund interest charged as part of an ~~irrevocable payroll deduction authorization~~ Irrevocable Payroll Deduction Authorization as specified in R2-8-513(E)(1).

NOTICE OF FINAL RULEMAKING

TITLE 3. AGRICULTURE

CHAPTER 9. DEPARTMENT OF AGRICULTURE
AGRICULTURAL COUNCILS AND COMMISSIONS

[R06-475]

PREAMBLE

1. Sections Affected **Rulemaking Action**

R3-9-205 New Section

2. The specific authority for the rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):

Authorizing statute: A.R.S. §§ 3-584, 41-2706(B)(6)

Implementing statute: A.R.S. § 3-584(C)(1)

3. The effective date of the rules:

February 3, 2007

4. A list of all previous notices appearing in the Register addressing the final rule:

Notice of Rulemaking Docket Opening: 11 A.A.R. 2797, July 29, 2005

Notice of Proposed Rulemaking: 12 A.A.R. 1885, June 9, 2006

5. The name and address of agency personnel with whom persons may communicate regarding the rulemaking:

Name: Rebecca Nichols, Rules Analyst, Director of Marketing

Address: Arizona Department of Agriculture
1688 W. Adams, Room 235
Phoenix, AZ 85007

Telephone: (602) 542-0962

Fax: (602) 542-5420

E-mail: rnichols@azda.gov

6. An explanation of the rules, including the agency's reasons for initiating the rules:

This rulemaking codifies the process under which the Arizona Grain Research and Promotion Council (AGRPC) will award grants. The AGRPC received an exemption from Title 41, Chapter 24 of the A.R.S. that applies to the solicitation of grants: A.R.S. § 41-2701 *et seq*.

7. A reference to any study relevant to the rules that the agency reviewed and either relied on in its evaluation of or justification for the rules or did not rely on in its evaluation of or justification for the rules, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:

None

8. A showing of good cause why the rules are necessary to promote a statewide interest if the rules will diminish a previous grant of authority of a political subdivision of this state:

Not applicable

9. The summary of the economic, small business, and consumer impact:

A. *The Arizona Grain Research and Promotion Council and the Arizona Department of Agriculture*.
The AGRPC and the Department will incur modest expenses related to educating the regulated community on the new Section.

B. *Political Subdivision.*
Other than the AGRPC and the Department, the Office of Administrative Hearings may be affected by this rulemaking if a hearing is requested.

C. *Businesses Directly Affected By the Rulemaking.*
Grain producers, grower-shippers, handlers, seed breeders, researchers and universities are the beneficiaries of Grants programs developed by the AGRPC.

The regulated community the AGRPC serves, as well as the AGRPC itself, will be beneficially affected by the use of this Grant rule.

10. A description of the changes between the proposed rules, including supplemental notices, and final rules (if applicable):

Minor technical and grammatical changes were made at the suggestion of G.R.R.C. staff.

11. A summary of the comments made regarding the rules and the agency response to them:

None

12. Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:

None

13. Incorporations by reference and their location in the rules:

None

14. Were these rules previously made as emergency rules?

No

15. The full text of the rules follows:

TITLE 3. AGRICULTURE

CHAPTER 9. DEPARTMENT OF AGRICULTURE
AGRICULTURAL COUNCILS AND COMMISSIONS

ARTICLE 2. ARIZONA GRAIN RESEARCH AND PROMOTION COUNCIL

Section
R3-9-205. Grants

ARTICLE 2. ARIZONA GRAIN RESEARCH AND PROMOTION COUNCIL

R3-9-205. Grants

A. Definitions.

1. "AGRPC" means the Arizona Grain Research and Promotion Council.
2. "Authorized signature" means the signature of an individual authorized to receive funds on behalf of an applicant and

responsible for the execution of the applicant's project.
3. "Awardee" means an applicant to whom the AGRPC awards grant funds for a proposed project.
4. "Grant" means an award of financial support to an applicant according to A.R.S. § 3-584(C)(5).
5. "Grant award agreement" means a document advising an applicant of the amount of money awarded following receipt by the AGRPC of the applicant's signed acceptance of the award.

B. Grant application process.
1. The AGRPC shall award grants according to the competitive grant solicitation requirements of this Article.
2. The AGRPC shall post the grant application and manual on the AGRPC's web site at least four weeks before the due date of a grant application.
3. The AGRPC shall ensure that the grant application and manual contain the following items:
   a. Grant topics related to AGRPC projects specified in A.R.S. § 3-584(C)(5);
   b. A statement that the information contained in a grant application is not confidential;
   c. A statement that the AGRPC funding source is primarily from assessments on the seed of barley and wheat of all classes produced in Arizona for use as food, feed, or seed or produced for any industrial or commercial use;
   d. An application form including sections about the description of the grant project, scope of work to be performed, an authorized signature line, and a sample budget form;
   e. A statement that the applicant shall not include overhead expenses in the budget for the proposed project;
   f. The criteria that the AGRPC shall use to evaluate an application;
   g. The date and time by which the applicant shall submit an application;
   h. The anticipated date of the AGRPC award;
   i. A copy of this Section consisting of grant solicitation procedures and requirements; and
   j. Any other information necessary for the grant application.
4. The AGRPC shall not evaluate an application received by the AGRPC after the due date and time.

C. Criteria. The AGRPC shall consider the following when reviewing a grant application and deciding whether to award AGRPC funds:
1. The applicant's successful completion of prior research projects, if applicable;
2. The extent to which the proposed project identifies solutions to current issues facing the grain industry;
3. The extent to which the proposed project addresses future issues facing the grain industry;
4. The extent to which the proposed project addresses the findings of any industry surveys conducted within the previous year;
5. The appropriateness of the budget request in achieving the project objectives;
6. The appropriateness of the proposal time-frame to the stated project objectives; and
7. Relevant experience and qualifications of the applicant.

D. Public participation.
1. The AGRPC shall make all applications available for public inspection by the business day following the application due date.
2. Before awarding a grant, the AGRPC shall discuss, evaluate, and make a decision on grant applications and proposed projects at a meeting conducted under A.R.S. § 38-431 et seq.

E. Evaluation of grant applications.
1. The AGRPC may allow applicants to make oral or written presentations at the public meeting if time, applicant availability, and meeting space permit.
2. The AGRPC may modify an applicant's proposed project in awarding funding.
3. The AGRPC shall notify an applicant in writing of the AGRPC's decision to fund, modify, or deny funding for a proposed project within 10 business days of the AGRPC decision. The AGRPC shall notify applicants by the U.S. Postal Service, commercial delivery, electronic mail, or facsimile.

F. Awards and project monitoring.
1. Before releasing grant funds, the AGRPC shall execute a grant award agreement with the awardee. The awardee shall agree to accept the grant's legal requirements and conditions and authorize the AGRPC to monitor the progress of the project by signing the grant award agreement.
2. The AGRPC shall pay no more than 50% of the grant in the initial payment to the awardee.
3. During the term of the project, the awardee shall inform the AGRPC of changes to the awardee's address, telephone number, or other contact information.
4. The AGRPC may require an interim written report or oral presentation from the awardee during the term of the project.
5. The AGRPC shall not award the grant funds remaining after the initial payment until the awardee submits to the AGRPC:
   a. A final research report, and
   b. An invoice for actual final project expenses not exceeding the remaining portion of the grant funds.
6. The AGRPC shall make research findings and reports resulting from any grant awarded by the AGRPC available to

Arizona grain producers.

G. Repayment. If the awardee does not complete the project as specified in the grant award agreement, the awardee shall return all unexpended grant funds within 30 days after receipt of a written request by the AGRPC.

NOTICE OF FINAL RULEMAKING

TITLE 4. PROFESSIONS AND OCCUPATIONS

CHAPTER 7. BOARD OF CHIROPRACTIC EXAMINERS

[R06-480]

PREAMBLE

1. Sections Affected **Rulemaking Action**

R4-7-1301 Amend

2. The statutory authority for the rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):

Authorizing statute: A.R.S. § 32-904(B)(2)

Implementing statute: A.R.S. § 32-907

3. The effective date of the rules:

February 3, 2007

4. A list of all previous notices appearing in the Register addressing the rule:

Notice of Rulemaking Docket Opening: 12 A.A.R. 1476, May 5, 2006

Notice of Proposed Rulemaking: 12 A.A.R. 2362, July 7, 2006

5. The name and address of agency personnel with whom persons may communicate regarding the rulemaking:

Name: Patrice A. Pritzl, Executive Director

Address: 5060 N. 19th Ave., Ste. 416
Phoenix, AZ 85015-3210

Telephone: (602) 864-5088

Fax: (602) 864-5099

6. An explanation of the rule, including the Agency's reasons for initiating the rule:

The rule amendment will change the amount charged for subscriptions for annual meeting minutes and agendas to more accurately reflect the agency cost of providing the service. The rule amendment will also set charges, based on the agency cost of providing the service, for CD recordings of board meeting minutes, registration of chiropractic assistants, approval of continuing education courses, checks returned for insufficient funds, lists of licensees, applicant or assistants and minimal service fee for copies of public records, meeting agendas and lists. The rulemaking will also reflect the amount of the annual license renewal fee under A.R.S. § 32-923(B).

7. A reference to any study that the agency reviewed and either relied on or did not rely on in its evaluation of or justification for the final rule and where the public may obtain or review the study, all data underlying each study, any analysis of the study and other supporting material:

The Board did not review any study relevant to the rule.

8. A showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant of authority of a political subdivision of this state:

Not applicable

9. The summary of the economic, small business, and consumer impact:

The economic impact is minor for the agency. The agency will benefit by covering the cost of providing the service but will not profit from the rulemaking.

The cost to the public, which includes licensees, will be reduced for annual subscriptions for agendas by $15 and will increase the annual subscriptions for Board meeting minutes by $30.00. The cost for CD recordings of board meeting minutes will be $5.00 per disc. The agency does not foresee that the recording of a board meeting would exceed the capacity of one disc. The cost for lists of licensees, applicants and chiropractic assistants will range from $2.00 to $40.00. The cost for continuing education compliance is limited to individuals or institutions that apply to have a course approved for continuing education credit when the course does not otherwise meet the criteria for continuing education credit under the Chiropractic Act. The number of applicants per year is approximately ten, for an annual cost of $500 spread over ten applicants. The charge for checks returned for insufficient funds will impact licensees

and applicants and will be $25 per returned check at a annual cost of proximally $175.00 spread over seven licensees and applicants.

10. A description of the changes between the proposed rules, including supplemental notices, and final rules (if applicable):

Minor technical and grammatical changes were made at the suggestion of G.R.R.C. staff.

11. A summary of the principal comments and the agency response to them:

The agency did not receive written or oral comment regarding the rule.

12. Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:

Not applicable

13. Incorporation by reference and their location in the rules:

Not applicable

14. Was this rule previously made as an emergency rule?

No

15. The full text of the rules as follows:

TITLE 4. PROFESSIONS AND OCCUPATIONS

CHAPTER 7. BOARD OF CHIROPRACTIC EXAMINERS

ARTICLE 13. CHARGES

Section
R4-7-1301. Additional Charges

ARTICLE 13. CHARGES

R4-7-1301. Additional Charges

A. The Board shall collect charges for services as follows:

~~1. $40.00 for directories, address labels, or lists of licensees, applicants, or other regulated parties.~~
~~2. $40.00 for annual subscriptions for meeting minutes, agendas, or other agency documents published and provided on an ongoing basis.~~
~~3. $10.00 for a jurisprudence booklet.~~
~~4. $5.00 for a duplicate renewal receipt.~~
~~5. $20.00 for a duplicate ornamental license.~~
~~6. $20.00 for a duplicate ornamental certificate.~~
~~7. $2.00 for a hard copy of a credential verification.~~
~~8. 25¢ per page for the preparation and copying of public records.~~
~~9. $25.00 for a verification of a license in good standing.~~

1. Annual license renewal fee: $170.00;
2. Copies of public records: $0.25 per page, with a minimum fee of $2.00;
3. Directories or labels: $40.00;
4. Annual subscription for meeting minutes: $70.00;
5. Agendas: $25.00 for an annual subscription or $2.00 per agenda;
6. Recordings of Board meetings: $5.00 per disc or tape;
7. Lists of licensees, applicants, chiropractic assistants: $0.05 per name, with a minimum fee of $2.00;
8. Hard copy credential verification: $2.00 per name;
9. Verification of license status: $25.00;
10. Continuing education course review for approval: $50.00;
11. Jurisprudence booklet: $10.00;
12. Duplicate renewal receipt: $5.00;
13. Duplicate ornamental license: $20.00;
14. Duplicate ornamental certificate: $20.00; and
15. Penalty for insufficient funds check submitted to Board as payment of fee or other charge: $25.00.

B. All charges are non-refundable, except if A.R.S. §41-1077 applies.

C. The fees in this Section pertain regardless of the method by which the document is delivered.

NOTICE OF FINAL RULEMAKING

TITLE 4. PROFESSIONS AND OCCUPATIONS

CHAPTER 23. BOARD OF PHARMACY

[R06-479]

PREAMBLE

1. Sections Affected **Rulemaking Action**
R4-23-202 Amend

2. The statutory authority for the rulemaking, including both the authorizing statute (general) and the statutes the rule is implementing (specific):

Authorizing statutes: A.R.S. § 32-1904(A)(1) and (5)

Implementing statutes: A.R.S. § 32-1922

3. The effective date of the rule:

February 3, 2007

4. A list of all previous notices appearing in the Register addressing the final rule:

Notice of Rulemaking Docket Opening: 12 A.A.R. 2971, August 18, 2006

Notice of Proposed Rulemaking: 12 A.A.R. 2874, August 18, 2006

5. The name and address of agency personnel with whom persons may communicate regarding the rule:

Name:	Dean Wright, Compliance Officer
Address:	Board of Pharmacy 4425 W. Olive Ave., Ste. 140 Glendale, AZ 85302
Telephone:	(623) 463-2727, ext. 131
Fax:	(623) 934-0583
E-mail:	rxcop@cox.net

6. An explanation of the rule, including the agency's reasons for initiating the rule:

The Boards staff discovered an incorrect citation in R4-23-202 (Licensure by Examination). Subsection R4-23-202(A)(2) cites A.R.S. § 32-1922(C) in relation to eligibility to obtain pharmacist licensure by examination, but A.R.S. § 32-1922(C) actually refers to the Boards ability to grant licensure without an examination when the other jurisdiction, that licenses the pharmacist, provides reciprocal licensure to Arizona pharmacists. The correct citation is A.R.S. § 32-1922(D). The amended rule will change the citation from 32-1922(C) to 32-1922(D). The rule will include format, style, and grammar necessary to comply with the current rules of the Secretary of State and Governor's Regulatory Review Council.

The Board believes that approval of this rule benefits the public and the pharmacy community by clearly establishing the standards for pharmacist licensure by examination.

7. A reference to any study relevant to the rule that the agency reviewed and either relied on or did not rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:

None

8. A showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant of authority of a political subdivision of this state:

Not applicable

9. The summary of the economic, small business, and consumer impact:

The amended rule will impact the Board, pharmacists, and the public. The amended rule's impact on the Board will be the usual rulemaking-related costs, which are minimal. The Board estimates the amended rule will have no economic impact on pharmacists, because the rule change is simply correcting a citation error. The amended rule has no economic impact on the public.

The public, Board, and pharmacists benefit from rules that are clear, concise, and understandable. The amended rule benefits the public and the pharmacy community by clearly establishing the standards for pharmacist licensure by examination.

10. A description of the changes between the proposed rule, including supplemental notices, and final rule (if applicable):

There are no substantial changes in the final rule from the proposed rule. There are minor changes to style, format, grammar, and punctuation requested by G.R.R.C. staff.

11. A summary of the comments made regarding the rule and the agency response to them:

A public hearing was held on September 18, 2006. No one attended the hearing, and no written comments were received.

12. Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:

Not applicable

13. Incorporations by reference and their location in the rule:

None

14. Was this rule previously approved as an emergency rule?

No

15. The full text of the rule follows:

TITLE 4. PROFESSIONS AND OCCUPATIONS

CHAPTER 23. BOARD OF PHARMACY

ARTICLE 2. PHARMACIST LICENSURE

R4-23-202. Licensure by Examination

ARTICLE 2. PHARMACIST LICENSURE

R4-23-202. Licensure by Examination

A. Eligibility. To be eligible for licensure as a pharmacist by examination, a person shall:
1. Have an undergraduate degree in pharmacy from a school or college of pharmacy whose professional degree program, at the time the person graduates, is accredited by the American Council on Pharmaceutical Education; or
2. Qualify under the requirements of A.R.S. § 32-1922~~(C)~~ (D); and
3. Complete not less than 1500 hours of intern training as specified in R4-23-303.

B. No change
1. No change
   a. No change
   b. No change
   c. No change
2. No change
3. No change
   a. No change
   b. No change
      i. No change
      ii. No change
4. No change
   a. No change
   b. No change
      i. No change
      ii. No change
5. No change

C. No change
1. No change
2. No change
   a. No change
   b. No change
3. No change

D. No change
1. No change
2. No change

E. No change
1. No change
2. No change

F. No change
1. No change
   a. No change
   b. No change
   c. No change
2. No change
   a. No change
   b. No change
   c. No change
3. No change
4. No change
   a. No change
   b. No change
   c. No change
   d. No change
   e. No change
   f. No change
5. No change
   a. No change
   b. No change
   c. No change

NOTICE OF FINAL RULEMAKING

TITLE 4. PROFESSIONS AND OCCUPATIONS

CHAPTER 23. BOARD OF PHARMACY

[R06-473]

PREAMBLE

1. Sections Affected **Rulemaking Action**

R4-23-402 Amend

2. The statutory authority for the rulemaking, including both the authorizing statute (general) and the statutes the rule is implementing (specific):

Authorizing statutes: A.R.S. § 32-1904(A)(1)

Implementing statutes: A.R.S. § 32-1904(B)(5)

3. The effective date of the rule:

February 3, 2007

4. A list of all previous notices appearing in the Register addressing the final rule:

Notice of Rulemaking Docket Opening: 12 A.A.R. 695, March 3, 2006

Notice of Proposed Rulemaking: 12 A.A.R. 1156, April 14, 2006

Notice of Supplemental Proposed Rulemaking: 12 A.A.R. 2182, June 23, 2006

5. The name and address of agency personnel with whom persons may communicate regarding the rule:

Name:	Dean Wright, Compliance Officer
Address:	Board of Pharmacy 4425 W. Olive Ave., Ste 140 Glendale, AZ 85302
Telephone:	(623) 463-2727, ext. 131
Fax:	(623) 934-0583
E-mail:	rxcop@cox.net

6. An explanation of the rule, including the agency's reasons for initiating the rule:

During the January 25, 2006 Board meeting, Board President Chuck Dutcher instructed Board staff to craft proposed rules to require the documentation of the name or initials of the pharmacist, graduate intern, or pharmacy intern who does or does not provide oral consultation on a new prescription. The Board feels that the existing rule is flawed because it does not require the identification of the person who does or does not counsel. The rulemaking will amend R4-23-402 (Pharmacist, Graduate Intern, and Pharmacy Intern) by adding language to subsection (H) requiring documentation of the identity of the pharmacist, graduate intern, or pharmacy intern who does or does not provide oral consultation on a new prescription. The rule will include format, style, and grammar necessary to comply with the current rules of the Secretary of State and Governor's Regulatory Review Council.

The Board believes that approval of this rule will benefit the public and the pharmacy community by clearly establishing the standards for patient counseling provided by pharmacists and pharmacy interns and graduate interns under pharmacist supervision.

7. A reference to any study relevant to the rule that the agency reviewed and either relied on or did not rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:

None

8. A showing of good cause why the rule is necessary to promote a statewide interest if the rule will diminish a previous grant of authority of a political subdivision of this state:

Not applicable

9. The summary of the economic, small business, and consumer impact:

The amended rule will impact the Board, pharmacies, pharmacists, pharmacy interns, graduate interns, and the public. The amended rule's impact on the Board will be the usual rulemaking-related costs, which are minimal. The Board estimates the amended rule will have minimal economic impact on pharmacies, pharmacists, pharmacy interns, and graduate interns. The amended rule has no economic impact on the public.

The public, Board, pharmacies, pharmacists, pharmacy interns, and graduate interns benefit from rules that are clear, concise, and understandable. The amended rule benefits the public and the pharmacy community by clearly establishing the standards for patient counseling provided by pharmacists and pharmacy interns and graduate interns under pharmacist supervision.

10. A description of the changes between the proposed rule, including supplemental notices, and final rule (if applicable):

After publication of the Notice of Proposed Rulemaking and public hearing held on May 15, 2006, the Board staff asked the Board to make changes to R4-23-402(A)(10) and (15). The changes to R4-23-402(A)(10) will clarify the specific prescription order data a pharmacist is required to verify. The changes to R4-23-402(A)(15) will remove the requirement to manually initial a new prescription order received by facsimile, computer modem, or other means of communication (which the Board feels is unnecessary) and add language requiring a pharmacist to verify that a completed prescription medication is sold only to the correct patient, patient's care-giver, or authorized agent. There are minor changes to style, format, grammar, and punctuation requested by G.R.R.C. staff.

11. A summary of the comments made regarding the rule and the agency response to them:

A public hearing was held on May 15, 2006. Janet Elliott representing the Arizona Community Pharmacy Committee attended the hearing and spoke in opposition to the proposed language requiring the counseling pharmacist's initials be recorded. Ms. Elliott also provided written comment opposing the rulemaking. The Board staff explained that the Board felt that the recording of the counseling pharmacist's initials is necessary. The Board staff stated that a Notice of Supplemental Rulemaking would be published with substantial changes to R4-23-402(A)(10) and (15), and a new public hearing would be held for further comments.

A public hearing on the supplemental rulemaking was held on July 24, 2006. Janet Elliott representing the Arizona Community Pharmacy Committee attended the hearing and spoke in opposition to the proposed language requiring the counseling pharmacist's initials be recorded. The Board received two written comments on the Notice of Supplemental Proposed Rulemaking. Ms. Elliott provided written comment at the public hearing stating her groups opposition to the proposed language requiring the counseling pharmacist's initials be recorded. The second written comment came from Philip P. Burgess, RPh representing the Walgreen Company. Mr. Burgess also opposed the proposed language requiring the counseling pharmacist's initials be recorded.

The Board response to Ms. Elliott and Mr. Burgess states that the Board feels strongly that the addition of the requirement for the name, initials, or identification code of the pharmacist, graduate intern, or pharmacy intern who did or did not provide oral consultation is necessary. The Board absolutely wants counseling to occur. To that end, the Board feels that it must know the identity of the individual who actually does or does not perform counseling as required by rule.

12. Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:

Not applicable

13. Any material incorporated by reference and its location in the rule:
None

14. Was this rule previously approved as emergency rule?
No

15. The full text of the rule follows:

TITLE 4. PROFESSIONS AND OCCUPATIONS

CHAPTER 23. BOARD OF PHARMACY

ARTICLE 4. PROFESSIONAL PRACTICES

Section
R4-23-402. Pharmacist, Graduate Intern, and Pharmacy Intern

ARTICLE 4. PROFESSIONAL PRACTICES

R4-23-402. Pharmacist, Graduate Intern, and Pharmacy Intern

A. No change
1. No change
2. No change
3. No change
   a. No change
   b. No change
4. No change
5. No change
   a. No change
   b. No change
   c. No change
   d. No change
   e. No change
6. No change
7. No change
8. No change
9. No change
   a. No change
   b. No change
   c. No change
   d. No change
   e. No change
10. Check ~~a~~ prescription ~~label~~ order data entry to ensure that the data input:
    a. Is for the correct patient by verifying the patient's name, address, telephone number, gender, and date of birth or age;
    b. Is for the correct drug by verifying the drug name, strength, and dosage form;
    c. ~~it communicates~~ Communicates the prescriber's directions precisely by verifying dose, dosage form, route of administration, dosing frequency, and quantity; and
    d. Is for the correct medical practitioner by verifying the medical practitioner's name, address, and telephone number;
11. No change
12. No change
13. No change
    a. No change
    b. No change
    c. No change
14. No change
    a. No change
    b. No change
    c. No change
15. Verify, ~~and manually initial a new prescription order received by:~~ or assume responsibility to verify, that a completed

prescription medication is sold only to the correct patient, patient's care-giver, or authorized agent;
~~a. Facsimile~~,
~~b. Computer modem, or~~
~~c. Other means of communication~~;
16. No change
17. No change

B. No change
1. No change
2. No change
3. No change

C. No change
1. No change
2. No change
3. No change
4. No change

D. No change
1. No change
2. No change
3. No change

E. No change
1. No change
2. No change
3. No change
4. No change

F. No change

G. No change

H. Oral consultation documentation. When oral consultation is required as specified in subsection (B), a pharmacist, graduate intern, or pharmacy intern shall:
1. Document, or assume responsibility to document, that oral consultation is provided; or
2. When a patient refuses oral consultation or a person other than the patient or patient's care-giver picks up a prescription and oral consultation is not provided, document, or assume responsibility to document, that oral consultation is not provided; or
3. When a pharmacist, graduate intern, or pharmacy intern determines to omit oral consultation under subsection (D) and oral consultation is not provided, document, or assume responsibility to document, both the circumstance and reason that oral consultation is not provided; and
4. Document, or assume responsibility to document, the name, initials, or identification code of the pharmacist, graduate intern, or pharmacy intern who did or did not provide oral consultation.

I. No change
1. No change
2. No change
3. No change
4. No change
5. No change

J. No change

K. No change

L. No change

NOTICE OF FINAL RULEMAKING

TITLE 9. HEALTH SERVICES

CHAPTER 14. DEPARTMENT OF HEALTH SERVICES LABORATORIES

[R06-477]

PREAMBLE

1. Sections Affected **Rulemaking Action**

R9-14-701	Repeal
R9-14-701	New Section

2. The statutory authority for the rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):

Authorizing statute: A.R.S. § 36-136(A)(7) and (F)

Implementing statutes: A.R.S. § 36-405.01

3. The effective date of the rule:

February 3, 2007

4. A list of all previous notices appearing in the Register addressing the final rule:

Notice of Rulemaking Docket Opening: 12 A.A.R. 2157, June 16, 2006

Notice of Proposed Rulemaking: 12 A.A.R. 3374, September 15, 2006

5. The name and address of agency personnel with whom persons may communicate regarding the rulemaking:

Name:	Steve Baker, Office Chief
Address:	Arizona Department of Health Services Bureau of State Laboratory Services 250 N. 17th Ave. Phoenix, AZ 85007
Telephone:	(602) 364-0735
Fax:	(602) 364-0759
E-mail:	bakersd@azdhs.gov
	or
Name:	Kathleen Phillips, Rules Administrator
Address:	Arizona Department of Health Services Office of Administrative Rules 1740 W. Adams, Suite 202 Phoenix, AZ 85007
Telephone:	(602) 542-1264
Fax:	(602) 364-1150
E-mail:	phillik@azdhs.gov

6. An explanation of the rule, including the agency's reasons for initiating the rule:

A.R.S. § 36-405.01, which was passed by the Legislature in 1977, specifies the manner in which health screening services are required to be conducted and authorizes the Arizona Department of Health Services (Department) to "adopt such ... regulations necessary or appropriate to carry out the purposes of this section." "Health screening services" is defined in A.R.S. § 36-401 as "the acquisition, analysis and delivery of health-related data of individuals to aid in the determination of the need for medical services." Health screening services may include vision screening, hearing screening, blood pressure screening, and health screening laboratory services. Health screening laboratory services are those health screening services that determine the need for medical services through laboratory analysis of materials derived from the human body. The Department implemented A.R.S. § 36-405.01 for health screening laboratory services in 9 A.A.C. 14, Article 7, which included definitions and requirements for health screening laboratory services.

In preparing the 2006 Five-Year-Review Report for 9 A.A.C. 14, Article 7, the Department determined that the requirements in Article 7 for health screening laboratory services were duplicative of requirements for certification by the United States Department of Health and Human Services, including those requirements contained in the Clinical Laboratory Improvement Amendments (CLIA) of 1988, 42 C.F.R. 493, Laboratory Requirements, which are applicable to almost all facilities performing health screening laboratory services in Arizona. The Department decided to allow all Sections of Article 7 except R9-14-701 to expire and to revise R9-14-701 to include appropriate definitions and all requirements for health screening laboratory services. As stated in the 2006 Five-Year-Review Report for R9-14-701, approved by the Governor's Regulatory Review Council (Council) on August 1, 2006, the Department is initiating rulemaking to delete unnecessary definitions, clarify requirements, and make the rule conform to current rulemaking format and style requirements of the Council and the Office of the Secretary of State. The new R9-14-701 contains definitions and requirements for persons conducting health screening laboratory services and specifies situations in which the rule does not apply.

7. A reference to any study relevant to the rule that the agency reviewed and either relied on or did not rely on in its evaluation of or justification for the rule, where the public may obtain or review each study, all data underlying

each study, and any analysis of each study and other supporting material:
The Department did not review or rely on any study related to this rulemaking package.

8. A showing of good cause why the rule is necessary to promote a statewide interest if the rules will diminish a previous grant of authority of a political subdivision of this state:
Not applicable

9. The summary of the economic, small business, and consumer impact:
As used in this summary, annual costs/revenues are designated as minimal when less than $1,000, moderate when between $1,000 and $10,000, and substantial when greater than $10,000.

The annual costs to the Department resulting from this rulemaking are expected to be minimal-to-moderate, and the Department expects little or no additional revenue due to the rulemaking.

The Department anticipates that this rulemaking may reduce the burden on persons conducting health screening laboratory services by a minimal degree by clarifying requirements and aligning health screening laboratory services requirements with the CLIA requirements with which these persons already need to comply. A person not currently complying with CLIA requirements but providing health screening laboratory services that learns of CLIA requirements as a result of this rulemaking may bear a minimal-to-moderate cost associated with complying with CLIA requirements. The Department anticipates that any increased costs may result in these persons raising their prices minimally for the health screening laboratory services provided. The Department also believes that compliance with CLIA requirements may result in more accurate test results.

Entities that pay for health screening laboratory services or medical services for individuals may receive minimal benefit from better medical services being provided to individuals as a result of more accurate test results, but may bear minimal costs associated with increased prices charged by persons who were unaware of CLIA requirements before the rulemaking. Similarly, individuals receiving health screening laboratory services from persons learning of CLIA requirements as a result of this rulemaking may receive minimal benefit from more accurate test results for health screening laboratory services, but bear minimal costs associated with increased prices charged by the persons providing the health screening laboratory services.

Society in general may benefit to a minimal-to-moderate degree from more healthy and productive individuals whose health screening laboratory tests were performed by persons complying with CLIA requirements.

The Department has determined that the benefits related to public health outweigh any potential costs associated with this rulemaking.

10. A description of the changes between the proposed rule, including supplemental notices, and final rule:
Minor technical and grammatical changes were made by the Department and at the suggestion of Council staff to improve clarity, conciseness, and understandability.

11. A summary of the comments made regarding the rule and the agency response to them:
There were no oral comments at the oral proceeding, and the Department received no written comments.

12. Any other matters prescribed by statute that are applicable to the specific agency or to any specific rule or class of rules:
Not applicable

13. Incorporations by reference and their location in the rule:
None

14. Was this rule previously made as an emergency rule?
No

15. The full text of the rule follows:

TITLE 9. HEALTH SERVICES

CHAPTER 14. DEPARTMENT OF HEALTH SERVICES LABORATORIES

ARTICLE 7. HEALTH SCREENING SERVICES

Section
R9-14-701. ~~Definitions~~ Health Screening Laboratory Services

ARTICLE 7. HEALTH SCREENING SERVICES

R9-14-701. ~~Definitions~~ Health Screening Laboratory Services

~~In this Article, unless the context otherwise requires:~~

~~1. "Health care provider" means an attending physician or individual licensed and recognized as primarily responsible for diagnosis and treatment or initiating diagnosis, testing, or therapy of a patient pursuant to A.R.S. Title 32, Chapters 7, 8, 13, 14, 17, 25, or 29; or any person licensed or certified as a nurse practitioner pursuant to A.R.S. Title 32, Chapter 15 and A.A.C. R4-19-503.~~

~~2. "Image receptor" means any device, including fluorescent screen or radiographic film, which transforms incident ionizing radiation either into a visible image or into another form which can be made into a visible image by further transformation.~~

~~3. "Ionizing radiation" means gamma rays and X-rays, alpha and beta particles, high speed electrons, neutrons, protons, and other nuclear particles or rays.~~

~~4. "Phantom" means, in radiology, a device that simulates the conditions encountered when radiation or radioactive materials are deposited in vivo and which permits a quantitative estimation of its effect.~~

~~5. "Screening administrator" means the principal business officer responsible for the health screening entity.~~

~~6. "Screening entity" means the organization providing the health screening procedure.~~

~~7. "Screening test" means a procedure which is used for detecting diseases and conditions to aid the determination of the need for medical services.~~

~~8. "Test site" means any facility or site, public or private, which analyzes the human body or materials derived from the human body for the purposes of health care, treatment, or screening.~~

~~9. "Test-site supervisor" means a person, designated in writing by the director of the screening entity, who is responsible for the health screenings service at the test site.~~

A. In this Section, unless otherwise specified, the following definitions apply:

1. "Activities of daily living" means the tasks that support everyday life, such as toileting, bathing, dressing, eating, moving about, and getting in or out of bed.
2. "Assist" means to give help, support, or aid to an individual in performing a task.
3. "Caregiver" means an individual, such as a home health aide, who receives monetary compensation for assisting another individual with activities of daily living.
4. "Certified laboratory" means the same as in A.R.S. § 36-451.
5. "Drug of abuse" means a chemical substance, such as a narcotic or hallucinogen, that is used by an individual for non-medicinal reasons.
6. "Family member" means an individual related to another individual by birth, marriage, or adoption.
7. "Forensic" means relating to the use of science or technology in the investigation and establishment of facts or evidence intended for use in a court of law.
8. "Guardian" means an individual appointed as a legal guardian by a court of competent jurisdiction.
9. "Health screening laboratory services" means health screening services that determine the need for medical services, as defined in A.R.S. § 36-401, through the performance of laboratory analyses.
10. "Health screening services" means the same as in A.R.S. § 36-401.
11. "Home health aide" means an individual who receives monetary compensation from a home health agency, as defined in A.R.S. § 36-151, or a hospice service agency, as defined in A.R.S. § 36-401, to provide assistance to another individual who is not physically or mentally able to perform one or more of the activities of daily living.
12. "In vitro diagnostic device" means a piece of equipment or tool:
    a. Approved by the U.S. Food and Drug Administration for home use,
    b. Used for the measurement of specific chemicals in materials derived from the human body,
    c. Sold without a prescription, and
    d. Specified in a list available at http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfIVD/Search.cfm.
13. "Laboratory analysis" means a test performed by a laboratory on body fluid, tissue, or excretion for the purpose of determining the presence, absence, or concentration of various substances in the human body.
14. "Research" means a systematic investigation to establish facts that may contribute to knowledge from which an individual may draw inferences or a general conclusion.

B. Except as specified in subsection (C), only a certified laboratory shall perform health screening laboratory services.

C. This Section does not apply when:

1. A test is performed by an individual, a family member or guardian of the individual, or another individual under A.R.S. § 32-1471:
    a. Using an in vitro diagnostic device, and
    b. On materials derived from the individual's body;
2. An individual's caregiver assists the individual to perform a test:
    a. Using an in vitro diagnostic device, and
    b. On materials derived from the individual's body;
3. A laboratory analysis is performed solely for forensic or research purposes;
4. A laboratory analysis is performed on urine to test for drugs of abuse solely for employment purposes; or

5. A laboratory analysis is performed under the jurisdiction of the U.S. Department of Veteran's Affairs or a component of the U.S. Department of Defense.

NOTICE OF FINAL RULEMAKING

TITLE 18. ENVIRONMENTAL QUALITY

CHAPTER 2. DEPARTMENT OF ENVIRONMENTAL QUALITY AIR POLLUTION CONTROL

[R06-474]

PREAMBLE

1. Sections Affected **Rulemaking Action**

R18-2-323	Amend
R18-2-509	Amend

2. The statutory authority for the rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):

Authorizing Statutes: A.R.S. §§ 41-1092.02, 49-425, and 49-426(H)

Implementing Statutes: A.R.S. §§ 49-422, 49-428, 49-429, 49-443, Laws 2000, Ch. 353

3. The effective date of the rules:

February 3, 2007

4. A list of all previous notices appearing in the Register addressing the final rules:

Notice of Rulemaking Docket Opening: 12 A.A.R. 1711, May 19, 2006

Notice of Proposed Rulemaking: 12 A.A.R. 2290, June 30, 2006

5. The name and address of agency personnel with whom persons may communicate regarding the rulemaking:

Name: Kevin Force

Address: Arizona Department of Environmental Quality
1110 W. Washington Ave.
Phoenix, AZ 85007

Telephone: (602) 771-4480
(This number may be reached in-state by dialing 1-800-234-5677) and requesting the seven digit number.)

Fax: (602) 771-2366

6. An explanation of the rules, including the agency's reasons for initiating the rules:

Summary. The Arizona Department of Environmental Quality has amended the permit rules, R18-2-323 and R18-2-509, referring to the "hearing board," so that they refer to the correct body to hear permit decision appeals, the "Office of Administrative Hearings."

Background. In 2000, during the Second Regular Session of the Forty-fourth Arizona Legislature, the legislature enacted Laws 2000, Ch. 353 (SB 1284). This law made several changes to existing statutes. First, it struck the definition of "hearing board" from the definitions listed in A.R.S. § 49-421, which had defined this term as "the state air pollution control hearing board." Second, it changed all references to "appealable agency actions" by the former air pollution control hearing board to references to "appealable agency actions pursuant to A.R.S. Title 41, Chapter 6, Article 10." This change applied to the powers of the Department in A.R.S. § 49-422; appeals of permit actions in A.R.S. § 49-428; appeals of permit transfers in A.R.S. 49-429; appeals of orders of abatement in A.R.S. § 49-435; and appeals of final administrative decisions regarding all these actions in A.R.S. § 49-443. A.R.S. Title 41, Chapter 6, Article 10 deals with "Uniform Administrative Hearing Procedures;" A.R.S. § 41-1092.01 specifically deals with the establishment, powers and duties of the Office of Administrative Hearings.

While several sections of A.A.C. Title 18, Chapter 2, Articles 3 and 5 mention the right of a permit applicant or other person to appeal an agency decision, only two sections, R18-2-323 and R18-2-509, refer specifically to the "hearing board," formally defined as "the state air pollution control hearing board." This rulemaking will merely change those outdated references so that they instead refer to the Office of Administrative Hearings, under A.R.S. Title 41, Chapter 6, Article 10 of the Arizona Revised Statutes.

Section by Section Explanation of the Rules:

R18-2-323. Permit Transfers. The rulemaking will change the reference in subsection (C)(1) from "the hearing board" to "the Office of Administrative Hearings."

R18-2-509. General Permit Appeals. The rulemaking will change the reference to "the hearing board" to refer instead to "the Office of Administrative Hearings."

7. A reference to any study relevant to the rules that the agency reviewed and either relied on in its evaluation of or justification for the rules or did not rely on in its evaluation of or justification for the rules, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:

None

8. A showing of good cause why the rules are necessary to promote a statewide interest if the rules will diminish a previous grant of authority of a political subdivision of this state:

Not applicable

9. The summary of the economic, small business, and consumer impact:

Rule Identification.
In A.A.C. Title 18, Chapter 2, Article 3, "Permits and Permit Revisions," the Department is amending R18-2-323, "Permit Transfers." In Article 5 of the same Chapter, the Department is amending R18-2-509, "General Permits."

Economic Impact.
Because this rulemaking amends references from "hearing board" to "Office of Administrative Hearings," no economic impacts are expected to accrue to any entity. ADEQ is making these changes because the Arizona Legislature enacted Laws 2000, Ch. 353 (SB 1284), which changed existing statutes.

This rulemaking does not impose any compliance or enforcement costs on any applicable party. All costs and benefits to persons directly affected would accrue from the rulemaking pertaining to A.A.C. Title 18, Chapter 1, Article 2, "Administrative Appeals."

As a result of this amendment, ADEQ does not believe that this change will directly impact any state agency, including the implementing agency; political subdivisions of the state; or other entities. Therefore, ADEQ does not expect that public and private employment and revenues will be impacted.

Rule impact reduction on small businesses.
Because this rulemaking merely replaces the outdated term "hearing board," no impacts to small business are expected to accrue. Nonetheless, ADEQ has analyzed the impact upon small businesses and concluded that the five methods set forth below are not necessary for this rulemaking. These procedural rules are intended to benefit all businesses, by offering them appellate review of agency actions and decisions. The use of the five statutory methods listed below would not offer any extra relief to small businesses. Indeed, these methods are largely inapplicable to the rules amended by this rulemaking.

A.R.S. § 41-1035 requires ADEQ to reduce the impact of a rule on small businesses by using certain methods when they are legal and feasible in meeting the statutory objectives (see below) for the rulemaking. The five listed methods are:

1. Establish less stringent compliance or reporting requirements in the rule for small businesses.

2. Establish less stringent schedules or deadlines in the rule for compliance or reporting requirements for small businesses.

3. Consolidate or simplify the rule's compliance or reporting requirements for small businesses.

4. Establish performance standards for small businesses to replace design or operational standards in the rule.

5. Exempt small businesses from any or all requirements of the rule.

10. A description of the changes between the proposed rules, including supplemental notices, and final rules (if applicable):

None

11. A summary of the comments made regarding the rules and the agency response to them:

None

12. Any other matters prescribed by statute that are applicable to the specific agency or to any other specific rule or class of rules:

Not applicable

13. Incorporations by reference and their location in the rules:

None

14. Were these rules previously made as emergency rules?

No

15. The full text of the rules follows:

TITLE 18. ENVIRONMENTAL QUALITY

CHAPTER 2. DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR POLLUTION CONTROL

ARTICLE 3.PERMITS AND PERMIT REVISIONS

Sec tion
R18-2-323. Permit Transfers

ARTICLE 5. GENERAL PERMITS

Section
R18-2-509. General Permit Appeals

ARTICLE 3. PERMITS AND PERMIT REVISIONS

R18-2-323. Permit Transfers

A. Except as provided in A.R.S. § 49-429 and subsection (B), a Class I or II permit may be transferred to another person if the person who holds the permit gives notice to the Director in writing at least 30 days before the proposed transfer. The notice shall contain the following:
1. The permit number and expiration date;
2. The name, address, and telephone number of the current permit holder;
3. The name, address and telephone number of the person to receive the permit;
4. The name and title of the individual within the organization who is accepting responsibility for the permit along with a signed statement by that person indicating such acceptance;
5. A description of the equipment to be transferred;
6. A written agreement containing a specific date for transfer of permit responsibility, coverage, and liability between the current and new permittee;
7. Provisions for the payment of any fees pursuant to R18-2-326 or R18-2-501 that will be due and payable before the effective date of transfer;
8. Sufficient information about the source's technical and financial capabilities of operating the source to allow the Director to make the decision in subsection (B) including:
   a. The qualifications of each person principally responsible for the operation of the source;
   b. A statement by the chief financial officer of the new permittee that it is financially capable of operating the facility in compliance with the law, and the information that provides the basis for that statement;
   c. A brief description of any action for the enforcement of any federal or state law, ~~rule, or regulation,~~ or any county, city, or local government ordinance relating to the protection of the environment, instituted against any person employed by the new permittee and principally responsible for operating the facility during the five years preceding the date of application. In lieu of this description, the new permittee may submit a copy of the certificate of disclosure or 10-K form required under A.R.S. § 49-109, or a statement that this information has been filed in compliance with A.R.S. § 49-109.

B. The Director shall deny the transfer if the Director determines that the organization receiving the permit is not capable of operating the source in compliance with A.R.S. Title 49, Chapter 3, Article 2, the provisions of this Chapter or the provisions of the permit. Notice of the denial shall be sent to the original permit holder by certified mail stating the reason for the denial within 10 working days of the Director's receipt of the application. If the transfer is not denied within 10 working days after receipt of the notice, it shall be deemed approved.

C. To appeal the transfer denial:
1. Both the transferor and transferee shall petition the ~~hearing board~~ Office of Administrative Hearings in writing for a public hearing; and
2. All parties shall follow ~~The~~ the appeal process for a permit ~~shall be followed~~.

D. The Director shall make available to the public monthly summaries of all notices received under this Section.

ARTICLE 5. GENERAL PERMITS

R18-2-509. General Permit Appeals

Any person who filed a comment on a proposed general permit as provided in R18-2-504 may appeal the terms and conditions of the general permit, as they apply to the facility class covered under a general permit, by filing an appeal with the ~~hearing board~~ Office of Administrative Hearings within 30 days after receipt of ~~issuance of~~ notice that the general permit has been issued.

NOTICE OF FINAL RULEMAKING

TITLE 18. ENVIRONMENTAL QUALITY

CHAPTER 2. DEPARTMENT OF ENVIRONMENTAL QUALITY
AIR POLLUTION CONTROL

[R06-460]

PREAMBLE

1. Sections Affected | **Rulemaking Action**

R18-2-701	Amend
R18-2-733	New Section
R18-2-733.01	New Section
R18-2-734	New Section

2. The statutory authority for the rulemaking, including both the authorizing statute (general) and the statutes the rules are implementing (specific):

Authorizing Statutes: A.R.S. §§ 49-104(A)(1) and (A)(10)

Implementing Statutes: A.R.S. §§ 49-422(B), 49-425

3. The effective date of the rules:

January 29, 2007

4. A list of all previous notices appearing in the Register addressing the rules:

Notice of Rulemaking Docket Opening: 12 A.A.R. 1712, May 19, 2006

Notice of Proposed Rulemaking: 12 A.A.R. 2809, August 11, 2006

5. The name and address of agency personnel with whom persons may communicate regarding the rulemaking:

Name: Steve Burr, Executive Consultant II

Address: Arizona Department of Environmental Quality
1110 W. Washington Ave.
Phoenix, AZ 85007

Telephone: (602) 771-4251 (This number may be reached in-state by dialing 1-800-234-5677 and entering the seven digit number.)

Fax: (602) 771-2366

E-mail: Burr.Steve@azdeq.gov

6. An explanation of the rules, including the agency's reasons for initiating the rules:

Summary. These proposed rules would impose both federal and state mercury emission standards on coal-fired power plants. The federal standards incorporated by the rules impose a cap and trade program designed to achieve a reduction in nationwide emissions of roughly 70% by 2018. Because the federal program allows sources to achieve compliance through the acquisition of mercury emission allowances, it does not assure that an individual coal-fired plant will reduce its mercury emissions. The state standards, in contrast, would require coal-fired plants in Arizona to achieve substantial reductions in mercury emissions by December 31, 2013.

Mercury and Its Health Effects. Mercury exists in the environment in three forms: elemental, inorganic and organic. Elemental mercury metal is a heavy, silvery white liquid at ambient temperatures and atmospheric pressures. Mercury metal vaporizes readily under ambient conditions. Inorganic mercury is found in two forms: mercurous (Hg^{+}) and mercuric (Hg^{2+}), which may exist as ions or in salts. The form of mercury that is of greatest concern is organic mercury, primarily methylmercury, which is found in water, soil sediments and biota (EPA 1997; Rang 2004).

Methylmercury is rapidly absorbed through the gastrointestinal track and distributed throughout the body. If a sufficient amount accumulates in a person's body it can result in serious health effects: cardiovascular effects, immune system and reproductive problems, and other adverse health effects on the central nervous system, kidneys and liver, any of which can contribute to premature mortality. A major concern is the fact that mercury can easily cross the placenta from the mother to the unborn child, which can result in IQ deficits and other neurological abnormalities in children as a result of fetal exposures. Infants, children, and pregnant women potentially are therefore at increased risk for mercury toxicity (EPA 1997; Hospitals for a Healthy Environment; Rang; Children's Environmental Health Network).

Mercury in the Environment. Inorganic mercury can be converted by bacteria or chemical processes into organic mercury, often methylmercury, which is a potent neurotoxin. Because organic mercury, unlike inorganic mercury, is

not excreted as rapidly as it is taken in, it accumulates in organisms. As a result, as bacteria, algae and plants are consumed by detritivores and herbivores, which are eaten by small carnivores, which are in turn eaten by larger carnivores, the mercury content of the organisms in each step of the food chain increases. Highest concentrations are found in large predatory fish, such as bass, walleye, albacore tuna, swordfish and sharks.

ADEQ has found high concentrations of mercury in fish from lakes throughout the state and has issued fish consumption advisories for ten lakes: Parker Canyon, Pena Blanca, and Arivaca lakes in southern Arizona; Alamo Lake, Upper and Lower Lake Mary, Soldier Lake, Soldier Annex, and Long Lake in the north-central part of the state; Lyman Lake in northeastern Arizona; and Coors Lake in the west-central part (ADEQ "Fact Sheet: Fish Consumption Advisories"). Additional mercury data are being collected and analyzed, which will likely lead to additional fish consumption advisories (ADEQ, "Mercury Strategy"). Note that, however, the presence of mercury in water and sediments of a water body does not, in and of itself, result in the mercury being available to be absorbed and ingested by aquatic organisms. The chemistry of the water body must also be conducive to the mercury becoming methylated. As a result, many other water bodies in the state exposed to the same sources do not, and may never have fish consumption advisories.

Human exposure to mercury from fish consumption is a function of both the concentration of mercury in and the amount of fish consumed. Average exposure of the population to mercury through consumption of fish is dominated by oceanic fish that contain moderate to low concentrations of methylmercury, including tuna, pollock, shrimp and cod. Subsistence and sport fishing are, nonetheless, important routes of exposure.

Sources of Mercury Contamination. Mercury contamination of aquatic ecosystems in Arizona arises from a wide variety of sources. Many of these lakes are in watersheds where current and historic mining has exposed mercury laden rock and mining waste to the elements and where pesticides containing mercury were used. The watersheds of others, however, are within the range in which ionic and particulate mercury emissions from coal-fired powered plants would be deposited. Lyman Lake is within 20 miles of two power plants responsible for approximately 60% of the mercury emissions from the state's coal-fired power plants, and about 70 miles from another responsible for an additional 27% of the mercury emissions. Further, one of the plants closest to Lyman Lake has added one new unit and is scheduled to add another, which will more than double the mercury emissions from that plant.

High concentrations of mercury have been discovered in fish removed from remote lakes throughout the world. These are lakes that received no direct pollutant discharge. The conclusion is that atmospheric deposition contaminated the water (Hanisch; EPA 1997; Rang; Power Scorecard; Srivastava et al.). The emission of mercury into the atmosphere and its subsequent deposition is therefore a significant contributor to mercury contamination of aquatic ecosystems.

Mercury is contained in coal as a trace element. Power plants burning coal, in the absence of pollution controls, release most of the mercury contained in the coal into the air in elemental, ionic and particulate forms. Ionic and particulate mercury deposit relatively near the emissions source. Elemental mercury (Hg^0), however, can remain airborne for one year or more, becoming part of global elemental mercury from all sources and geographic areas. These emissions can be transported over thousands of miles before being oxidized and deposited.

Global background mercury concentrations are another major contributor to deposition and subsequent contamination of aquatic ecosystems throughout the world. These emissions arise from both natural and anthropogenic sources. Significant natural sources include volatilization of elemental mercury from land and water bodies as well as wildland fires, especially forest fires. Between 1990 and 2000, worldwide anthropogenic mercury emissions nearly doubled, from 1,181 tons to 2,269 tons. Even though there have been significant reductions in mercury emissions from North America and Europe (the latter reducing mercury emissions by over 50%), emissions from the developing world, primarily Asia and Africa, have more than doubled (EPA 2006). While the deposition of global background mercury appears to be a growing problem, local emissions are an important part of this environmental problem. At this time, there is no reliable way to distinguish between mercury deposited from global background and that from local sources, let alone what impact each has on mercury contamination of Arizona's fisheries.

Between 1990 and 1999, U.S. mercury emissions from all industrial sources were reduced by 45%, primarily as a result of implementation of regulations to control mercury from municipal waste combustors and medical waste incinerators. Coal-fired utility boilers are the largest point source of unregulated mercury emissions in the U.S., accounting for 43% of the 1999 emissions (EPA 2006).

The Federal Clean Air Mercury Rule. Under Section 112(d) of the federal Clean Air Act, the federal Environmental Protection Agency (EPA) is required to adopt standards reflecting the maximum achievable control technology (MACT) for major sources of hazardous air pollutants (HAP) (42 U.S.C. § 7412(d)). Section 112(n)(1)(A), however, provides that EPA may only impose MACT standards on electric utility steam generating units if on the basis of a study mandated by the same Section, the agency "finds such regulation is appropriate and necessary." (42 U.S.C. § 7412(n)(1)(A)). On December 20, 2000, EPA found that regulation of coal-fired electric utility steam generating units was appropriate and necessary and concluded that mercury was "the HAP of greatest concern to public health from the industry." EPA therefore added coal-fired electric steam generating units to the list of source categories for which MACT standards must be developed (65 FR 79826).

In early 2004, EPA proposed to withdraw its Section 112(n)(1)(A) finding, to remove electric utility steam generating units from the list of HAP source categories subject to MACT and to promulgate instead standards of performance

under Section 111 of the Clean Air Act (69 FR 4652; 69 FR 12398). Section 111(b) requires EPA to adopt standards of performance for new sources of air pollutants. These "New Source Performance Standards" (NSPS) may govern both criteria pollutants subject to Section 110 of the Clean Air Act, and non-criteria pollutants. When an NSPS applies to emissions of non-criteria pollutants from a category of sources, Section 111(d) requires states to adopt standards of performance for emissions of that pollutant from existing sources in the same category. EPA must adopt procedures for state submission of those standards of performance that are similar to the procedures governing submission of state implementation plans under Section 110.

On May 18, 2005, EPA promulgated the Clean Air Mercury Rule (CAMR). CAMR finalized the agency's proposal to regulate coal-fired electric steam generating units under Section 111 rather than 112 and required states to submit Section 111(d) standards of performance meeting the rule's requirements by November 17, 2006 (70 FR 28606).

CAMR establishes a two-phase nationwide cap on mercury emissions and divides the cap into budgets for each of the states, including Arizona, with electric generating units. The first phase cap, which applies from 2010 to 2017, is set at 38 tons per year. It is not designed to require the installation of mercury-specific controls, but instead reflects the reductions that EPA projects will be achieved through the "co-benefits" of installing controls for sulfur dioxide and nitrogen oxides under the "Clean Air Interstate Rule" (CAIR). CAIR applies only in 25 eastern states and the District of Columbia and thus will require no reductions in Arizona. The second phase cap, which applies in and after 2018, is set at 15 tons per year and reflects a reduction in nationwide mercury emissions of 70% from a 1999 baseline. To satisfy Section 111(d), a state must adopt standards of performance assuring that total mercury emissions from coal-fired electric steam generating units in the state do not exceed the state's budget. Arizona's budget is 908 pounds for 2010-2017 and 358 pounds for 2018 and later.

In contrast to the extended compliance deadlines established by CAMR, MACT standards adopted by the same date under Section 112(d) would have required compliance by no later than March 2008.

CAMR includes a model cap and trade rule, 40 C.F.R. Part 60, Subpart HHHH, that states may adopt or incorporate by reference to meet the Section 111(d) requirements. Under the model rule, the state allocates authorizations to emit an ounce of mercury, known as allowances, to electric generating units under its jurisdiction. These allowances are kept in an "account" for each electric generating plant. Each year beginning in 2010, EPA will deduct one allowance for each ounce of mercury emitted by a plant. Plants that do not have sufficient allowances to cover their emissions will be in violation.

Electric generating units are authorized to trade allowances with units across the country and to bank unused allowances for use in future years. Thus, an individual electric generating unit need not necessarily install mercury controls to satisfy CAMR. It can instead purchase allowances to make up the difference between its allocation from the state and its mercury emissions.

State Incorporation of CAMR Model Rule. The proposed rule would incorporate the CAMR cap-and-trade model rule by reference. Emissions projections indicate that even after installation of efficient mercury-specific controls on existing units, the CAMR budget for Arizona will not allow for growth in coal-fired generation in Arizona (ADEQ 2006). It therefore appears that growth can only be accommodated by allowing the acquisition of allowances from units in states with relatively large CAMR budgets.

In order to derive an environmental benefit from trading, the rules impose an additional state-only requirement not found in CAMR. R18-2-733.01 requires an electric generating plant, if it does not hold sufficient credits from its allocation plus banked allocated credits, to acquire two allowances for every ounce by which the plant's emissions exceed the level of emissions that would have been achieved if the plant had met the state standard described below. Plants are required to retire the excess allowances by transferring them to a trading account held by ADEQ. Suppose for example, that a plant had 100 allocated allowances and 111 ounces of emissions and that if the plant complied with the state standard, its emissions would have been 106 ounces. The allowances required to meet the 2-for-1 requirement would be calculated as follows:

Emissions > state standard	=	111 - 106	=	5
Remaining emissions > allocation	=	106 - 100	=	6
Allowances plant must acquire	=	6 + (5 * 2)	=	16
Total allowances in account	=	100 + 16	=	116
Allowances deducted by EPA for CAMR compliance	=	111		
Allowances transferred to ADEQ	=	116 - 111	=	5

Note that if the plant acquired 30 allowances instead of just the 16 it needed to comply with the 2-for-1 requirement, it would still have to transfer only 5 to ADEQ. The remaining 14 (after the deduction by EPA) would be banked and could be used for compliance in future years.

State Standards for Mercury Emissions. The state standards would require coal-fired electric generating plants to reduce inlet mercury, measured as the concentration of mercury in the coal delivered to a plant, by 90% or to achieve an emission limit of 0.0087 pounds per gigawatt-hour of electricity generated, whichever is greater. The latter standard reflects 90% control efficiency for coal with a mercury content of 9.1 pounds per trillion British thermal units

(Btu), which EPA determined to be the maximum annual average mercury content of subbituminous coal. Subbituminous coal is the predominant coal rank burned in Arizona (EPA 2005).

Section by Section Explanation of Proposed Rules:

Article 7
R18-2-701
This Section is amended to incorporate the defined terms used in new R18-2-733, R18-2-733.01 and R18-2-734. The standards imposed in R18-2-734 apply to an "electric generating plant," which is defined in this Section as all of the "electric generating units" at a single stationary source. An "electric generating unit" is a coal-fired boiler or combustion turbine serving an electric generator that has a nameplate capacity exceeding 25 megawatts and that produces electricity for sale. Certain cogeneration units, which produce both electricity and useful thermal energy, are exempt from the definition. Eleven of the remaining definitions, including "boiler," "combustion turbine," "nameplate capacity" and "cogeneration unit," are sub-definitions of "electric generating unit." This Section also includes definitions of "mercury"; of "inlet mercury," which is the starting point for determining compliance with the 90% control efficiency requirement in R18-2-734; of "commercial operation," which serves as the trigger for certain deadlines under the rule; of "existing electric generating plant," which is used to distinguish units that are subject to the 2-for-1 allowance requirement imposed in R18-2-734; and of "inlet mercury." Finally, this Section defines "incremental best available control technology," which is used in the exemption provision of R18-2-734(H).

R18-2-733
This Section incorporates 40 C.F.R. Part 60, Subpart HHHH by reference. Subpart HHHH is EPA's model rule for state implementation of CAMR's budget cap and trade provisions. It includes definitions, a method for allocating mercury emission allowances among electric generating units and procedures for trading and banking allowances. Under 40 C.F.R. 60.24(h)(6)(i), a state that adopts regulations substantively identical to Subpart HHHH is entitled to automatic approval of its plan under Section 111(d) of the Clean Air Act.

R18-2-733.01
This Section imposes a requirement that any deficit between an electric generating plant's emissions and the greater of (i) allocated allowances or (ii) the emission level that would have been achieved if the plant complied with R18-2-734(B) must be covered by allowances acquired through trading on a 2-for-1 basis. This Section takes effect in 2013, the same year the state standard in R18-2-734(B) takes effect. Under CAMR, EPA deducts allowances from an electric generating plant's account equal to its annual mercury emissions in ounces. Remaining allowances are automatically banked and can be traded or used for future compliance. To assure that allowances acquired to comply with the 2-for-1 requirement are not banked and reused, this section also requires sources to transfer that portion of the allowances not deducted by EPA to a "general" account that ADEQ will establish under 40 C.F.R. § 60.4151(b). Allowances held in this account will not be available for trading. This is the only available method for assuring that allowances in a state's budget are retired.

R18-2-734
This Section establishes state standards that apply to mercury emissions from coal-fired electric generating plants in addition to the requirements of CAMR.

R18-2-734(B)
This Section imposes a mercury emission limit of (1) 10% of inlet mercury, which is equivalent to a 90% control efficiency requirement, or (2) 0.0087 pound of mercury per gigawatt hour of electric output, whichever is greater. The standard applies on a rolling twelve-month basis to total emissions from all electric generating units at an electric generating plant. Emissions from existing electric generating units will be subject to the standard beginning December 31, 2013, which will effectively require installation of controls by no later than January 1, 2013. Emissions from units that begin commercial operation after January 1, 2013, will become subject to the limit twelve calendar months after commercial operation starts.

R18-2-734(C), (D)
These sections establish the compliance monitoring, recordkeeping and reporting requirements for electric generating plants subject to the rule.

R18-2-734(E)
This Section requires plants to submit by January 1, 2008, applications for permit revisions to incorporate the monitoring requirements imposed by both CAMR and the state rule. This date is one year before monitors for mercury emissions must be installed under CAMR.

R18-2-734(F)
In order to assure in advance that electric generating plants are on the path to compliance, this Section requires plants to submit by January 1, 2009, applications for permit revisions describing their control strategies. After review and approval by ADEQ, the control strategies, along with the rule's emission standards, will be incorporated into a plant's permit.

R18-2-734 (G), (H)
These sections provide that if an electric generating plant is unable to comply with the emission limit in Section B despite following a control strategy approved by the Department under section E, it will be exempt from the limit if it

meets one of two conditions: (1) it achieves compliance with the limit by no later than December 31, 2014 (i.e. one year later); or (2) it performs an analysis of the incremental best available control technology (BACT) for achieving further reductions in emissions and, if any additional controls qualify as incremental BACT, incorporates an incremental BACT limit into its permit. An incremental BACT review need consider only control methods that can be used in conjunction with existing controls. The replacement of existing control equipment will not be required under this subsection.

R18-2-734(I)
This section provides that after December 31, 2015, prevention of significant deterioration permit applications must consider the use of alternative technologies for combustion of coal and coal-derived fuels. This subsection does not diminish whatever authority ADEQ may currently have to require such an analysis under R18-2-406.

7. A reference to any study relevant to the rules that the agency reviewed and either relied on in its evaluation of or justification for the rules or did not rely on in its evaluation of or justification for the rules, where the public may obtain or review each study, all data underlying each study, and any analysis of each study and other supporting material:

ADEQ, "Fact Sheet: Fish Consumption Advisories,"
http://www.azdeq.gov/environ/water/assessment/download/fish0305.pdf

ADEQ, "Mercury Strategy," http://www.azdeq.gov/environ/water/assessment/ongoing.html#merc

ADEQ, "Strawman Mercury Allocations" (July 19, 2006)

Allchin, Douglas, "The Poisoning of Minamata," http://www1.umn.edu/ships/ethics/minamata.htm

Children's Environmental Health Network, "Mercury Fact Sheet,"
http://www.cehn.org/cehn/education/mercury.html

Cichanowicz, J.E., "A Review of the Status of Mercury Control Technology Prepared for the Utility Air Regulatory Group" (July, 2006)

Congressional Research Service (CRS), "CRS Report for Congress, Mercury Emissions from Electric Power Plants: States Are Setting Stricter Limits" (July 11, 2006)

ENSR International, "Multivariable Method to Estimate the Mercury Emissions of the Best-Performing Coal-Fired Utility Units Under the Most Adverse Circumstances Which Can Reasonably Be Expected to Recur" (May 1, 2006)

EPA, "The Benefits and Costs of the Clean Air Act 1990 to 2010 Report to Congress" (November 1999)

EPA, "Control of Mercury Emissions from Coal-Fired Electric Utility Boilers" (February 2004)
http://www.epa.gov/ttn/atw/utility/hgwhitepaperfinal.pdf

EPA, "Controlling Power Plant Emissions: Controlling Mercury with Existing Controls,"
http://www.epa.gov/mercury/control_emissions/tech_exist.htm

EPA, "Draft Guidance for Implementing the January, 2001 Methylmercury Water Quality Criterion" (July 2006)

EPA, "Environmental Footprints and Costs of Coal-Based Integrated Gasification Combined Cycle and Pulverized Coal Technologies" (EPA-430/R-06/006, July 2006)

EPA, "Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories," (EPA-HQ-OPPT-2005-0013, 2006)

EPA, "Mercury Emissions Monitoring Program for Coal-Fired Boilers under the Clean Air Mercury Rule, Status Report," (August 2006)

EPA, "Mercury Study Report to Congress Volume I: Executive Summary" (December 1997),
http://epa.gov/ttn/oarpg/t3/reports/volume1.pdf

EPA, Mercury Web Site, http://www.epa.gov/mercury/

EPA, "Performance and Cost of Mercury and Multipollutant Emission Control Technology Applications on Electric Utility Boilers," EPA-600/R-03-110 (October 2003)

EPA, "Statistical Analysis of Mercury Test Data to Determine BDT for Mercury Emissions" (March 15, 2005)

EPA, "Utility Air Toxics Report to Congress Fact Sheet" (February 24, 1998),
http://www.epa.gov/ttncaaa1/t3/fact_sheets/utilfs.html

EPA Office of Inspector General (OIG), "Additional Analyses of Mercury Emissions Needed before EPA Finalizes Rules for Coal-Fired Electric Utilities" (February 3, 2005)

Ginsberg and Toal, "Development of a single-meal fish consumption advisory for methyl mercury," Risk Anal 20(1):41-47 (2000)

Government Accountability Office (GAO), "Report to Congressional Requesters: Clean Air Act, Emerging Mercury Control Technologies Have Shown Promising Results, But Data on Long-Term Performance Are Limited" (GAO-05-612, May 2005)

Hanisch, Carola, "Where is Mercury Deposition Coming From?" *J. Environ. Sci. Technol*., 32 (7), 176A-179A (April 1, 1998)

Hospitals for a Healthy Environment, "Making Medicine Mercury Free" (2005), www.h2e-online.org/docs/h2e2005MercuryReport.pdf

Institute of Clean Air Companies (ICAC), "Commercial Electric Utility Mercury Control Technology Bookings" (September 7, 2006), www.icac.com

Keeler, Gerald J.; Landis, Matthew S.; Norris, Gary A.; Christianson, Emily M.; Dvonch, J. Timothy, "Sources of Mercury Wet Deposition in Eastern Ohio, USA" *Environ. Sci. Technol.* Vol. 40, No. 19 (2006)

Kriz, Margaret, "Environmental Policy – Mercury Uprising" *National Journal* (Oct. 21, 2006)

Lester, Richard K., "Coal in China" (2006), http://web.mit.edu/erc/docs/scourse/13.WednesdayAM.Lester.pdf#search=%22china%20electricity%20coal%20growth%22

National Center for Environmental Research (NCER), Mercury Research Web Site, http://es.epa.gov/ncer/publications/topical/mercury.html

National Wildlife Federation, "Getting the Job Done: Affordable Mercury Control at Coal-Burning Power Plants" (October 2004), http://www.cleanairnow.org/pdfs/nwfcostrpt1004.pdf

North Dakota Energy and Environmental Research Center, "Mercury Control Technology"

Northeastern States for Coordinated Air Use Management (NESCAUM), "Economic Valuation of Human Health Benefits of Controlling Mercury Emissions from U.S. Coal-Fired Power Plants" prepared by Harvard Center for Risk Analysis (February 2005)

NESCAUM, Letter to EPA Docket Number OAR-2002-0056 Attachment B (June 29, 2004)

NESCAUM, Presentation at Western Regional Air Partnership Board Meeting, Palm Springs, CA (December 14-15, 2005)

Natural Resources Defense Council (NRDC), "Press Backgrounder: Bush Mercury Policy Threatens the Health of Women and Children" (February 27, 2004), http://www.nrdc.org/media/pressreleases/040227.asp

Power Scorecard, "Air Quality Issues of Electricity Production: Mercury and Other Toxic Air Emissions," http://www.powerscorecard.org/issue_detail.cfm?issue_id=4

Rang, Sarah, Environmental Economics International, Ontario Clean Air Alliance, "Mercury Rising: Mercury Emissions from Ontario Power Generation's Coal-fired Plants" (September 2004), http://www.cleanair.web.ca/resource/mercury.pdf

Srivastava, R.K.; James E. Staudt; Wojciech, Jozewicz, "Preliminary Estimates of Performance and Cost of Mercury Emission Control Technology Applications on Electric Utility Boilers: An Update," Presentation at the Combined Power Plant Air Pollutant Control Mega Symposium, Washington, D.C. (June 2004)

STAPPA/ALAPCO Positions, "Mercury and Other Toxic Air Pollutants," http://www.4cleanair.org/TopicDetails.asp?parent=2#Mercury%20and%20Other%20Toxic%20Air%20Pollutants

STAPPA/ALAPCO, "Regulating Mercury from Power Plants: A Model Rule for States and Localities," November 2005

STAPPA/ALAPCO, "State Mercury Programs for Utilities" (September 14, 2006)

Trasande, Leonardo; Landrigan, Philip J.; Schechter, Clyde "Public Health and Economic Consequences of Methyl Mercury Toxicity to the Developing Brain," *Environmental Health Perspectives*, vol. 113, #5 (May 2005), http://www.ehponline.org/members/2005/7743/7743.html

65 FR 79826, December 20, 2000

69 FR 4652, January 30, 2004

69 FR 12398, March 16, 2004

70 FR 15994, March 29, 2005

70 FR 28618, May 18, 2005

8. A showing of good cause why the rules are necessary to promote a statewide interest if the rules will diminish a previous grant of authority of a political subdivision of this state:

Not applicable

9. The summary of the economic, small business, and consumer impact:

Rule Identification

This proposed rulemaking pertains to Title 18, Chapter 2, Article 7. The rulemaking incorporates EPA's CAMR by reference, requires sources that use trading to comply with CAMR to acquire mercury emission allowances on a 2-for-1 basis, imposes an additional state 90% control efficiency standard on mercury emissions and requires any BACT analysis for new coal-fired units after December 31, 2015 to consider the use of alternative technologies for combusting coal or coal-derived fuels.

Regulated Entities Affected

The regulated entities directly impacted by this proposed rulemaking are coal-fired electrical utility units. Utility units include stationary, coal-fired boiler or coal-fired combustion turbines producing more than 25 megawatts of electricity for sale, except cogeneration units excluded from the definition. To qualify as an existing source, construction must have commenced before the effective date of this rulemaking.

Social Costs and Air Pollution

Byproducts of industrial processes can create negative externalities. Often, this is the result of an inefficient market, because prices, which could be malfunctioning or absent, do not reflect true social costs and benefits from sources using air to discharge pollutants. In these cases, air is treated as a free good without internalizing potential damages caused by air pollution. Society bears the costs of adverse impacts to human health and the environment. Individuals adversely affected by mercury emissions, for instance, are unable to collect compensation.

Cost-Benefit Analysis

This section contains a brief summary of potential impacts to the following entities: ADEQ, political subdivisions of the state, regulated sources, consultants, pollution control vendors, general public, and consumers. Because of potential health and environmental benefits, the probable benefits are expected to outweigh the probable costs of this rulemaking.

Although this analysis cannot monetize health and environmental benefits as a result of reducing mercury emissions from the regulated entities, this EIS does include numerous qualitative examples of potential benefits that could accrue to human health, ecosystems, and the environment in general. From this perspective, it is evident that by controlling mercury emitted from regulated sources, which subsequently is deposited into water, ADEQ expects a variety of incremental benefits to accrue to society.

Costs and benefits that have to be taken into account as part of the regulatory impact analysis are intangibles and incommensurables. Fish consumption advisories take resources and recreational opportunities away from Arizona citizens. Granted, some people will ignore the advisory, even if they know it has been issued. However, those who do heed the advisories may choose to not fish in those water bodies and others nearby. Because it will take decades to reduce mercury emissions and subsequent deposition to levels that will make fish safe to consume, the availability and enjoyment of these resources are effectively taken from whole generations of Arizona citizens and visitors.

If adverse health impacts are avoided by reductions in mercury emissions, the value of benefits would be greater than the potential costs of increased compliance costs for coal-fired power plants. Methylmercury can result in serious adverse health effects (refer to part 5 of the preamble, "Mercury and Its Health Effects"). Infants, children, and pregnant women, for instance, are at increased risk for mercury toxicity. The consumption of one fish meal (8 ounces) containing methylmercury at a concentration in excess of 2 mg/Kg during the third trimester has been associated with concentrations of methylmercury in maternal bloodstream correlated with developmental delays in young children (Ginsberg and Toal). Mercury contamination also is a problem in aquatic ecosystems in Arizona and other environmental ecosystems (refer to part 5 of the preamble, "Mercury in the Environment" and "Sources of Mercury Contamination"). On a national level, loss of intelligence and diminished economic activity associated with methylmercury toxicity was estimated at $1.3 billion each year directly due to mercury emissions from power plants (refer to "General Public and Consumers" below).

ADEQ and Other State Agencies

In addition to the resources used for activities associated with proposing this rulemaking, ADEQ estimates that the current number of FTEs assigned in the Permits and Compliance sections are adequate to implement and enforce the mercury rule. The cost of reviewing and approving significant permit revisions for the existing five regulated sources and any new sources will be covered by permit fees. Applications for permit revisions must be made of January 1, 2009. No direct impacts are expected on other state agencies.

Political Subdivisions of the State

ADEQ concludes that no political subdivisions of the state operate coal-fired electric power plants. Also, since ADEQ has jurisdiction over all coal-fired electric power plants in the state, no political subdivisions will be impacted by this rulemaking, except Pima County, which has been delegated authority for one coal-fired power plant.

Regulated Sources

Coal-fired electric power plants are the single largest source of mercury emissions in the U.S., accounting for 43%, or 48 tons, of anthropogenic air emissions. Mercury is present in coal used as the feedstock in the boilers. Mercury is vaporized and released as a gas as coal is combusted in utility boilers. Pollution controls reduce other pollutants but until recently pollution controls were not specifically designed to reduce mercury (Power Scorecard; EPA 1998). As of the end of 2004, coal-fired power plants were not using mercury controls. There are some technologies available

that have shown promising results for effectively removing mercury, e.g., sorbent technologies. Activated carbon injection (ACI) currently is available for purchase from vendors. Short-term tests reveal that average removal can be as high as 90% for subbituminous coals and 94% for blends of bituminous/subbituminous coals (GAO 2005).

Existing regulated sources in Arizona consist of the following 11 coal-fired electric steam generating units (five generating plants):

Operator	Plant	Number of Units
Arizona Electric Power Cooperative	Apache	2
Arizona Public Service Company	Cholla	4
Salt River Project	Coronado	2
Tucson Electric Power	Irvington	1
Tucson Electric Power	Springerville	2*

*Two more units are planned or under construction.

Based on EPA information, all but two units burn subbituminous coal. To control gaseous air pollutants, seven of the units currently use wet scrubbers, two use dry scrubbers, and two use no pollution control equipment.

Current air pollution control devices that control nitrogen oxides, sulfur dioxide, and particulate matter also may capture some mercury. For example, selective catalytic reduction (SCR) may be installed to control nitrogen oxides, electrostatic precipitator (ESP) and fabric filters (FF) to control particulates, and wet or dry scrubbers to control sulfur dioxide. Elemental mercury vapor (Hg^0), however, is insoluble and would not be captured in a wet scrubber although the soluble compounds (Hg^+ and Hg^{2+}) could be absorbed and captured in the scrubbing solution (EPA, Mercury Web site). The chlorine content of coal, when combined with other data (e.g., mercury content of coal), can be used to predict the quantities of each type of mercury emitted (ENSR).

Additional removal may be necessary through the installation of mercury-specific technologies. EPA research shows that mercury removal for a FF was greater than removal for cold- or hot-side ESP for subbituminous and bituminous coal. The average removal efficiency of mercury for a FF in conjunction with a spray dryer absorber (SDA) was over 95% for bituminous coal-fired boilers, but it was considerably less for subbituminous coal-fired boilers. FFs can be effective for mercury capture (EPA Feb. 18, 2005).

Mercury also can be controlled using flue gas desulfurization (FGD). FGD systems are of two types: wet FGD, such as the limestone forced oxidation scrubber and magnesium-enhanced lime scrubber; dry FGD, such as SDA that would be installed in combination with a FF. Oxidized mercury (Hg^{2+}) is very water soluble so that capture rates have been as high as 90% using calcium-based wet FGD systems. Under some conditions, however, Hg^{2+} will be reduced to Hg^0 and the mercury will be reemitted (EPA Feb. 18, 2005).

For example, a sorbent injection unit could be installed upstream of an existing ESP or FF. Sorbent injection upstream of a retrofit FF (e.g., hybrid particle collector) could be retrofitted to an existing ESP. Another option would be to install new SCR in conjunction with FGD and particulate matter (PM) control units. Oxidation of elemental mercury by SCR could be impacted by a variety of factors: coal characteristics, volume of catalyst, temperature of the reaction, concentration of ammonia, and age of the catalyst. The amount of mercury that is captured in a wet FGD system is influenced by the amount of oxidized mercury entering the scrubber and by the scrubber equilibrium chemistry. An FGD system could use either limestone forced oxidation or magnesium enhanced lime and ex situ oxidation. The technology should successfully remove high levels of oxidized mercury and suppress mercury reemissions (EPA Feb. 18, 2005).

If a boiler only is equipped with PM control devices, retrofitting with sorbent injection would mean either installing an injection powdered sorbent upstream of the existing PM control device (ESP or FF); or injection powdered sorbent downstream of an existing ESP and upstream of a retrofit pulse jet fabric filter (PJFF); or injection powdered sorbent between ESP fields

Mercury control technologies have been developed recently. They can be categorized into five types (GAO):
(1) sorbent (carbon-based, chemically enhanced carbon-based, and non-carbon based technologies). The technology involves injecting a sorbent into the flue gas that binds mercury prior to collection in a particle control device. It means adding a silo for the sorbent and ducts to carry the flue gas.
(2) enhancements to existing controls. This technology means retrofitting existing controls, such as adding sorbents to wet scrubbers used for sulfur dioxide removal or modifying SCR devices used to reduce nitrogen oxides, to increase mercury capture.
(3) multipollutant controls. This technology is designed to control or enhance the removal of multiple pollutants (e.g., mercury, nitrogen oxides, sulfur dioxide, and particulates).
(4) oxidation. This technology includes methods, chemicals, or equipment designed to oxidize mercury into a state that is easier to capture.
(5) other. This technology could include removing mercury from coal prior to combustion.

It is expected that mercury control technologies will cost less over time as the market develops. According to research performed by Carnegie Mellon University, capital cost of sulfur dioxide control technology for coal-fired power plants decreased 48% between 1976 and 1995 (from $250/kilowatt to $130/kilowatt of electricity generating capacity). Other case studies analyzed by NESCAUM found that total operating and maintenance costs of sulfur dioxide controls fell about 80% between 1982 and 1997 (GAO).

Although cost estimates probably will vary by facility, the following examples are included to provide potential costs for controlling mercury. The estimates should be considered preliminary because costs are expected to decline over time and costs will be site specific. Most cost estimates focus on sorbent injection. According to the Department of Energy's (DOE) estimates, they could be higher or lower by a factor of 30%. Total costs include annualized capital, variable operating, and fixed operating.

For a 500-megawatt plant, DOE estimated that capital cost for sorbent injection to be $984,000 ($1.97/kW) with annual operating and maintenance (O&M) costs of $3.4 million ($0.97/mW). The removal efficiency would be about 80%. However, if this same facility installed a supplemental FF to increase the mercury removal efficiency, capital costs could be as much as $28.3 million ($56.53/kW) with annual O&M costs about $2.6 million (GAO).

EPA's estimate of capital costs associated with sorbent injection is approximately $5.00/kW, or less. Compared to other air pollution control equipment, the costs of a sorbent injection system is low, provided particulate control devices (e.g., PJFF or ESP) are not retrofitted. Because the system is relatively simple, fixed operating costs are minimal with major costs associated with the costs of the sorbent and disposal costs (EPA Feb. 18, 2005).

Comparing DOE's cost estimates to research by a consulting firm, Charles River Associates, a 500-megawatt plant using sorbent injection with an existing FF would cost almost $750,000 for capital costs ($1.50/kW) and about $20.6 million for sorbent injection and a supplemental FF (1999 dollars). O&M costs vary by plant size and mercury removal efficiency. For instance, a power plant burning subbituminous coal using sorbent injection with an existing FF with a mercury removal rate of 90% is estimated to cost $1.3 million per year, or $0.38/megawatt-hour. Installing a supplemental FF would increase the annual O&M cost by $75,000. Note that these cost estimates were based on costing formulas supplied by the consulting firm (GAO).

For a 975-megawatt power plant using an existing ESP, EPA estimated the capital cost at $2.4 million ($2.47/kW) with annual O&M costs at $5.1 million at 65% operating capacity. If a supplemental FF were installed, capital costs would increase to about $35.4 million ($36.32/kW) with annual O&M decreasing to about $1.6 million (GAO 2005).

EPA estimated the cost of an injection technology (powdered activated carbon) to range from 0.03-3.096 mills/kWh. A mill is one-tenth of a cent. The high-end of the range would be for plants using spray dryers and ESPs or hot-side ESPs. The low-end range assumes that no additional control technologies are needed (EPA 2004). Another cost range estimated for an injection technology (activated carbon) is from 0.2 to 0.8 mills/kWh. It was stated that these costs are low compared to the costs of controlling SO_2 (3-5 mills/kWh) and NO_x (1-2 mills/kWh) (NESCAUM, "Presentation").

This cost range, expressed in mills, includes capital and operating expenses (in 2003 dollars). Costs include annualized capital charges, annual fixed operation and maintenance costs (O&M), and annual variable O&M costs. Since some control approaches are currently under development, costs represent preliminary estimates that ultimately will be refined as new mercury control technologies mature to commercial status (Srivastava, et al.; NESCAUM, "Presentation").

Considering mercury removal on a cost per pound basis, the following is reported: $8,072/lb for a dry FGD and FF (representing only the capital and the operating cost of the sorbent; $13,000-$32,000/lb for sorbent injection with an existing ESP when the byproduct revenue is not affected; $30,000-$70,000/lb for sorbent injection with an existing ESP when all of the byproduct revenue is affected; $35,000-$112,000/lb for sorbent injection with an existing ESP requiring an upgrade with an extra field (ranging from none to all of the byproduct revenue lost); and $36,000-$50,000/lb for sorbent injection called TOXECON (Cichanowicz 2006).

In addition to capital investments, regulated sources will have minimal to moderate expenditures for start-up costs, operation and maintenance, monitoring, coal analyses, stack testing, reporting and recordkeeping. The costs of installing mercury control technology could reach a moderate level due to the time involved for engineering analyses, permitting and construction. This process could take up to five years. The rule allows six after adoption.

The installation of mercury controls is not expected to generate significant new water usage and is unlikely to produce any new hazardous wastes.

The capital cost for continuously monitoring emissions should be less than $90,000 with annual costs of $87,000 (GAO 2005).

With the increase in compliance costs for coal-fired electric power plants in the state, it is likely that these power plants will pass on increased compliance costs to consumers of electrical power. Based on the cost of capturing mercury, however, the cost to the individual consumer could be considered minimal, ranging from 70 cents to a little over $2.00 for the average household (National Wildlife Federation).

In the absence of trading, Arizona power plants would have to reduce emissions by an amount approximately equal to the reductions required by the state rule in order to comply with CAMR in 2018. Thus, the state rule imposes control

costs above those required by CAMR only to the extent that the state rule (1) imposes an earlier deadline (2013 versus 2018) and (2) ends up imposing costs per ounce of mercury reduced that exceed the costs of purchasing allowances in the market created by CAMR.

The requirement to acquire allowances through trading on a 2-for-1 basis will impose additional costs on regulated plants that rely on trading to comply with CAMR. This cost can be reduced through the early installation of controls, which would allow a source to generate and bank allocated allowances. Allocated allowances, unlike those acquired through trading, are not subject to the 2-for-1 requirement. It should be noted that under CAMR, ADEQ has the authority to allocate allowances in the manner it sees fit. It could, for example, allocate only half the allowances provided by the state budget, which would require Arizona power plants to purchase many more allowances than 2-for-1 requirement. Thus, the 2-for-1 requirement is not in any sense a tax on pollution.

Technologies and Mercury Characteristics

Hg^{+} and Hg^{2+} compounds are captured in the aqueous slurry of wet FGD systems. Gaseous compounds of Hg^{+} and Hg^{2+} are absorbed in the liquid slurry and dissolved species are thought to react with dissolved sulfides from the flue gas (e.g., H_2S) to form mercuric sulfide (HgS) which precipitates from the liquid solution as sludge. The capture of mercury in systems with wet FGD scrubbers is dependent on the relative amount of Hg^{2+} in the inlet flue gas and on the particulate matter control technology. Flue gases from subbituminous coal-fired boilers mainly contain insoluble Hg^0 (i.e., elemental mercury vapor). Therefore, a process for oxidizing Hg^0 in coal combustion flue gas is needed for these plants. Oxidizing catalysts and reagents have been developed and should become commercially available in the near future. For these plants, coal blending may be required as a means to increase oxidized mercury content in flue gas (EPA 2003). In addition to coal blending and flue gas treatment, coal cleaning may be an option.

Mercury is volatized and converted to Hg^0 at high temperatures. Hg^0 is oxidized to Hg^{2+} as the flue gas cools. The Hg^0 may be oxidized to mercuric oxide (HgO), mercuric sulfate ($HgSO_4$), mercuric chloride ($HgCl_2$), or another mercury compound. This occurs in coal-fired combustors where low concentrations of hydrogen chloride (HCl) exist and where equilibrium conditions do not take place. Oxidation of Hg^0 to $HgCl_2$ and to other ionic compounds is abetted by catalytic reactions on the surface of fly ash or sorbents, as well as by other compounds present in flue gas. NO_x selective catalytic reduction enhances oxidation of Hg^0 in flue gas and results in increased mercury removal in a wet FGD system (EPA 2003).

Hg^0, $HgCl_2$, and HgO potentially can be adsorbed onto porous solids, such as activated carbon, and other sorbents that can be collected in a particulate matter control device. These mercury forms also can be captured in carbon bed filters. Mercury removal also occurs in wet scrubbers. $HgCl_2$ is water soluble and reacts with alkali metal oxides in an acid-base reaction. Thus, an acid gas scrubber for SO_2 control can effectively capture $HgCl_2$. Since Hg^0 is insoluble in water, it must be adsorbed onto a sorbent or converted to a soluble form of mercury than can be collected by wet scrubbing. HgO has low solubility so it must be collected by a method similar to what could be used for Hg^0 (EPA 2003).

Consultants

This group includes engineering services, laboratories, lawyers, and associated businesses. ADEQ anticipates that this class of persons is expected to experience increasing revenues as regulated sources seek a variety of consulting services. Potentially, increased revenues for this class of persons could range from several thousand dollars to hundreds of thousands of dollars.

Pollution Control Vendors

This entity includes those that sell pollution control equipment, boilermakers, and installers of equipment. This represents another class of persons that can expect to experience increased revenues as sources purchase and install air pollution control equipment. Potentially, revenues could range from several thousands of dollars to hundreds of thousands of dollars, reaching into the millions of dollars.

General Public and Consumers

Public health improvements can be expected to accrue with mercury emission controls. Methylmercury and metallic mercury vapors are very harmful because more mercury in these forms reaches the brain. It represents a serious threat to human health because it can cross the placental and blood-brain barrier to cause prenatal harm. Newborns also can be exposed through breast milk. Mercury can permanently damage the brain, kidneys, and developing fetus. Effects on brain functioning could result in irritability, shyness, tremors, changes in vision or hearing, and memory difficulties (Rang 2004).

EPA estimates that as many as one in six women of childbearing age in the U.S. has mercury levels in their blood that creates a risk to a developing fetus (NRDC). Newborns as well as children represent a high-risk subcategory due to their metabolisms, physiology and behaviors.

Recent studies that compared mercury concentrations in umbilical cord blood and maternal blood have shown that cord blood has on average 70% higher mercury concentrations. Therefore, as many as 10% of the babies born each year in the U.S. (410,000) have been exposed in-utero to mercury levels that exceed EPA's reference dose (STAPPA/ALAPCO).

National blood mercury data from the Centers for Disease Control and Prevention suggest that 316,588-637,233 children annually have umbilical cord blood mercury levels > 5.8 µg/L. This is a level associated with loss of IQ which

causes diminished economic productivity that lasts the lifetime of these children (Trasande, et al.). On a national level, loss of intelligence and diminished economic activity associated with methylmercury toxicity were monetized at a value of $8.7 billion annually with $1.3 billion each year directly due to mercury emissions from power plants. Without controlling mercury emissions, these adverse health effects will continue each year with each new birth cohort.

In addition to IQ loss and diminished economic productivity avoided, decreased and avoided cardiovascular effects and premature mortality would increase public health benefits from reducing mercury billions of dollars annually in the U.S. Premature mortality, or the value of a statistical life, was $4.8 million in 1990 dollars and updated by ADEQ to $7.2 million in 2003 dollars (EPA 1999). The monetized value of an avoided cardiovascular effect is $18,386 in 1999 dollars (EPA 2002).

The blood-brain barrier is incompletely developed until after the first year of life. Lipophilic methylmercury can cross the placenta and concentrate in the central nervous system. The neurotoxicity of methylmercury was recognized in the 1950s. In Minamata, Japan, the consumption of fish and shellfish contaminated by mercury discharged from an acetaldehyde manufacturer resulted in symptoms ranging from numbness or tingling in the extremities to death in at least 1,760 residents and at least 30 cases of cerebral palsy (Allchin; Trasande, et al.).

Consumers may experience higher electrical costs as sources pass on higher compliance costs. However, any increases in product costs are expected to be minimal. The degree to which a source potentially can pass on compliance costs is based on price elasticity of demand and supply, as well as other market conditions.

Elasticity is defined as the response by buyers and sellers to an increase in price. The price elasticity of demand measures the sensitivity of quantity demanded to a change in price. For example, if a 5% increase in the price of a product results in a 10% decline in sales, the good would be classified as relatively elastic. Conversely, if that same 5% increase in the price of the good resulted in only a 4% decline in sales, that good would be classified as inelastic. In other words, it can be said that consumers of that product are less sensitive to an increase in price. A product will be more elastic if substitute products are readily available, if the product is relatively important in consumers' budgets, and if the time-frame is relatively short because consumers are likely to be more sensitive to price over a longer period. A general rule is that most increased compliance costs can be passed on to consumers if demand for a product is relatively inelastic and supply is elastic, as is the case with electric power.

Other Anticipated Impacts
This section contains probable impacts on business revenues, payroll expenditures, employment, state revenues, small businesses, and ecosystems.

Business Revenues or Payroll Expenditures
It is expected that this rule will not impact industry output, business revenues, payroll expenditures, or earnings to a significant degree. ADEQ does expect this rulemaking to produce changes in the price of electricity, but only minimally to moderately. Any change in electricity demand and industry profitability and growth is expected to be insignificant under this rulemaking.

Private and Public Employment
ADEQ believes that employment impacts will be minor. ADEQ anticipates a slightly higher demand for labor requirements for sources affected by this rulemaking, as well as increased labor requirements from the other classes of persons as discussed earlier.

ADEQ does not expect short- or long-run employment, production, or industrial growth in Arizona to be negatively impacted. Further, no sources are expected to close from the implementation of this rulemaking.

State Revenues
State revenues are not expected to be negatively impacted.

Small Businesses
Under § 41-1055(B)(5)(c)(i-iii), the methods that agencies may employ to reduce the impact on small businesses include the following: (1) establish less costly compliance requirements; (2) establish less costly schedules or less stringent deadlines for compliance; and (3) exempt small businesses from any or all requirements. However, under § 41-1035, agencies must consider each of the methods set forth in this section and reduce the impact, by using one or more, if the agency finds that the methods are legal and feasible in meeting the statutory objectives of the rulemaking. These methods include: (1) establishing less stringent compliance or reporting requirements; (2) establishing less stringent schedules or deadlines in the rule for compliance or reporting requirements; (3) consolidating or simplifying compliance or reporting requirements; (4) establishing performance standards to replace design or operational standards; and (5) exempting small businesses from any or all rule requirements.

ADEQ determined that there are no small businesses subject to this rulemaking. Therefore, it is moot to consider each of the methods prescribed in A.R.S. §§ 41-1035 and 41-1055(B) for reducing the impact on small businesses. The rule contains regulatory flexibility that is available to all sources regardless of classification. ADEQ could not find other alternative methods that would reduce the impact of this rulemaking on sources, or that would be less intrusive or less costly to implement the statutory objectives. ADEQ could not exempt small businesses, or even establish less stringent standards or schedules from compliance or reporting requirements.

Impact on Ecosystems
Arizona is a land of extremes with great biological diversity. Numerous types of ecosystems, such as deserts, plains, meadows, forests, canyons, grasslands, and riparian areas, provide a host of services. For example, services include production of goods, generation and maintenance of biodiversity, and life support services (processing of waste products, climate stability, etc.).

In simplistic terms, an ecosystem is an ecological community with all of the species that constitute it along with its physical environment, regarded as a unit. Species are in the thousands, including wildlife and aquatic life. Society, however, undervalues their importance since they are not traded in formal markets. Furthermore, extensive valuation methods to quantify, or even monetize, the value of lost ecological services do not exist. Economic values arise from not only the myriad services they provide, but intrinsic beauty and intellectual/spiritual amenities as well. Values for ecosystems could range in the multi-millions of dollars.

Mercury accumulates up aquatic food chains, which means that organisms in higher trophic levels have higher mercury concentrations than those occupying the lower levels. Piscivores occupy the top trophic levels (e.g., humans, bald eagles, cormorants, herring gulls, and other species that consume fish). Wildlife species, such as the bald eagle and otter, can prey on fish that occupy high trophic levels (e.g., trout and salmon that feed on smaller forage fish. Smaller piscivorous wildlife, such as kingfishers and ospreys, feed on the smaller forage fish, which in turn, feed on zooplankton or benthic invertebrates. Finally, zooplankton feed on phytoplankton and smaller benthic invertebrates feed on algae and detritus (EPA 1997). A large predatory fish, for example, can have mercury concentrations that are 10,000 times the levels of mercury in the water it inhabits (Rang).

Mercury deposited from the atmosphere becomes bioavailable through reactions occurring in aquatic ecosystems. Mercury can then be converted by bacteria in the sediments to methylmercury which is toxic to humans and wildlife.[1] Adverse effects on fish, birds, and mammals include death, reduced reproductive success, impaired growth and development, as well as behavior abnormalities. Other effects on birds and mammals include liver and kidney damage and neurobehavioral effects. Adverse effects on plants include death and sublethal effects: for aquatic plants, it can include plant senescence, growth inhibition, and decreased chlorophyll content; for terrestrial plants, it can include decreased growth, leaf injury, root damage, and inhibited root growth and function (EPA 1997).

Therefore, by controlling mercury emissions from power plants, potential benefits should accrue to numerous ecosystems, and the environment in general, in Arizona. The National Wildlife Foundation summarized the costs and benefits of requiring mercury controls on coal-fired power plants as follows:

> For a minimal increase in consumers' energy bills, coal-burning power plants can be retrofitted with cutting-edge mercury control equipment that will provide public health and environmental benefits nationwide. Not only does mercury reduction bolster the large commercial and recreational fishing industries in many states, it also generates jobs in manufacturing, installing, and operating this equipment (National Wildlife Foundation).

Alternatives Considered
During the course of developing this rule, ADEQ considered the following alternatives to the final rule provisions:

Prohibiting trading under CAMR
As noted in the response to comment 27, ADEQ is of the opinion that a trading program for a neurotoxin represents a poor public policy choice, because it allows health effects caused by local emissions to go unabated or even to increase. ADEQ therefore seriously considered adopting a rule that would have opted out of the CAMR emissions trading provisions. This scenario is not viable in a state experiencing explosive population growth, because the extremely low mercury emissions budget imposed on Arizona by EPA would probably preclude any growth in coal-fired generation. ADEQ therefore decided to permit trading by incorporating the CAMR model rule by reference.

However, because trading is a bad public policy choice that is essentially being forced on the state by a federal rule, ADEQ decided to adopt the 2-for-1 trading requirement. The 2-for-1 requirement will discourage trading and provide additional incentive to comply with the state emission standard by imposing additional costs on plants that trade in order to comply with CAMR. It will also produce a benefit to the environment through the effective retirement of unused allowances through transfer into the ADEQ account. ADEQ has concluded that the benefits of trading outweigh the costs only with the 2-for-1 requirement in place.

Other Allocation Methods
ADEQ considered several methods of allocating allowances, including the method advocated in comment 25. ADEQ concluded that allocation methods, such as the approach suggested in comment 25, that provide for no allocation from the state budget to new sources, would be inequitable to new sources and would make little sense in light of the decision to allow trading in order to allow for growth in coal-fired generation. Growth would not be prohibited, but it would be highly discouraged, by a requirement that new units purchase all of the allowances they need to operate from the national market.

Another alternative would be to establish a fixed set-aside for new units, which would provide greater certainty to existing units than the model rule approach. But since the amount of future growth in coal-fired generation in Arizona is unknown, it is impossible to establish an appropriate size for the set aside. The model rule approach assures that new units, after an eleven-year waiting period, will participate proportionally in the state mercury emissions budget.

1. There is increasing evidence that methylmercury affects behavior patterns in fish populations (STAPPA/ALAPCO 2005).

10. A description of the changes between the proposed rules, including supplemental notices, and final rules (if applicable):

1. In response to comment 2, and as directed by the Governor's Regulatory Review Council (G.R.R.C.) by motion at the November 14, 2006, special meeting, the definition of "commercial operation" was amended to include operations supplying electricity for use, as well as sale, including use in test generation.

2. In response to comment 4, and as directed by G.R.R.C. by motion at the November 14, 2006, special meeting, the definition of "existing electric generating plant" was amended to make it clear that the 2-for-1 allowance requirement in R18-2-733.01 (as renumbered in this final rule, see below) does not apply to units that have not received allocations from the main pool of allowances.

3. In response to comment 5, and as directed by G.R.R.C. by motion at the November 14, 2006, special meeting, the definition of "inlet mercury" was amended to allow for the use of any EPA-approved methods for determining the mercury content of coal.

4. As directed by G.R.R.C. by motion at the November 14, 2006, special meeting, a definition of "incremental best available control technology" was added. This term is used in the exemption established in R18-2-734(H).

5. In response to comment 6, the date of incorporation by reference has been changed from July 1, 2005, to July 1, 2006, in R18-2-733, R18-2-733.01(A), R18-2-734(C) and R18-2-734(D) to reflect recent amendments to CAMR promulgated by EPA.

6. In response to comment 1, R18-2-733 was revised to make it clear that the incorporated definitions in 40 CFR § 60.4102, rather than the definitions in R18-2-701, apply to the incorporated CAMR model rule.

7. As directed by G.R.R.C. by motion at the November 14, 2006, special meeting, new R18-2-733(B) was added to provide that new coal-fired units will receive new source set aside allocations until they become eligible to receive allocations from the main pool of allowances. See comment 4 and ADEQ's response.

8. The 2-for-1 allowance requirement that appeared in R18-2-733(B)-(F) has been moved to a new R18-2-733.01. R18-2-733.01 will be a state-only requirement and will not be submitted to EPA to satisfy the state's obligation under CAMR.

9. A new subsection A has been added to R18-2-733.01 and revisions have been made to subsections B and C to clarify which allowances are subject to the 2-for-1 requirement. As noted in comment 9, the 2-for-1 requirement could be read as applying to allowances acquired to replace allocated allowances previously sold. ADEQ's intent, reflected more clearly in the amendments, is that the 2-for-1 requirement apply only when the number of allowances needed for compliance exceeds the number allocated to the plant.

10. As directed by G.R.R.C. by motion at the November 14, 2006, special meeting, subsections A, B and C of R18-2-733.01 have been changed to provide that the 2-for-1 allowance requirement will apply only to the extent that an electric generating plant fails to achieve the emission limit established in R18-2-734(B). In addition, the requirement will apply beginning in the 2013, rather than the 2012, control period.

11. In response to comment 44, and as directed by G.R.R.C. by motion at the November 14, 2006, special meeting, the emission limit in R18-2-734(B) has been changed from 0.0083 to 0.0087 pound per gigawatt-hour.

12. In response to comment 33, and as directed by G.R.R.C. by motion at the November 14, 2006, special meeting, new R18-2-734(E) has been added to establish a separate and earlier deadline for submitting an application for a permit revision to incorporate mercury monitoring requirements.

13. As directed by G.R.R.C. by motion at the November 14, 2006, special meeting, new R18-2-734(G) has been added to provide a one-year exemption from the standard in R18-2-734(B) for electric generating plants that fail to achieve the standard by the original December 31, 2013, deadline despite following an ADEQ-approved compliance strategy.

14. As directed by G.R.R.C. by motion at the November 14, 2006, special meeting, the temporary exemption in former R18-2-734(F) and (G) (now R18-2-734(H) and (I)) has been changed to a permanent exemption. To qualify for the permanent exemption, an electric generating plant must conduct an incremental BACT analysis and, if additional mercury reductions are found to be feasible and cost-effective, install additional controls for achieving reductions in mercury emissions beyond those achieved by the plant's initial control strategy.

15. As directed by G.R.R.C. by motion at the November 14, 2006, special meeting, the requirement that every plant perform an incremental BACT analysis in former R18-2-734(H) has been removed. Compliance with incremental BACT is now a condition to obtaining a permanent exemption from R18-2-734(B).

16. As directed by G.R.R.C. by motion at the November 14, 2006, special meeting, the requirement in former R18-2-734(I) (now R18-2-734(J)) that new electric generating units meet a specific efficiency standard has been replaced with a requirement that after December 31, 2015, any BACT analysis for a new electric generating unit must consider alternative technologies for combustion of coal or coal-derived fuels. This requirement does not diminish whatever authority ADEQ may currently have to require such an analysis under R18-2-406.

17. Cross-references have been added and updated to conform to the changes described above.

18. Minor technical and grammatical changes were made to improve the rule's clarity.

11. A summary of the comments made regarding the rule and the agency response to them:

Comment 1: Some of the definitions in R18-2-701 differ from the definitions in 40 CFR § 60.4102. States that wish to participate in the CAMR trading program do not have the authority to make substantive changes to CAMR's definitions.

Response: The defined terms in R18-2-701 are intended to apply only to the state standards in R18-2-734, not to the incorporation by reference of CAMR in R18-2-733 or the 2-for-1 requirement, which has been moved into a new R18-3-733.01. Language has been added to clarify this intent.

Comment 2: The definition of "commercial operation" is too restrictive and should be amended to be consistent with the broader EPA definition.

Response: ADEQ agrees and has amended the definition as requested.

Comment 3: ADEQ should add a definition of "control period."

Response: The definitions in 40 CFR § 60.4102, including the definition of control period, are included in the incorporation of the CAMR model rule in R18-2-733. They are also included in R18-2-733.01, to which the 2-for-1 allowance requirement has been moved.

Comment 4: Under CAMR, a new unit is eligible for allowance allocations from the new source set aside under 40 CFR § 60.4142(c) only if it does not have a baseline input. There is a five-year gap between the date a unit has a baseline input and the date it actually receives allowances from the main pool of allowances under 40 CFR § 60.4142(b). ADEQ should revise the definition of "existing electric generating plant" to avoid subjecting sources to the 2-for-1 allowance requirement during this 5-year gap.

Response: ADEQ has revised 40 C.F.R. § 60.4142(c) as incorporated by reference in order to eliminate the gap identified by this comment. ADEQ was unaware of this gap when it issued the proposal and can see no reason to deny allocations from the new source set aside to units during any period when they are not receiving allocations pursuant to 40 CFR § 60.4142(b). ADEQ also has revised the term existing electric generating plant as requested by the comment, because the suggested revision is consistent with either EPA's or ADEQ's version of § 60.4142(c).

Comment 5: The definition of "inlet mercury" should be amended to delete the words "burned at an electric generating unit," because it implies that the coal must be sampled just prior to the furnace, and to add EPA-approved methods for determining the mercury content of coal.

Response: ADEQ disagrees with the first part of this comment. The phrase "burned at an electric generating unit" does not imply that sampling just prior to the furnace is required, and the definition requires some indication of what coal is referenced. ADEQ agrees with the second part of the comment and has made the requested revisions to the definition.

Comment 6: ADEQ should incorporate changes made to CAMR in the final rule published on June 9, 2006, in the *Federal Register.*

Response: ADEQ agrees and has changed the incorporation by reference date to July 1, 2006. The changes made by EPA to the CAMR model rule between July 1, 2005, and July 1, 2006, consist of clarifications and technical amendments, such as corrections to numbering.

Comment 7: The 2-for-1 requirement (which appeared in R18-2-733(B)-(E), and has been moved to new R18-2-733.01 in the final rule) is inconsistent with the definition of "Hg allowance" in 40 CFR § 60.4102. An allowance is defined as an authorization to emit one ounce of mercury, but the 2-for-1 requirement would have the effect of requiring each existing source to have two allowances for each ounce of emissions in excess of the source's allowance allocation and thus of reducing the authorization provided by such allowances to one-half ounce of mercury.

Response: ADEQ disagrees. R18-2-733.01 requires, in certain circumstances, acquisition of additional allowances beyond what would otherwise be required by CAMR and transfer of those additional allowances to ADEQ. These requirements do not alter the nature of an allowance. An allowance remains an authorization to emit one ounce of mercury. Moreover, CAMR itself provides for the deduction of multiple allowances for each ounce of mercury in cases of noncompliance. [40 CFR § 60.4154(d)] Thus, the definition of allowance clearly does not mandate there always be a 1-to-1 correspondence between an allowance and actual emissions of one ounce of mercury. Finally, there is nothing in CAMR precluding state-only adoption of more stringent rules relating to the acquisition of allowances.

Comment 8: The 2-for-1 requirement is inconsistent with the allowance holding provisions in 40 CFR § 60.4106(c) and the compliance provisions of 40 CFR § 60.4154(b) of the CAMR model rule.

Response: ADEQ disagrees. Section 60.4106(c) requires the owners and operators of Hg Budget Units and Hg Budget Sources to hold allowances "in an amount *not less than* the ounces of total mercury emissions for the control period ...." It does not preclude a requirement to hold additional allowances. The 2-for-1 requirement in no way interferes with the deduction of allowances equal to a source's total mercury emissions, as required by 40 CFR §

60.4154(b). Again, there is nothing in CAMR precluding state-only adoption of more stringent rules relating to the acquisition of allowances.

Comment 9: As written, the 2-for-1 requirement penalizes the sale of allowances, because it would apply to allowances purchased in order to replace allocated allowances previously sold.

Response: This was not ADEQ's intent nor is it how ADEQ would have interpreted the proposed rule. ADEQ has revised the 2-for-1 language to clarify that the 2-for-1 requirement applies only when the number of allowances needed for compliance exceeds the number allocated to a plant.

Comment 10: R18-2-733(B)(1) should be revised by inserting the words "including banked allowances" to clarify that all allocated allowances can be used on a 1-to-1 basis, even if they were banked from a previous year allocation.

Response: The revisions made in response to the previous comment make it clear that banked allocated allowances are not subject to the 2-for-1 requirement.

Comment 11: The compliance date for the 2-for-1 allowance requirement should be the same as the compliance date for the state mercury emission limit in R18-2-734(B).

Response: ADEQ agrees and has made this change.

Comment 12: R18-2-734(B) is ambiguous. The "greater" of 10% of inlet mercury or 0.0083 pound per gigawatt-hour could be interpreted as the more stringent or the highest of the two.

Response: ADEQ disagrees that the term "greater" is ambiguous. In this context in can only be interpreted to mean greater in amount.

Comment 13: The requirement to maintain controls in accordance with "good air pollution control practices for minimizing mercury emissions" is vague and does not address operation of controls.

Response: The phrase "good air pollution control practices for minimizing emissions" is used in numerous EPA and state regulations, e.g. 40 CFR § 60.11(d). ADEQ has added a requirement to operate, as well as maintain, controls in accordance with good practices, but believes the specification of what constitutes good practices for a particular plant is best left to the permitting process required by R18-2-724(F).

Comment 14: The best available control technology (BACT) requirement in R18-2-734(H) does not refer to any definition of the term.

Response: This requirement has been changed to require incremental BACT as a condition to obtaining a permanent exemption from R18-2-734(B). A definition of incremental BACT has been added.

Comment 15: Although R18-2-734(H) requires the analysis of BACT to consider incremental costs, it could be read as requiring BACT to be installed without regard to cost.

Response: A definition of incremental BACT specifically requiring consideration of incremental costs in establishing the standard has been added to the rule.

Comment 16: ADEQ should use gross, rather than net, heat rate values in R18-2-734(I) to identify the types of coal-burning technologies that are permissible under that provision.

Response: As directed by G.R.R.C. by motion at the November 14, 2006, special meeting, ADEQ has replaced this provision with a requirement to consider alternative technologies for combusting coal and coal-derived fuels in any BACT analysis for a new electric generating unit conducted after December 31, 2015.

Comment 17: Further reductions in mercury emissions from coal-fired power plants beyond those required by CAMR will not reduce mercury exposure in Arizona. EPA has concluded that deposition in the United States, including Arizona, is driven primarily by world-wide sources of mercury emissions, particularly from the developing world.

Response: The fact that mercury contamination results in part from global sources does not militate against imposing reductions in Arizona. To the contrary, reducing mercury contamination of Arizona's aquatic ecosystems and fisheries, and on a broader scope, global fisheries, requires near-term, highly-effective, incremental reductions in mercury emissions followed by aggressive technology transfer. Because global mercury emissions will be increasing rapidly adding to the cumulative impacts of continued mercury emissions, contamination of fisheries from mercury will worsen. (In 2005, alone, China added 70 gigawatts of new electricity generation, most of which is coal-fired [Lester].) Emissions from Arizona contribute to this global problem. This makes every increment of improvement in Arizona and elsewhere that much more important.

The United Nations recognized the threat posed by mercury releases to the global environment and established a Mercury Program under the United Nations Environment Program. Their 2002 report, Global Mercury Assessment, identified, based on 1995 estimates, that coal combustion was responsible for more than half of all the mercury emissions world-wide. They have since commenced discussions aimed at garnering international cooperation on reducing mercury releases, including those from coal combustion.

In any case, EPA has underestimated the extent to which local and regional mercury emissions impact water bodies. "EPA-funded research indicates ... that much of the mercury from power plants tends to fall in waterways nearby, not hundreds or thousands of miles away, as sulfur dioxide does, for example. The agency says it ignored that study in crafting its regulation because the scientific findings were not final" (Kriz). The study, which found that the "dominant contributor to wet deposition" in the Ohio River Valley comprised local and regional coal combustion sources, has since been published (Keeler, et al.)

Comment 18: Arizona-specific modeling confirms that imposing mercury reductions beyond CAMR will not produce any reductions in mercury deposition in the state.

Response: The modeling analysis that the commenter references is not Arizona-specific modeling; it is very coarse-grained national-level modeling that includes Arizona. Like all modeling exercises, it relies on a large set of assumptions, most of which are not enunciated within the PowerPoint presentation included in the comments. Consequently there is no way to determine whether the results of the modeling are a reasonable representation of a future scenario or if the lack of sensitivity of the model to mercury emissions reductions is an artifact of the coarseness of the modeling grid, inability of the model to adequately characterize deposition or inability to validate the model's replication of actual conditions. Because there are little data on actual deposition of mercury in Arizona, there is no way to assess the value of the modeling results. Finally, modeling can only provide a means of comparing alternative scenarios, but cannot be predictive of future conditions. It is also possible under CAMR in states not covered by CAIR for compliance to occur entirely through purchases of mercury allowances, which could allow emissions to grow rather than decrease.

Comment 19: ADEQ has failed to establish a quantitative link between mercury emissions from Arizona coal-fired power plants and methylmercury fish tissue concentration in Arizona water bodies.

Response: Arizona law does not require such a demonstration. A.R.S. § 49-425(A) requires the director to "adopt such rules as he determines are reasonable and feasible to reduce the release into the atmosphere of air contaminants ...."

The commenter over-simplifies cause and effect, as there are several variables that determine whether a particular water body will be adversely affected by mercury deposition. First, mercury deposition and delivery to a water body must be probable. Second, mercury deposition directly on the water body is not necessary. Most of the methylation of mercury in lakes occurs in the lake sediments, which would be composed of both material produced in and deposited on the surface of the lake, and sediments delivered from feeder streams. As such, mercury can be delivered to a lake from deposition occurring throughout the watershed. Third, the chemistry of the water body must be conducive to methylation.

Closer examination demonstrates that the examples provided by the commenter are not credible evidence against mercury contamination by coal-fired power plants.

The three power plants in northeastern Arizona have operated for decades, annually emitting mercury, small amounts of which have been deposited throughout the watershed of Lyman Lake. There is no way to apportion responsibility, but there can be little doubt that these emissions have contributed to mercury in the sediments of Lyman Lake. The commenter concedes that, on average, 10% of the mercury deposition in Arizona is not from international sources.

The pond directly adjacent to the Cholla power plant may be the least likely place to look for mercury contamination from that plant. First, the stacks at the plant are a minimum of 250 feet tall (250 feet for unit 1 and 550 feet for units 2, 3 and 4) to efficiently disperse its emissions and minimize localized impacts. Deposition of any emissions from the plant would tend to be lowest adjacent to the plant. Second, the water in the pond is primarily groundwater pumped by and used in the power plant, and as such, is not fed by an extensive watershed. Third, it is possible that the chemistry of the pond is not conducive to methylation.

The commenter is correct that there are currently ten fish consumption advisories for mercury issued on various lakes and reservoirs throughout Arizona as a result of sampling from approximately 30 lakes in recent years. As part of its annual monitoring strategy, ADEQ continues to collect fish tissue samples from lakes and reservoirs throughout the state for mercury and other priority pollutants and will issue fish consumption advisories, as needed, in coordination with the Arizona Game & Fish Department and the Department of Health Services. In recent years, ADEQ has focused more efforts on the priority pollutant monitoring program due to the public health concerns surrounding mercury. ADEQ expects that the number of fish consumption advisories for mercury will increase as ADEQ continues its monitoring and assessment of lakes and reservoirs in Arizona.

The commenter is also correct that ADEQ has completed TMDL studies for two lakes – Pena Blanca and Arivaca Lakes, both in the southern part of the state. TMDL studies have been initiated on 7 of the remaining list lakes and two of those studies, the Alamo Lake TMDL and the Lake Mary Watershed TMDL (covering five lakes) are nearing completion. In the TMDL studies for the two southern lakes and Alamo Lake, historic mining, naturally occurring sources and activities in the watershed are thought to be the major contributors to impairment with direct air deposition to the lakes from local sources playing a lesser role. Recognizing that atmospheric deposition occurs across the entire watershed, it is often difficult to differentiate what falls directly on the lake versus what is brought into the lake from high flow events.

However, in the TMDL studies for Lyman Lake and the Lake Mary Watershed lakes, modeling suggests atmospheric deposition as a larger component of mercury occurrence. Little mercury air data is available for Arizona. To begin to fill this data gap, in March 2006 ADEQ established the first Arizona Mercury Deposition Network (MDN) station at the Sycamore Canyon Air Monitoring Site southwest of Flagstaff. The MDN Program began in 1995 measuring wet and dry deposition of mercury in stations across the nation. Prior to establishing the Sycamore Canyon station, the closest site to Arizona has been at Caballo, in southwestern New Mexico. Data from this station will provide a better picture of aerial deposition rates in Arizona. A second potential MDN site is being examined in the southeastern part of the state.

Comment 20: ADEQ has failed to show that fish tissue concentrations in Arizona water bodies present a unique threat to Arizona citizens. The costs of additional mercury reductions far outweigh any health benefits.

Response: ADEQ is not required to make such a demonstration or solely link the justification for its rule to potential health benefits.

The commenter attempts to downplay the problem of methylmecury contamination of fish in Arizona on several grounds: 1) there is no information or data to suggest that subsistence fishing occurs in Arizona and all fishing in Arizona is recreational, 2) ADEQ has not issued a statewide fish consumption advisory for mercury and relatively few fish consumption advisories have been issued for specific water bodies in Arizona, 3) relatively few anglers are exposed to methylmercury through the consumption of contaminated fish in Arizona because most anglers fish in large inland reservoirs that do not have fish consumption advisories, 4) there are no data showing that local power plant emissions cause methylmercury impairment in the small number of Arizona lakes and reservoirs that do have fish consumption advisories for mercury.

While subsistence fishing may be rare in Arizona, the rapidly increasing population and changing demographics of the state speak to the strong possibility of subsistence consumption among ethnic groups who have a strong cultural link to fishing cultures and the probability of protein replacement consumption by lower income families. As a comprehensive fish consumption survey has never been completed within the state to accurately characterize consumption within all of the cultural, demographic and income groups, the precautionary principle requires that ADEQ rely on default national statistics to protect all of Arizona's citizens. It is not only subsistence consumption that is addressed by Arizona's fish consumption advisories. ADEQ issues fish consumption advisories for the general population, including both recreational and subsistence fishers, and sensitive subpopulations such as pregnant women, nursing mothers and their infants, and children. The consumption of one fish meal (8 ounces) containing methylmercury at a concentration in excess of 2 mg/Kg during the third trimester has been associated with concentrations of methylmercury in maternal bloodstream correlated with developmental delays in young children (Ginsberg and Toal). This methylmercury concentration has been found in individual fish tissue samples from several lakes within the State of Arizona. Moreover, if the length, weight and condition factor of fish samples are plotted against tissue methylmercury concentrations, a methylmercury concentration in excess of 2 mg/Kg can often be predicted in larger fish from water bodies where only smaller fish were caught. Even though the majority of the trout caught and consumed in the state are hatchery fish, the favored larger fish are naturalized or native and have either evaded capture for two to several years or were bred in, and thus, lived their whole lives in that water body. As such, if a fish consumption advisory has been issued for a water body these larger fish would be of greatest concern.

While it is true that ADEQ has not issued a statewide fish consumption advisory for mercury covering all freshwater lakes and rivers in Arizona, such a declaration is not needed as grounds for concern over the bioaccumulation of methylmercury in fish and the need to protect public health. EPA reports that, as of December, 2004, 44 states, including Arizona, have issued fish consumption advisories for mercury. Twenty-one of the 44 states have issued statewide advisories for mercury covering all of their freshwater lakes and rivers. It should be noted that statewide fish consumption advisories for mercury are issued as a precautionary measure and that the advisories are non-regulatory measures. Their primary purpose is to inform the public that levels of methylmercury have been found in local fish to warrant a recommendation to either limit or avoid the consumption of fish taken from the water bodies. The states that have issued statewide advisories have decided to give that warning to their citizens who may fish any water body within their state. ADEQ's approach has been to issue fish consumption advisories for specific water bodies based onsite-specific sampling data.

ADEQ has issued 10 fish consumption advisories for mercury for lakes and reservoirs in Arizona from far south Arizona to northern Arizona. ADEQ's issuance of these advisories is evidence that fish contamination by methylmercury has occurred in Arizona at levels that are of public health concern. The number of fish consumption advisories for mercury is primarily due to increased fish tissue sampling effort by ADEQ in recent years. ADEQ expects that the number of fish consumption advisories for mercury will increase as ADEQ continues its monitoring and assessment of lakes and reservoirs in Arizona.

EPA states in its recently published "Draft Guidance for Implementing the January, 2001 Methylmercury Water Quality Criterion" that the largest source of anthropogenic mercury emissions in the United States currently is coal-fired power plants. Source reduction to reduce air emissions from the largest domestic source of mercury in the United States makes sense in Arizona where methylmercury contamination of fish is clearly an issue as demonstrated by the issuance of fish consumption advisories in areas throughout the state.

Costs and benefits that have to be taken into account as part of the regulatory impact analysis are intangibles and incommensurables. Fish consumption advisories take resources and recreational opportunities away from Arizona citizens. Granted, some people will ignore the advisory, even if they know it has been issued. However, those who do heed the advisories may choose not to fish in those water bodies and others nearby. Because it will take decades to reduce mercury emissions and subsequent deposition to levels that will make fish safe to consume, the availability and enjoyment of these resources are effectively taken from whole generations of Arizona citizens and visitors. This underscores the urgency of implementing stringent mercury controls as soon as possible.

Comment 21: Fish advisories in Arizona are not based on the best available science and do not follow EPA guidelines.

Response: ADEQ disagrees with the commenter's assertions that ADEQ fish consumption advisories are not based upon the "best available science" or that ADEQ does not follow EPA guidelines when issuing advisories. The ADEQ Fish Consumption Advisory program follows EPA guidance as set forth in "Guidance for Assessing Chemical Contaminant Data for Use In Fish Advisories, Volume 1: Fish Sampling and Analysis" and "Volume 2: Risk Assessment and Fish Consumption Limits." ADEQ closely follows EPA guidance in conducting fish surveys and human health risk assessment protocols. EPA staff has reviewed any deviations or amendments to EPA protocols. Sample sizes are determined on a case-by-case basis and vary based on water body size and shoreline development index. While sampling may be infrequent, it must be considered that methylmercury is a highly bioaccumulative pollutant and it is eliminated at a very slow rate. For this reason, sampling at a greater frequency than once every five years is unnecessary. ADEQ has instead focused its efforts on broad sampling to identify those lakes and reservoirs with potential mercury issues to protect the public.

The commenter is correct that EPA is encouraging states to develop criteria based on local or regional data. The key is having an adequate data set from which to develop the criteria. While Arizona and other states develop the data, EPA fully supports the use of its established default values in the issuance of advisories. As noted above, ADEQ follows EPA guidelines in its Fish Consumption Advisory program.

Comment 22: The proposed R18-2-734.B. State Standards of Performance of 90% control or 0.0083 pound per gigawatt-hour are arbitrary and capricious, do not have a reasoned legal basis. In addition, the timing of implementation does not allow sufficient time to assess balance-of-plant effects, placing the reliability of the generating facilities at risk. The preamble to ADEQ's proposed rule does not identify the legal basis for ADEQ's limits nor why ADEQ believes its proposed limits are factually achievable. These standards are therefore contrary to the Arizona Administrative Procedures Act.

Response: Clean Air Act Section 116, Retention of State Authority, provides that states are not precluded or denied the right to adopt or enforce "(1) any standard or limitation respecting emissions of air pollutants or (2) any requirement respecting control or abatement of air pollution; except that if an emission standard or limitation is in effect under an applicable implementation plan or under section 111 [New Source Performance Standards] or 112, such State or political subdivision may not adopt or enforce any emission standard or limitation which is less stringent than the standard or limitation under such plan or section." Arizona is authorized to adopt standards for coal-fired electric power plants that are more stringent than CAMR, so long as the probable benefits of the rule outweigh the probable costs of the rule in accordance with Arizona Revised Statutes § 41-1053. The Summary of the Economic, Small Business, and Consumer Impacts in the Preamble meets the statutory burden.

CAMR would not require any emission reductions in Arizona until 2018. CAMR would require mercury emission reductions by 2010 (CAMR Phase I) only in the 25 states subject to the Clean Air Interstate Rule (CAIR), resulting in reductions of 22% from 1999 levels. EPA's CAIR-CAMR approach does not impose any mercury reduction requirements beyond those required to control SO_2 and NO_x emissions under Phase I of CAIR. The national emissions cap of 38 tons per year reflects the "co-benefits" of CAIR, not benefits of controls specifically designed to reduce mercury emissions. Arizona and many other Western states are not subject to CAIR and would not benefit from reductions of mercury emissions from EPA's CAIR-CAMR approach until 2018.

The EPA Office of Inspector General and the GAO each issued reports in 2005 identifying shortcomings in EPA's analysis of what top performing units were achieving and failure to fully analyze costs and benefits, in particular the value of health benefits that would result from decreased mercury emissions. The GAO concluded EPA failed to follow Office of Management and Budget guidance.

For electric generating units that need to install mercury-specific control technology, the Institute of Clean Air Companies (ICAC), the nonprofit national association of companies that manufacture and supply stationary source air pollution control technology and monitoring systems, in a report dated September 7, 2006, lists a number of currently available control technologies that coal-fired power plants can use and have already ordered for aggregated capacity of 10,056 megawatts to reduce their emissions of mercury to the atmosphere from units. The ICAC issued a press release on November 14, 2005, supporting the STAPPA/ALAPCO model mercury rule, noting that the model rule would result in greater reductions in mercury emissions being achieved sooner than what would be accomplished under CAMR. ICAC's press release also stated that the STAPPA/ALAPCO model rule better reflects the capabilities of mercury control technologies that are currently commercially available. The STAPPA/ALAPCO model rule requires an average 80% mercury emission capture beginning December 31, 2008, and 90%-95% beginning December 31, 2012—several years earlier than Arizona's rule.

The CAMR would require nationwide mercury emission reductions of approximately 70% from 1999 levels by 2018. These reductions would be achieved by the national cap-and-trade program by averaging reductions at all of the coal-fired power plants across the nation. Mercury emission controls would not be required at every plant or even in every state, so long as the overall goal is met. In contrast, Arizona's rule would require either 90% mercury emission reductions or an emission rate of 0.0087 pound per gigawatt-hour at every coal-fired power plant in Arizona by December 31, 2013, measured as the concentration of mercury in the coal delivered to a plant. Arizona's rule would provide greater emission reductions sooner than CAMR, protecting a generation of Arizona's babies from permanent brain damage, at control levels currently commercially available, who would otherwise remain substantially less protected under CAMR between 2010 and 2018.

ADEQ's analysis shows that some electric generating units in Arizona may be able to achieve some of the emission reductions required by the rule using existing Wet Flue Gas Desulfurization and Selective Catalytic Reduction technology. In addition, the rule provides for a permanent exemption in R18-2-734(H) and (I) if an electric generating unit is unable to comply with the standards despite implementing a control strategy approved by ADEQ under R18-2-734(E), performs an incremental BACT analysis and implements the additional control measures, if any, that constitute incremental BACT. If documented balance-of-plant issues prevent the plant from meeting the emissions standards in the rule after all of the other criteria in R18-2-734(H) have been met, the exemption would apply. Therefore, compliance with an Arizona-specific mercury rule should be achievable for all affected electric generating units within the rule's timeframes.

Comment 23: Incorporation by reference of EPA's mercury monitoring provisions does not address the significant problems involved in measuring mercury emissions at the very low levels specified in the proposed rules. Development of mercury continuous emission monitors ("CEMs") has been much slower than anticipated and there are currently a limited number of viable mercury CEMs suppliers. Utilities attempting to implement EPA's CAMR monitoring requirements have been confronted by a series of technical issues. While these monitoring issues would exist even if ADEQ simply promulgated EPA's model trading rule, they are exacerbated by the very low levels of mercury emissions that ADEQ's proposed regulations would impose. The greatest monitoring problem with ADEQ's proposed mercury standards centers on the ability of CEMs to produce accurate, reliable and precise measurements at such low concentrations of mercury. The extremely low stack limits proposed by ADEQ also raise questions about how the data substitution provisions of EPA's Part 75 rules will affect a plant's compliance demonstration. Until these mercury monitoring problems are solved, ADEQ's limits are probably unenforceable. Because CAMR does not include emissions standards or minimum removal requirements, the EPA emissions monitoring provisions allow for a minimum level of accuracy that could result in a plant being considered out of compliance when it may be emitting at a level below the standard. A converse result is also possible.

Response: EPA recently reported the results of the mercury emission monitoring demonstration and method validation tests to date and the remaining challenges to be overcome (EPA, "Mercury Emissions Monitoring," 2006). The paper also discusses capacity issues associated with the availability and installation of the required monitoring systems within the required CAMR deadlines. It states:

> Over the past two years, EPA, the Electric Power Research Institute (EPRI), industry and monitoring equipment vendors have conducted field demonstration and validation tests of continuous mercury emission monitoring systems (CEMS) and sorbent trap monitoring systems at a number of coal-fired utility boilers. EPA and the National Institute of Standards and Technology (NIST) have also been working together to develop NIST-traceable mercury calibration gas standards and protocols necessary to ensure the accuracy of the mercury monitoring systems. As a result of these tests, system design changes have been made to improve the performance and reliability of the monitoring systems. Most notably, design changes have been made to reduce probe plugging and calibration drift, particularly under wet stack environments. Additionally, the precision between different CEM systems has improved dramatically.
>
> Working with EPRI, NIST, and industry, most of the major issues have been successfully addressed, and now the focus of future field tests and laboratory analyses is on resolving the remaining issues. These include: (1) developing a viable instrumental reference method (IRM) for mercury; (2) finalizing NIST traceability protocols for Hg calibration gas cylinders and gas generators; and (3) improving CEMS performance in daily calibration error tests and system integrity checks (especially in low temperature, low concentration, high moisture stack environments). ...
>
> Mercury monitoring technologies continue to advance at a rapid pace and are on-track to meet the QA/QC requirements required under CAMR. However, continued commitment from all parties is essential to maintain this pace and ensure that CAMR requirements are met. ...
>
> Approximately, twelve Hg CEMS and sorbent trap vendors are currently developing new and improved monitoring systems ... Mercury sorbent trap monitoring systems continue to perform well at the EPA and EPRI field test sites. Remaining developmental efforts for these systems will include: (1) testing of a variety of sorbent materials and sample conditioning systems; and (2) development of alternatives to the lengthy process of sending Hg samples to a laboratory for analysis. Promising alternatives that allow for rapid, onsite sample analysis include thermal desorption and direct combustion methods, both of which are based on sample heating/combustion to release mercury. Industry is also working to improve the Hg detection capabilities of sorbent trap systems in low-concentration stack environments. ...
>
> EPA has drafted a conceptual mercury IRM to provide an alternative to the lengthy and complex Ontario Hydro reference method currently required by CAMR. EPRI and industry will continue to provide IRM devel-

> opment assistance to EPA through the assessment of its feasibility and challenges. Issues associated with the implementation and validation of the conceptual IRM are currently being addressed at the EPA North Carolina and the EPRI Kentucky test sites. ...
>
> Field demonstration tests currently in progress include a continuation of EPA's work at a coal-fired power plant in North Carolina and EPRI's work at a field test site in Kentucky. Substantial improvements in Hg CEMS and sorbent trap operation and performance have been achieved at these two test sites. Testing was recently completed at a coal-fired power plant in Pennsylvania in collaboration with Lehigh University, and additional testing has commenced at a lignite coal-fired facility in Texas. ...
>
> EPA has proposed minor technical and procedural changes to the Hg monitoring provisions of Part 75. The proposed changes were published in the Federal Register on 22 August 2006 and are expected to be finalized by early summer 2007. These changes include adding EPA Method 29 (with additional QA provisions consistent with the Ontario Hydro method) as an alternative reference method. Method 29 is similar to Ontario Hydro, but is more familiar to stack testers. The method would be an option for relative accuracy and LME tests.

The Congressional Research Service (CRS 2006) reports that as of June 2006, seven states (Connecticut, Maryland, Massachusetts, Minnesota, New Hampshire, New Jersey and Virginia) have established more stringent mercury emissions limits, which will take effect sooner than will EPA's, and ten other states are developing regulations that will do so. The Report points out that the state standards vary in stringency, in effective dates and in numerous other ways but generally will require reductions of 80% to 90% when fully implemented, with effective dates ranging from 2007 to 2015.

In addition, the Government Accountability Office (GAO) stated: "All of the stakeholders we asked about the availability of CEMS or sorbent trap systems said that the technologies were available for purchase. Furthermore, an EPA monitoring technology expert and the vendors we interviewed agreed that there were no technical or manufacturing challenges that would prevent vendors from supplying monitors to coal-fired plants by 2008."

From these reports, ADEQ concludes that the issues identified in the comment are not unique to Arizona. The three reports have lead ADEQ to further conclude that vendors will be responsive to the regulatory needs of state programs, including those that impose more stringent emission limitations than CAMR.

Comment 24: Allocations should be distributed on a unit-by-unit basis even though compliance will be determined on a plant-wide basis because there are plants with multiple ownership of units and different ownership of allocations.

Response: During meetings with the AUG prior to the stakeholder process, ADEQ inquired whether unit-by-unit allocations would be desirable. ADEQ was advised that this approach was not preferred and that the various utilities had methods and agreements based on which they could model the distribution of allowances. Unit-specific allocations to multiple owners would create complex accounting procedures with increased opportunity for errors. For these reasons, ADEQ declines to make this change.

Comment 25: All allocations should be distributed in accordance with the allocation table provided to ADEQ by AUG during the stakeholder process, which is reproduced below:

Boiler	2010-2011 Allocation	2012-2017 Allocation	2012-2018+ Allocation
Apache 1	53.35	54.26	19.74
Apache 2	50.02	50.87	18.51
Cholla 1	31.36	31.89	11.60
Cholla 2	75.57	76.82	27.95
Cholla 3	70.60	71.80	26.12
Cholla 4	99.51	101.19	36.82
Coronado 1	107.27	109.08	39.69
Coronado 2	106.03	107.82	39.23
Irvington 4	26.88	27.34	9.95
Springerville 1	104.37	106.14	38.62
Springerville 2	103.05	104.80	38.13
Springerville 3	40.00	33.00	25.83

Springerville 4	40.00	33.00	25.83
Total	908.00	908.00	358.00

Allocations should be distributed on a permanent basis to all existing or permitted units and not reallocated as proposed in EPA's model rule. This will provide better certainty to those that have spent the capital to build the facilities in the future similar to the Acid Rain Program.

Response: During the stakeholder process, representatives of power providers that are not members of the AUG expressed concerns that the approach requested by AUG was inequitable and would require all new coal generation to acquire expensive allowances in order to build new units. While diversified energy sources are desirable, some new coal-fired generation will be necessary in Arizona in response to growth in population and electricity demand. As a result, the final rule continues to incorporate the EPA model rule, with its growth set-aside.

Comment 26: The 2-for-1 allowance requirement should be revised to exclude allowances allocated to other plants that are under the same ownership. In-system transfers should be treated like allocated allowances.

Response: In-system transfers would require a complex administrative system for tracking unit ownership. Complex accounting procedures increase the opportunity for errors. In addition, any trading among different plants, even if the units involved are under common ownership, is subject to the policy concerns that prompted ADEQ to adopt the 2-for-1 requirement. For these reasons, ADEQ declines to make this change.

Comment 27: Participation in the national trading program is necessary to accommodate growing population and energy demands.

Response: In general, a trading program for neurotoxins, such as mercury, does not represent a sound policy choice, because it allows health effects caused by local emissions to go unabated or even to increase. However, the amount of Arizona's mercury budget under CAMR is so small that if implemented without trading, it would likely preclude any growth in coal-fired generation. ADEQ has forecast that even if all of the existing coal-fired plants in Arizona achieved a 90% reduction in mercury emissions, their total mercury emissions would be roughly equal to the 358 pounds-per-year budget imposed on the state beginning in 2018. In a state growing as rapidly as Arizona, precluding growth in coal-fired electric generation is not a viable option. Final R18-2-733 therefore incorporates the CAMR model rule by reference.

Comment 28: Arizona utilities voluntarily advanced a control strategy with 70% control of emissions from all existing units by 2015 and 90% control by 2018, as opposed to the federal plan requiring approximately 80% control by 2018. Other states have control periods beginning in 2015. Arizona's first control period should begin in 2014.

Response: The September 14, 2006, report by STAPP/ALAPCO, *State Mercury Programs for Utilities*, shows that states adopting state-enforced mercury control programs include compliance dates ranging from 2007 to 2018. Many programs include staged emission reduction schedules. As of September 7, 2006, the Institute of Clean Air Companies reports that air pollution control vendors have reported booking new contracts for mercury control equipment for 24 power plant boilers, 13 of which are burning or will burn Powder River Basin (PRB) coal. Prime original equipment manufacturing contractors for PRB sites include Wheelabrator (Norit/ADA-Ed), Babcock and Wilcox (ADA-EES) Dustex, Alston (ADA-ES) and Mobotec. The University of North Dakota Energy and Environmental Research Center reports that it has "...developed state-of-the art, cost-effective mercury control technologies with its partners and is leading the drive to commercialize these mercury control solutions. Effective technologies now exist to remove all forms of mercury from flue gas, and the technologies can be scaled for use in virtually any site facility." As a result, ADEQ concludes that compliance beginning in 2013 is reasonable. Final R18-2-734 retains the control schedule for compliance during the twelve consecutive months ending December 31, 2013.

Comment 29: The alternative emission limits provided in R18-2-734(F) should be permanent. Utilization of this provision will likely be due to installation of unproven control technology due to the early compliance deadline.

Response: As directed by G.R.R.C. by motion at the November 14, 2006, special meeting, ADEQ has changed the rule to provide a permanent exemption to an electric generating plant that is unable to meet the state standard in R18-2-734(B), if the plant performs an incremental BACT analysis and implements the additional control measures, if any, that constitute incremental BACT.

Comment 30: Arizona's mercury control program should require installation of mercury control technology on each coal fired generating unit.

Response: ADEQ concurs and acknowledges this comment.

Comment 31: The final rule should include separate permit application deadlines for installing mercury monitoring and for installing mercury controls. Mercury monitoring equipment must be installed by January 1, 2009. Therefore the permit revision application needs to be submitted earlier, possibly January 1, 2008.

Response: ADEQ concurs and the final rule reflects a January 1, 2008, deadline for submittal of the permit revision application for installation of mercury monitoring equipment.

Comment 32: The permit revision application for installation of control technology should be no later than two years prior to the date that controls must be installed. Otherwise, decisions on control technology could be made prematurely and without the information that will be provided by mercury monitoring.

Response: In informal meetings prior to the start of the stakeholder process, ADEQ asked AUG members to identify constraints to early implementation of controls. The AUG members stated they would need 36 months from issuance of permit revisions to implement controls. In later discussions, due to concerns regarding the rate of maturation of technology, ADEQ moved the deadline for the application for controls to January 1, 2009, to allow for installation during scheduled outages. ADEQ is concerned that an even later deadline will constrain the time for installation to fewer outages. ADEQ declines to make this change.

Comment 33: ADEQ has violated the Arizona Administrative Procedures Act statutory requirement to demonstrate that the probable benefits of the rule outweigh the probable costs.

Response: The EPA Office of Inspector General and the General Accounting Office (GAO) each issued reports in 2005 identifying shortcomings in EPA's analysis of what top performing units were achieving and failure to fully analyze costs and benefits, in particular the value of health benefits that would result from decreased mercury emissions. The GAO concluded that EPA failed to follow Office of Management and Budget Guidance. A study prepared by the Harvard Center for Risk Analysis and NESCAUM, funded by EPA, concluded that imposing mercury emission limits on individual power plants to cap national mercury emissions at 15 tons per year would yield health benefits of approximately $5.2 billion per year by reducing heart and neurological disorders. This benefit is 100 times higher than the figure EPA has used. The study discusses in detail neurological decrements, myocardial effects, elevated childhood blood pressure and cardiac rhythm effects, changes in children's intelligence, fatality and valuation of all adverse human health effects resulting from mercury emissions (NESCAUM, "Economic Valuation" 2005).

The EIS includes some estimates of benefits from a national perspective. For example, the value of the loss of intelligence and resulting diminished economic productivity nationally has been estimated by Trasande et al. (2005) at $1.3 billion annually as a direct result of mercury emissions from coal-fired power plants. Even though health benefits cannot be monetized for Arizona alone at this time, real benefits to human health and the environment accrue from reductions in mercury emissions from coal-fired power plants. Potential benefits to the general public and sensitive subpopulations (e.g., pregnant women, infants, and children) will result from avoided IQ loss, avoided diminished economic productivity, avoided cardiovascular and neurological effects, avoided premature mortality, and other avoided negative health effects (e.g., memory difficulties, irritability, shyness, tremors, and changes in vision or hearing).

Controlling mercury emissions can also improve aquatic ecosystems and the environment in general. NESCAUM urged EPA to review a compendium of studies on the fate, transport, and transformation of mercury in various aquatic and terrestrial environments through EPA's Science to Achieve Results (STAR) program. NESCAUM concluded that the field studies demonstrated that immediate and substantial reductions in new mercury emissions from electric generating units are especially beneficial because mercury newly deposited to zones of methylation is more readily converted to methylmercury than existing mercury pools. Also, NESCAUM concluded that reducing new mercury emissions can result in the recovery of the damaged ecosystem over several decades once new mercury loadings are significantly reduced (NCER, NESCAUM 2005).

Potential benefits outweigh potential costs of this rulemaking. Arizona statutes allow agencies to describe benefits in qualitative terms due to limited or unavailable data, and such analysis shall not be grounds for a legal challenge [A.R.S. § 41-1055(C)]. Additionally, the EIS contains the information, data, and analysis required and necessary for the Governor's Regulatory Review Council to approve the EIS, pursuant to A.R.S. § 41-1052(C)(3).

Comment 34: The 2-for-1 requirement in R18-2-733(B) increases the competitive disadvantage from an already tight CAMR budget for Arizona; will increase costs of producing electricity at coal-fired electric generating units in Arizona; will raise the cost of electricity for Arizona consumers; will disadvantage operators of Arizona plants relative to plants in surrounding states; and will provide no further environmental benefits in Arizona.

Response: Although it is true that the 2-for-1 requirement will increase costs of operating coal-fired generators in Arizona, as will other requirements in this rule, the requirement can be expected to produce environmental benefits in Arizona. Even if the only emission reductions from this requirement occur in other states, mercury is in part a regional and global problem, and reductions elsewhere will have an impact in Arizona by reducing total mercury loading (STAPPA/ALAPCO 2006).

Comment 35: According to a 2002 ASU study, the population of Arizona will grow to 7.99 million in 2018 (compared to 5.13 in 2002). Therefore, 3021 megawatts of new coal-fired capacity will be needed in Arizona by 2018. Assuming that the new plants will operate at 90% mercury removal efficiency and burn coal with 12 lb/TBTU of mercury, 256 pounds of new mercury emissions will result. Either 94.1% mercury control efficiency or the purchase of mercury allowances will be required to meet Arizona's 2018 mercury budget of 358 pounds.

Response: Additional electrical capacity requirements in Arizona will not be entirely met by new coal-fired power plants. A significant part of the electrical demand will be met by other sources, such as natural gas and renewable energy. The Arizona Corporation Commission's proposed renewable portfolio standard is 5% by 2015 and 15% by 2025.

Allowances banked by existing coal-fired power plants will be available for their use to expand capacity in the future. The national emission trading system contemplated in CAMR is designed for exactly this purpose. It is highly unlikely that Arizona generators will need to purchase anything approaching 256 pounds of allowances per year in the future.

Comment 36: Arizona utilities could be required to purchase almost 2% of the 2018 national total of mercury allowances.

Response: The purchase of mercury allowances from the specific market contemplated by CAMR will be a market already constrained by the limited scope of potential trading partners and limited number of allowances allocated to its trading members. Speculation in this type of market is risky, but there is little reason to believe that Arizona utilities would face the prospect of having to purchase almost 2% of the 2018 CAMR market mercury allowances solely due to the provisions of the Arizona rule. Consequences of the CAMR trading program itself remain to be seen.

Comment 37: Not a single vendor is going to supply a "make good" guarantee to achieve 90% removal.

Response: Although vendors selling mercury-control technologies may not give a guarantee that the equipment will achieve 90% efficiency, that may not be required for a source to show a reasonable assurance of compliance. Control efficiency, for example, may be shown by observed rates of control for similar industries using similar control technology. Furthermore, applications for control-technology permit revisions are not due until 2009, and vendor guarantees may be available by then. This is an inherent issue in all technology-forcing rules, including the acid rain trading program.

Comment 38: ADEQ's cited data from NESCAUM's 2003 study asserting that mercury emission control costs will be minimal compared to the costs to control SO_2 and NO_x looks only at a comparison of ACI to FGD for SO_2 control and a comparison of ACI to SCR for NO_x control.

Response: See response to comment 33 on the overall cost-benefit analysis. The commenter did not provide any documentation of the costs installing particulate controls in conjunction with ACI to compare to the NESCAUM study.

Comment 39: R18-2-734(I) is of concern because the "heat rate" of an electric generating unit is a measure of the unit's efficiency, and not directly related to mercury emissions.

Response: As directed by G.R.R.C. by motion at the November 14, 2006, special meeting, ADEQ has replaced the heat rate standard with a requirement that beginning in 2016 any BACT analysis for a new electric generating unit consider alternative technologies for combusting coal and coal-derived fuels. Like the heat-rate standard, this requirement has the potential to require the use of combustion technologies that use less coal than older equipment when producing the same amount of electricity. Reduction in coal use necessarily reduces emissions of mercury, in addition to criteria pollutants such as oxides of nitrogen (NO_x), sulfur dioxide (SO_2), Volatile Organic Compounds (VOC), Carbon Monoxide (CO), and particulate matter smaller than 10 microns (PM_{10}).

Comment 40: Technologies for reducing mercury emissions from power plants are not currently "commercially available" and will not be available until 2013 to 2015.

Response: The Department disagrees that technologies for reducing mercury emissions from power plants are not currently "commercially available". In a January 3, 2005, letter to EPA, the ICAC, a national trade association of companies that supply air pollution control and monitoring technology, has indicated that "a number of options are already commercially available while others are still in the development and testing phases." As of September 7, 2006, the Institute of Clean Air Companies reports that air pollution control vendors have reported booking new contracts for mercury control equipment for 24 power plant boilers, 13 of which are burning or will burn Powder River Basin coal. Prime OEM contractors for PRB sites include Wheelabrator (Norit/ADA-Ed), Babcock and Wilcox (ADA-EES) Dustex, Alston (ADA-ES) and Mobotec.

Comment 41: Many of the emerging adsorption control technologies could cause an increase in opacity and particulate emissions.

Response: While injecting powdered sorbents has the potential to increase particulate loading, the opacity and particulate emissions would depend entirely upon the type and size of the particulate control systems that are installed at a facility. If a facility chooses to use a powdered sorbent to reduce mercury emissions, the corresponding particulate controls can be sized to adequately control the particulate emissions.

Comment 42: The timing of the mercury control requirements may hinder integration of mercury controls with SO_2 and NO_x controls required by the Regional Haze Program.

Response: While ADEQ acknowledges that the requirement for the installation of mercury controls after December 31, 2013, may result in some of the electrical generating facilities in Arizona installing NO_x and SO_2 controls earlier than Regional Haze might require, ADEQ disagrees that the timing of the mercury control requirements will interfere with the integration of SO_2 and NO_x controls that are required for Regional Haze purposes. Many of the utilities in Arizona, and in the West in general, have already upgraded existing SO_2 and NO_x controls, or have made commitments to update such controls before December 31, 2013. ADEQ understands that it may be advantageous for companies to control these Regional Haze causing pollutants prior to the installation of mercury controls, as some of the control technology options for mercury emissions may be sensitive to SO_2 and NO_x emissions in the exhaust streams.

Such action, however, is not required by this rule. ADEQ notes, however, that early installation of such controls would result not only in additional benefit through early reduction of haze causing criteria pollutants but may also directly assist in the reduction of mercury emissions, an observed co-benefit of controlling SO_2 and NO_x emissions.

Comment 43: The 90% mercury removal requirement could adversely impact the sale and use of fly ash, through the requirement of specific control technologies such as Activated Carbon Injection (ACI) or other related sorbent technologies. This will result in increased costs to the electricity generator, as well as material shortages in businesses that utilize fly ash.

Response: A significant portion of the research conducted by EPA, the Department of Energy, universities and control device vendors considers how Electrical Generating Units (EGUs) can control mercury while continuing to produce saleable fly ash. A variety of mercury emissions control devices can achieve high control efficiencies and will have little to no impact on the amount of recoverable fly ash that is suitable for use in ancillary industries. Some of the more promising control technologies include, but are not limited to: coal blending, which consists of the blending of coals with higher and lower concentrations of halogens resulting in the conversion of elemental mercury to more easily controlled forms of mercury; coal cleaning, which removes mercury from unburned coal; sorbent injection, which uses activated carbon or other proprietary materials to absorb mercury in the exhaust stream; catalytic oxidation, which converts elemental mercury into forms of mercury that are more easily controlled forms of mercury; and the introduction of halogenated additives resulting in the conversion of elemental mercury to more easily controlled forms of mercury.

The principal concern appears to be that in order to achieve 90% mercury control efficiency, EGUs would need to utilize activated carbon injection, one of the sorbent injection options. This issue may be resolved through a change in the way that carbon is injected and the installation of an additional particulate matter control device. This approach would enable EGUs to continue the recovery of fly ash for use in ancillary industries, while achieving a high efficiency of mercury emission control. ADEQ notes that there are other emerging control technologies that can achieve a high efficiency of mercury control without the use of carbon injection. These control technologies were discussed in some detail during the May 23, 2006, stakeholder meeting.

With respect to the potential increased costs, the Department is unable to directly respond to the commenter's claimed costs as no supporting documentation of the potential costs accompanied the comment. Nonetheless, the Department attempted to consider the potential cost increases associated with the use of activated carbon injection and other sorbent technologies. On January 3, 2005, ICAC submitted comments to EPA regarding the availability and costs of mercury control equipment.

According to ICAC's 2005 letter, the capital costs associated with sorbent injection technologies ranged from $1.5 to $3.0 per kilowatt when an additional baghouse was not required, to $18 to $53 per kilowatt when an additional, proprietary baghouse unit was required. For a 400 megawatt facility, these costs would result in a capital investment of between $7.2-21.2 million, based upon full-scale demonstrations that had already occurred at the time of the letter. ICAC was quick to explain, however, that the cost of sorbent technologies were expected to decrease with time "... due to equipment/technology innovation, improvements in sorbent removal efficiencies, and the reduction in sorbent production costs."

In systems without an additional baghouse, ICAC explained that the operating costs associated with sorbent injection were expected to outweigh the capital costs associated with installing the control technology. The group further explained that as sorbent innovations are made and mercury control efficiencies increase, the operating and maintenance costs associated with such systems will continue to decline. In systems that employed an additional baghouse, the ICAC explained that the additional profits associated with selling fly ash to ancillary industries would serve as an offset to the costs associated with installing the new equipment.

Comment 44: The document used by ADEQ in support of the emissions limitations (EPA 2005) in the mercury rule was subsequently revised. The output based emissions limitation in the rule should be revised accordingly. Specifically ADEQ should change the output-based standard (0.0083 pound per gigawatt-hour) to reflect an assumed maximum annual average mercury content of 16.6 lb/TBTU rather than 8.7 lb/TBTU.

Response: The Department has reviewed the revised EPA document (Revised new source performance standard (NSPS) statistical analysis for mercury emissions, dated May 31, 2006) and does not agree that 16.6 lb/TBTU should be used as the basis for calculating the output-based standard. The May 31, 2006, document does not specify a maximum mercury content for subbituminous coals in lbs/TBTU. An October 21, 2005, document, however, indicates that the maximum mercury content for subbituminous coals is 9.1 lb/TBTU. The underlying data used to derive the maximum mercury concentration in the October 2005 document (mercury concentration in ppm and heat rate in BTU) is identical to the data reported in the May 2006 document. Although the May 2006 document supersedes the October 2005 document, the maximum mercury concentration reported in that document is based on identical data and therefore remains a valid basis for calculating the Department's output-based limit.

In addition, the May 2006 document states "the analysis was based on a reasonable maximum Hg content in coal (represented by the 90th percentile of measured Hg concentrations in coal) as listed in the ICR coal data (ICR-2)." It appears that the 16.6 lb/TBTU value advocated by the commenter is the maximum annual average mercury content from the ICR data set, not the "reasonable maximum" used by EPA. If the reasonable maximum of 9.1 lb/TBTU is converted in the terms of the state standard, the result is 0.0087 pounds per gigawatt-hour. As directed by G.R.R.C. by

motion at the November 14, 2006, special meeting, ADEQ has changed the rule to replace the 0.0083 pound per gigawatt-hour standard with 0.0087 pound per gigawatt-hour.

Comment 45: The final rule should not include R18-2-734(H), the requirement that utility units in Arizona submit to a BACT review in 2025.

Response: As directed by G.R.R.C. by motion at the November 14, 2006, special meeting, the requirement that every plant perform an incremental BACT analysis in former R18-2-734(H) has been removed. Compliance with incremental BACT is now a condition to obtaining a permanent exemption from R18-2-734(B).

Comment 46: ADEQ has no statutory authority to promulgate the proposed mercury rule.

Response: The proposed rule is authorized under A.R.S. §§ 49-104(A)(1), and (A)(10), 49-422(B), and 49-425. Those statutes give ADEQ authority to develop policies, plans and programs, and adopt and enforce rules as the Director determines necessary and feasible to reduce the release of air contaminants into the atmosphere. The mercury rule is necessary and feasible to achieve substantial reductions in mercury emissions by the end of 2013.

Comment 47: A.R.S. § 49-426.03 prohibits ADEQ from promulgating several provisions of the proposed mercury rule.

Response: A.R.S. § 49-426.03(B) requires ADEQ to adopt by rule a program for the administration and enforcement of the federal hazardous air pollutant program (HAP) established by section 112 of the clean air act and provides that the Arizona HAP program be consistent with the federal program. A.R.S. § 49-426.03(E) provides that certain EPA findings shall be effective in Arizona "for purposes of the state's administration and enforcement of the federal hazardous air pollutant program." EPA specifically chose to adopt standards for mercury emissions from coal-fired power plants not under the federal hazardous air pollutant program under section 112, but under section 111 of the Clean Air Act relating to new source performance standards. Thus, any state law restrictions on the state's administration of the federal hazardous air pollutant program are irrelevant. In addition, the provisions of the proposed mercury rule to which the commenters object (R18-2-733.01 and R18-2-734) are not part of ADEQ's program to administer and enforce the federal HAP program; rather they constitute Arizona-only requirements that are not subject to EPA enforcement or citizen suits under the federal clean air act. EPAs HAP program and findings under section 112 therefore are not relevant to the provisions to which the commenters object.

Comment 48: The proposed mercury rules 2-for-1 allowance trading requirement conflicts with the federal mercury trading program and is therefore preempted and not approvable by EPA.

Response: The mercury rule is not preempted by the federal mercury program. The mercury rule incorporates the federal program by reference, and therefore adopts the elements of the federal program into the state program. The federal program established by EPA does not expressly preempt state regulation of mercury emissions beyond the federal trading program. In fact, the federal program expressly allows for additional state regulation:

> Moreover, States remain authorized to require emissions reductions beyond those required by the State budget, and nothing in the final rule will preclude the States from requiring such stricter controls and still being eligible to participate in the Hg Budget Trading Program.

70 FR 28606, 28632. The mercury rules 2-for-1 allowance trading requirement is consistent with this state authority.

The 2-for-1 requirement likewise does not conflict with the federal mercury trading program. Unlike other efforts to impose additional state requirements on a federal environmental trading program, 2-for-1 requirement does not restrict trading on a national basis. Compare Clean Air Markets Group v. Pataki, 338 F.3d 82, 88 (2d Cir. 2003). Under the mercury rule, sources are authorized to trade allowances with other sources across the country and to bank unused allowances for use in future years. There are no restrictions on from whom a source may purchase or to whom a source may sell its allowances. The method and means of trading are not affected by the state rule. These requirements are consistent with, and permitted by, the federal program.

Comment 49: ADEQ does not have authority to adopt proposed R18-2-734(I) which restricts the department from issuing permits for construction of new sources with certain net heat rates after 2014. This type of regulation is within the sole purview of the Arizona Corporation Commission, not ADEQ.

Response: As directed by G.R.R.C. by motion at the November 14, 2006, special meeting, ADEQ has replaced the heat rate standard with a requirement in R18-2-734(J) that beginning in 2016 any BACT analysis for a new electric generating unit consider alternative technologies for combusting coal and coal-derived fuels. ADEQ has authority to adopt such rules as "are necessary and feasible to reduce the release into the atmosphere of air contaminants originating within the territorial limits of the state ...." (A.R.S. § 49-425). By requiring consideration of technologies that burn less coal per unit of energy produced, R18-2-734(J) has the potential to reduce the amount of contaminants released into the atmosphere. While the Arizona Corporation Commission has authority to regulate various aspects of public service corporations, such authority does not limit ADEQ from exercising its own statutory authority to reduce air pollution.

Comment 50: ADEQ is ignoring 14 years of in-depth and sophisticated studies by EPA.

Response: ADEQ disagrees. EPA itself has come to varying conclusions on the basis of its 14 years of study. In December 2000, the agency concluded that promulgation of a MACT standard for mercury emissions from coal-fired

power plants was appropriate and necessary. EPA then reversed itself in 2005 and concluded that a MACT was not appropriate and necessary. There is substantial controversy over whether the latter decision was valid and whether the approach that EPA has taken in CAMR complies with the Clean Air Act. There is pending litigation addressing these issues.

12. Any other matter prescribed by statute that is applicable to the specific agency or to any other specific rule or class of rules:

Not applicable

13. Incorporations by reference and their location in the rules:

40 C.F.R. §§ 60.4101-4176	R18-2-733(A)
40 C.F.R. §§ 60.4102, 60.4154, 60.4160	R18-2-733.01(A)
40 C.F.R. § 60.50a(h)	R18-2-734(C)
40 C.F.R. §§ 60.49a(p), 60.4170-4176	R18-2-734(D)
40 C.F.R. Part 75, Subpart I	R18-2-734(D)

14. Were these rules previously made as emergency rules?

No

15. The full text of the rules follows:

TITLE 18. ENVIRONMENTAL QUALITY

CHAPTER 2. DEPARTMENT OF ENVIRONMENTAL QUALITY AIR POLLUTION CONTROL

ARTICLE 7. EXISTING STATIONARY SOURCE PERFORMANCE STANDARDS

Section

R18-2-701. Definitions
R18-2-733. Incorporation of Federal Standards of Performance for Mercury Emissions from Coal-Fired Electric Steam Generating Units
R18-2-733.01. Additional Mercury Allowance Acquisition Requirements for Coal-Fired Electric Steam Generating Units
R18-2-734. State Standards of Performance for Mercury Emissions from Coal-Fired Electric Steam Generating Units

ARTICLE 7. EXISTING STATIONARY SOURCE PERFORMANCE STANDARDS

R18-2-701. Definitions

For purposes of this Article:

1. "Acid mist" means sulfuric acid mist as measured in the Arizona Testing Manual and 40 CFR 60, Appendix A.
2. "Architectural coating" means a coating used commercially or industrially for residential, commercial or industrial buildings and their appurtenances, structural steel, and other fabrications such as storage tanks, bridges, beams and girders.
3. "Asphalt concrete plant" means any facility used to manufacture asphalt concrete by heating and drying aggregate and mixing with asphalt cements. This is limited to facilities, including drum dryer plants that introduce asphalt into the dryer, which employ two or more of the following processes:
   a. A dryer.
   b. Systems for screening, handling, storing, and weighing hot aggregate.
   c. Systems for loading, transferring, and storing mineral filler.
   d. Systems for mixing asphalt concrete.
   e. The loading, transferring, and storage systems associated with emission control systems.
4. "Black liquor" means waste liquor from the brown stock washer and spent cooking liquor which have been concentrated in the multiple-effect evaporator system.
5. "Boiler" means an enclosed fossil- or other fuel-fired combustion device used to produce heat and to transfer heat to recirculating water, steam, or other medium.
6. "Bottoming-cycle cogeneration unit" means a cogeneration unit in which the energy input to the unit is first used to produce useful thermal energy and at least some of the reject heat from the useful thermal energy application or process is then used for electricity production.
~~5~~7. "Calcine" means the solid materials produced by a lime plant.
8. "Coal" means any solid fuel classified as anthracite, bituminous, subbituminous, or lignite by the ASTM Standard

Specification for Classification of Coals by Rank D388-77, 90, 91, 95, or 98a.

9. "Coal-derived fuel" means any fuel (whether in a solid, liquid, or gaseous state) produced by the mechanical, thermal or chemical processing of coal.
10. "Coal-fired" means combusting any amount of coal or coal-derived fuel, alone or in combination with any amount of any other fuel, during any year.
11. "Cogeneration unit" means a stationary coal-fired boiler or stationary coal-fired combustion turbine:
    a. Having equipment used to produce electricity and useful thermal energy for industrial, commercial, heating, or cooling purposes through the sequential use of energy; and
    b. Producing during the 12-month period starting on the date the unit first produces electricity and during any calendar year after which the unit first produces electricity:
        i. For a topping-cycle cogeneration unit:
            (1) Useful thermal energy not less than five percent of total energy output; and
            (2) Useful power that, when added to one-half of useful thermal energy produced, is not less than 42.5 percent of total energy input, if useful thermal energy produced is 15 percent or more of total energy output, or not less than 45 percent of total energy input, if useful thermal energy produced is less than 15 percent of total energy output; and
        ii. For a bottoming-cycle cogeneration unit, useful power not less than 45 percent of total energy input.
12. "Combustion turbine" means:
    a. An enclosed device comprising a compressor, a combustor, and a turbine and in which the flue gas resulting from the combustion of fuel in the combustor passes through the turbine, rotating the turbine; and
    b. If the enclosed device under subsection (a) is combined cycle, any associated heat recovery steam generator and steam turbine.
13. "Commercial operation" means the time when the owner or operator supplies electricity for sale or use, including test generation.

~~6~~14. "Concentrate" means enriched copper ore recovered from the froth flotation process.

~~7~~15. "Concentrate dryer" means any facility in which a copper sulfide ore concentrate charge is heated in the presence of air to eliminate a portion of the moisture from the charge, provided less than five percent of the sulfur contained in the charge is eliminated in the facility.

~~8~~16. "Concentrate roaster" means any facility in which a copper sulfide ore concentrate is heated in the presence of air to eliminate five percent or more of the sulfur contained in the charge.

~~9~~17. "Condensate stripper system" means a column, and associated condensers, used to strip, with air or steam, TRS compounds from condensate streams from various processes within a kraft pulp mill.

~~10~~18. "Control device" means the air pollution control equipment used to remove particulate matter or gases generated by a process source from the effluent gas stream.

~~11~~19. "Converter" means any vessel to which copper matte is charged and oxidized to copper.

20. "Electric generating plant" means all electric generating units located at a stationary source.
21. "Electric generating unit" means:
    a. A stationary, coal-fired boiler or stationary coal-fired combustion turbine, other than a boiler or turbine that qualifies as a cogeneration unit, serving at any time since the start-up of a unit's combustion chamber a generator with nameplate capacity of more than 25 megawatts electric producing electricity for sale. If a unit qualifies as a cogeneration unit during the 12-month period starting the date the unit first produces electricity but subsequently no longer qualifies as a cogeneration unit, the unit shall be an electric generating unit on the day which the unit no longer qualifies as a cogeneration unit.
    b. A cogeneration unit serving at any time a generator with nameplate capacity of more than 25 megawatts and supplying in any calendar year more than one-third of the unit's potential electric output capacity or 219,000 megawatt-hours, whichever is greater, to any utility power distribution system for sale.
22. "Existing electric generating plant" means all electric generating units located at a stationary source during a control period other than units that have not been allocated allowances to emit mercury pursuant to 40 CFR § 60.4142(b) for that control period.

~~12~~23. "Facility" means an identifiable piece of stationary process equipment along with all associated air pollution equipment.

~~13~~24. "Fugitive dust" means fugitive emissions of particulate matter.

~~14~~25. "High sulfur oil" means fuel oil containing 0.90% or more by weight of sulfur.

26. "Incremental best available control technology" means an emission limitation based on the maximum degree of additional reductions, if any, in mercury beyond those achieved by existing controls installed under R18-2-724(F), taking into account incremental energy, environmental, and economic impacts, market prices of mercury allowances, balance of plant impacts, and other incremental costs, determined by the Director to be achievable and to be compatible with existing control technology installed at the electric generating unit. Incremental best available control technology shall be determined on a case-by-case basis and shall not be more stringent than the limits in R18-2-734(B).

27. "Inlet mercury" means the average concentration of mercury in the coal burned at an electric generating unit, as determined by ASTM methods, EPA-approved methods or alternative methods approved by the Director.

~~15~~28. "Lime kiln" means a unit used to calcinate lime rock or kraft pulp mill lime mud, which consists primarily of calcium carbonate, into quicklime, which is calcium oxide.

~~16~~29. "Low sulfur oil" means fuel oil containing less than 0.90% by weight of sulfur.

~~17~~30. "Matte" means a metallic sulfide made by smelting copper sulfide ore concentrate or the roasted product of copper sulfide ores.

31. "Mercury" means mercury or mercury compounds in either a gaseous or particulate form.

~~18~~32. "Miscellaneous metal parts and products" for purposes of industrial coating include all of the following:

a. Large farm machinery, such as harvesting, fertilizing and planting machines, tractors, and combines;
b. Small farm machinery, such as lawn and garden tractors, lawn mowers, and rototillers;
c. Small appliances, such as fans, mixers, blenders, crock pots, dehumidifiers, and vacuum cleaners;
d. Commercial machinery, such as office equipment, computers and auxiliary equipment, typewriters, calculators, and vending machines;
e. Industrial machinery, such as pumps, compressors, conveyor components, fans, blowers, and transformers;
f. Fabricated metal products, such as metal-covered doors and frames;
g. Any other industrial category which coats metal parts or products under the Code in the "Standard Industrial Classification Manual, 1987" of Major Group 33 (primary metal industries), Major Group 34 (fabricated metal products), Major Group 35 (non-electric machinery), Major Group 36 (electrical machinery), Major Group 37 (transportation equipment), Major Group 38 (miscellaneous instruments), and Major Group 39 (miscellaneous manufacturing industries), except all of the following:
   i. Automobiles and light-duty trucks;
   ii. Metal cans;
   iii. Flat metal sheets and strips in the form of rolls or coils;
   iv. Magnet wire for use in electrical machinery;
   v. Metal furniture;
   vi. Large appliances;
   vii. Exterior of airplanes;
   viii. Automobile refinishing;
   ix. Customized top coating of automobiles and trucks, if production is less than 35 vehicles per day;
   x. Exterior of marine vessels.

~~19~~33. "Multiple-effect evaporator system" means the multiple-effect evaporators and associated condenser and hotwell used to concentrate the spent cooking liquid that is separated from the pulp.

34. "Nameplate capacity" means, starting from the initial installation of a generator, the maximum electrical generating output (in megawatts) that an electric generating unit is capable of producing on a steady-state basis during continuous operation as specified by the manufacturer.

~~20~~35. "Neutral sulfite semichemical pulping" means any operation in which pulp is produced from wood by cooking or digesting wood chips in a solution of sodium sulfite and sodium bicarbonate, followed by mechanical defibrating or grinding.

~~21~~36. "Petroleum liquids" means petroleum, condensate, and any finished or intermediate products manufactured in a petroleum refinery but does not mean Number 2 through Number 6 fuel oils as specified in ASTM D-396-90a (Specification for Fuel Oils), gas turbine fuel oils Numbers 2-GT through 4-GT as specified in ASTM D-2880-90a (Specification for Gas Turbine Fuel Oils), or diesel fuel oils Numbers 2-D and 4-D as specified in ASTM D-975-90 (Specification for Diesel Fuel Oils).

37. "Potential electric output capacity" means 33 percent of a unit's maximum design heat input, divided by 3,413 Btu per kilowatt-hour, divided by 1,000 kilowatt-hours/per megawatt-hour, and multiplied by 8,760 hours per year.

~~22~~38. "Process source" means the last operation or process which produces an air contaminant resulting from either:

a. The separation of the air contaminants from the process material, or
b. The conversion of constituents of the process materials into air contaminants which is not an air pollution abatement operation.

~~23~~39. "Process weight" means the total weight of all materials introduced into a process source, including fuels, where these contribute to pollution generated by the process.

~~24~~40. "Process weight rate" means a rate established pursuant to R18-2-702(E).

~~25~~41. "Recovery furnace" means the unit, including the direct-contact evaporator for a conventional furnace, used for burning black liquor to recover chemicals consisting primarily of sodium carbonate and sodium sulfide.

~~26~~42. "Reid vapor pressure" means the absolute vapor pressure of volatile crude oil and volatile non-viscous petroleum liquids, except liquified petroleum gases, as determined by ASTM D-323-90 (Test Method for Vapor Pressure of Petroleum Products) (Reid Method).

~~27~~43. "Reverbatory smelting furnace" means any vessel in which the smelting of copper sulfide ore concentrates or cal-

cines is performed and in which the heat necessary for smelting is provided primarily by combustion of a fossil fuel.

~~28~~44."Rotary lime kiln" means a unit with an included rotary drum which is used to produce a lime product from limestone by calcination.

~~29~~45."Slag" means fused and vitrified matter separated during the reduction of a metal from its ore.

~~30~~46."Smelt dissolving tank" means a vessel used for dissolving the smelt collected from the kraft mill recovery furnace.

~~31~~47."Smelter feed" means all materials utilized in the operation of a copper smelter, including metals or concentrates, fuels and chemical reagents, calculated as the aggregate sulfur content of all fuels and other feed materials whose products of combustion and gaseous by-products are emitted to the atmosphere.

~~32~~48."Smelting" means processing techniques for the smelting of a copper sulfide ore concentrate or calcine charge leading to the formation of separate layers of molten slag, molten copper, or copper matte.

~~33~~49."Smelting furnace" means any vessel in which the smelting of copper sulfide ore concentrates or calcines is performed and in which the heat necessary for smelting is provided by an electric current, rapid oxidation of a portion of the sulfur contained in the concentrate as it passes through an oxidizing atmosphere, or the combustion of a fossil fuel.

~~34~~50."Standard conditions" means a temperature of 293K (68° F or 20° C) and a pressure of 101.3 kilopascals (29.92 in. Hg or 1013.25 mb).

~~35~~51."Supplementary control system" (SCS) means a system by which sulfur dioxide emissions are curtailed during periods when meteorological conditions conducive to ground-level concentrations in excess of ambient air quality standards for sulfur dioxide either exist or are anticipated.

52. "Topping-cycle cogeneration unit" means a cogeneration unit in which the energy input to the unit is first used to produce useful power, including electricity, and at least some of the reject heat from the electricity production is then used to provide useful thermal energy.

53. "Total energy output" means, with regard to a cogeneration unit, the sum of useful power and useful thermal energy produced by the cogeneration unit.

~~36~~54. "Vapor pressure" means the pressure exerted by the gaseous form of a substance in equilibrium with its liquid or solid form.

R18-2-733. Incorporation of Federal Standards of Performance for Mercury Emissions from Coal-Fired Electric Steam Generating Units

A. The provisions of 40 CFR §§ 60.4101-4176, subpart HHHH, Emission Guidelines and Compliance Times for Coal-Fired Electric Steam Generating Units, as of July 1, 2006 (and no future amendments or editions) are incorporated by reference, as modified by subsection (B), and are on file with the Department. The definitions of terms in 40 CFR § 60.4102 shall apply to this Section.

B. The introductory language preceding paragraph (1) in subsection 60.4142(c) is replaced with the following: "For each control period in 2010 and thereafter, the permitting authority shall allocate Hg allowances to Hg Budget units in the state that commenced operation on or after January 1, 2001, and that have not been allocated allowances for that control period pursuant to § 60.4141(b) in accordance with the following:"

R18-2-733.01. Additional Mercury Allowance Acquisition Requirements for Coal-Fired Electric Steam Generating Units

A. The provisions of 40 CFR §§ 60.4102, 60.4154 and 60.4160, as of July 1, 2006 (and no future amendments or editions) are incorporated by reference and on file with the Department. When the same term is defined in R18-2-701 and in 40 CFR § 60.4102, the definition of the term in 40 CFR § 60.4102 shall apply to this Section. The following additional definitions shall apply to this Section:

1. "Annual allocated allowances" for a control period means the number of allowances allocated to all electric generating units at an existing electric generating plant for the control period.
2. "Banked allocated allowances" for a control period means the amount, if any, by which the total allocated allowances for an existing electric generating plant for the immediately preceding control period exceeded the total Hg emissions in ounces per year from the plant for the immediately preceding control period.
3. "Compliant emission level" means the amount of Hg that an electric generating plant would have emitted if it were in compliance with the emission standard in R18-2-734(B) without regard to whether the plant qualifies for an exemption under R18-2-734(G) and (H).
4. "Total allocated allowances" for a control period means the sum of the annual allocated allowances for the control period and the banked allocated allowances for the control period.

B. Beginning with the allowance transfer deadline in 2014, the owner or operator of an existing electric generating plant must hold in its compliance account on the allowance transfer deadline allowances equal to the following:

1. Hg emissions for the preceding control period; and
2. Twice the amount, if any, by which emissions for the preceding control period exceed the greater of the total allocated allowances or the compliant emission level for the preceding control period.

C. Beginning in the control period for 2013, the owner or operator of an existing electric generating plant shall transfer to the

Department's general account in accordance with 40 CFR § 60.4160 allowances equal to the amount, if any, by which total Hg emissions from the plant during the control period exceed the greater of the total allocated allowances or the compliant emission level.

D. The owner or operator of an existing electric steam generating plant shall complete the transfer required by subsection (C) within 30 days after the Administrator deducts all allowances required to be deducted by 40 CFR § 60.4154 for the control period.

E. Allowances held in the Department's general account under subsection (C) are not available for transfer.

F. For purposes of determining compliance with subsections (B) and (C), the Department shall treat allowances as being deducted from the compliance account for an existing plant in the order prescribed by 40 CFR § 60.4154(c)(2), regardless of any instructions provided to the Administrator under 40 CFR § 60.4154(c)(1).

R18-2-734. State Standards of Performance for Mercury Emissions from Coal-Fired Electric Steam Generating Units

A. The requirements of this Section apply to owners and operators of electric generating units.

B. Except as provided in subsections (G) and (H), rolling twelve-month average mercury emissions from an electric generating plant shall not exceed 10 percent of inlet mercury or 0.0087 pound per gigawatt-hour, whichever is greater. Mercury emissions from an electric generating unit, when averaged with emissions from other electric generating units at the same electric generating plant, shall comply with this limit for the twelve calendar months ending on the later of the following, and each subsequent twelve calendar month period:

1. December 31, 2013; or
2. Twelve full calendar months after the electric generating unit starts commercial operation.

C. The Director shall determine compliance with the emission standards in subsection (B), the emission level established under subsection (H)(7), and the emission limit established under subsection (I) according to the method set forth at 40 CFR § 60.50a(h), as of July 1, 2006 (and no future amendments or editions), which is incorporated by reference and on file with the Department.

D. The owner or operator of an electric generating plant subject to this Section shall measure, record, and report the mercury in the exhaust gases according to 40 CFR §§ 60.49a(p), 60.4170-60.4176, and 40 CFR Part 75, Subpart I, as of July 1, 2006 (and no future amendments or editions), which are incorporated by reference and on file with the Department.

E. By January 1, 2008, the owner or operator of an electric generating plant that commenced construction before that date shall submit an application for a significant permit revision under R18-2-320 to incorporate the monitoring, recordkeeping and reporting requirements of subsections (C) and (D) into the plant's permit.

F. By January 1, 2009, the owner or operator of an electric generating plant that commenced construction before that date shall submit an application for a significant permit revision under R18-2-320 to incorporate the emission standards in subsection (B) into the plant's permit. The application shall include a control strategy for meeting the emission standards and a demonstration that the control strategy is projected to meet the standards.

G. An electric generating plant shall be exempt from the standard in subsection (B) until November 30, 2014, if:

1. The owner or operator of the electric generating plant installs and operates control technology or boiler technology or follows practices projected to meet the standard in subsection (B) according to the control strategy approved as part of the electric generating plant's permit;
2. The owner or operator operates and maintains the electric generating plant, including any associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing mercury emissions;
3. The control strategy fails to result in emissions meeting the standard in subsection (B);
4. By January 31, 2014, the owner or operator notifies the Department of the failure to comply with subsection (B) and of the owner or operator's intent to qualify for an exemption under this subsection or subsection (H); and
5. Emissions of mercury from the electric generating plant comply with subsection (B) by no later than December 31, 2014.

H. An electric generating plant shall be exempt from the standard in subsection (B) if:

1. The owner or operator of the electric generating plant installs and operates control technology or boiler technology or follows practices projected to meet the standard in subsection (B) according to the control strategy approved as part of the electric generating plant's permit;
2. The owner or operator operates and maintains the electric generating plant, including any associated air pollution control equipment, in a manner consistent with good air pollution control practices for minimizing mercury emissions;
3. The control strategy fails to result in emissions meeting the standard in subsection (B);
4. By January 31, 2014, the owner or operator notifies the Department of the failure to comply with subsection (B) and of the owner or operator's intent to qualify for an exemption under this subsection or subsection (G); and
5. By December 31, 2014, the owner or operator files an application for a significant permit revision containing an analysis of the incremental best available control technology;
6. The Department does not deny the application for a permit revision filed under subsection (5); and

7. From January 1, 2014, until the end of the 35th full calendar month after the Department issues a permit revision under subsection (I), rolling twelve-month mercury emissions from the electric generating plant do not exceed the greater of the following amounts as measured for the plant during calendar year 2013:
   a. The percentage of inlet mercury actually emitted minus 10 percent of the percentage control achieved; or
   b. Actual mercury emissions in pounds per gigawatt-hour plus 10 percent.

I. A permit revision issued in response to an application submitted under subsection (H)(5) shall impose incremental best available control technology. Beginning at the end of the 36th full calendar month after the Department issues a permit revision under this subsection, rolling twelve-month mercury emissions from the electric generating plant shall not exceed the emission limit imposed under this subsection.

J. After December 31, 2015, any best available control technology analysis for a new electric generating unit conducted under R18-2-406 shall consider alternative technologies for combustion of coal and coal-derived fuels. This subsection does not diminish the Department's authority under R18-2-406.