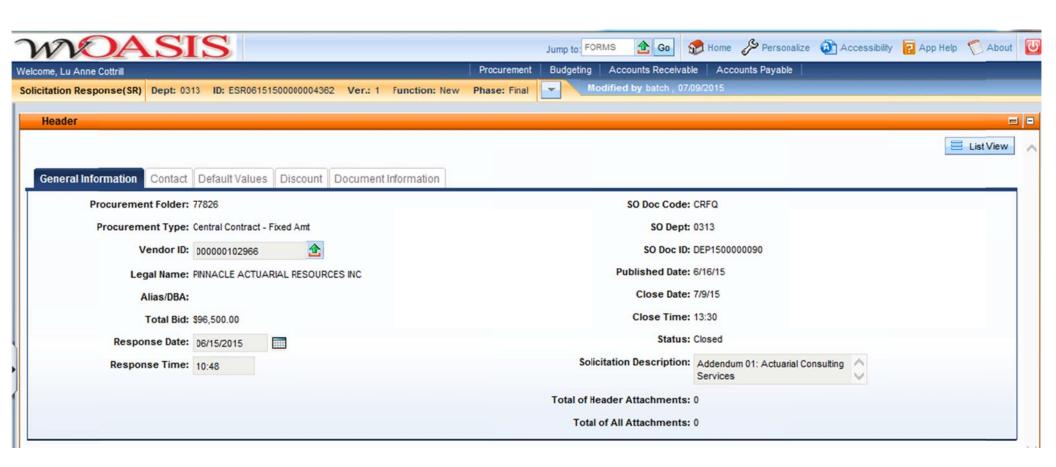


2019 Washington Street, East Charleston, WV 25305 Telephone: 304-558-2306 General Fax: 304-558-6026

Bid Fax: 304-558-3970

The following documentation is an electronically-submitted vendor response to an advertised solicitation from the *West Virginia Purchasing Bulletin* within the Vendor Self-Service portal at *wvOASIS.gov*. As part of the State of West Virginia's procurement process, and to maintain the transparency of the bid-opening process, this documentation submitted online is publicly posted by the West Virginia Purchasing Division at *WVPurchasing.gov* with any other vendor responses to this solicitation submitted to the Purchasing Division in hard copy format.





Purchasing Division 2019 Washington Street East Post Office Box 50130 Charleston, WV 25305-0130

State of West Virginia Solicitation Response

Proc Folder: 77826

Solicitation Description: Addendum 01: Actuarial Consulting Services

Proc Type: Central Contract - Fixed Amt

Date issued	Solicitation Closes	Solicitation No	Version
	2015-07-09 13:30:00	SR 0313 ESR06151500000004362	1

VENDOR

000000102966

PINNACLE ACTUARIAL RESOURCES INC

FOR INFORMATION CONTACT THE BUYER

Beth Collins (304) 558-2157 beth.a.collins@wv.gov

Signature X FEIN # DATE

All offers subject to all terms and conditions contained in this solicitation

Page: 1 FORM ID: WV-PRC-SR-001

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Ln Total Or Contract Amount
1	Actuarial consulting services	1.00000	JOB	\$96,500.00	\$96,500.00

Comm Code	Manufacturer	Specification	Model #	
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Extended Description :

Actuarial consulting services for the WVDEP Office of Special Reclamation

A Proposal to Serve the State of West Virginia Department of Environmental Protection Office of Special Reclamation RFQ DEP1500000090

Technical Proposal

June 12, 2015



3109 Cornelius Drive Bloomington, IL 61704 309.807.2300 pinnacleactuaries.com



3109 Cornelius Drive Bloomington, IL 61704 309.807.2300 pinnacleactuaries.com

Joseph A. Herbers, ACAS, MAAA, CERA Managing Principal jherbers@pinnacleactuaries.com

June 12, 2015

Department of Administration Purchasing Division 2019 Washington Street East Charleston, WV 25305-0130 Attention: Ms. Beth Collins

RE:

RFQ DEP1500000090

Dear Ms. Collins:

On behalf of Pinnacle Actuarial Resources, Inc., I am pleased to offer our proposal to provide the requested actuarial services to West Virginia Department of Environmental Protection's Office of Special Reclamation (Agency). We trust that you will find it in accordance with your Request for Ouotation.

As Pinnacle's Managing Principal, I am empowered to bind the company to this proposal. The attached proposal is "a firm and irrevocable offer" for 120 days or as long as necessary to finalize contract details.

Please feel free to contact me or Contract Manager, John Wade, to discuss any issues or concerns or if additional information is needed. Mr. Wade's contact information can be found within the attached response.

Respectfully submitted,

Joseph A. Herbers, ACAS, MAAA, CERA

Managing Principal

309.807.2300

Enclosures

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1. SPECIAL RECLAMATION FUNDS BACKGROUND

The Special Reclamation Fund and the Special Reclamation Water Trust Fund (collectively referred to as the Funds) are both programs within the West Virginia Department of Environmental Protection (DEP) designed to provide funding if necessary to reclaim and restore land and/or water sites. The programs are funded through coal taxes, investment income, and other minor, miscellaneous sources of income. The Funds' objectives are to have systems that allow for maximum flexibility in a dynamic environmental restorations and protection program and to achieve greater cost savings and budget predictability.

The DEP seeks actuarial services in connection with the review of the programs' fiscal soundness. The review is to include an evaluation of the present and prospective assets and liabilities of the special reclamation fund.

2. PINNACLE ACTUARIAL RESOURCES, INC. Overview

Pinnacle Actuarial Resources, Inc. (Pinnacle) is one of the larger property/casualty actuarial consulting firms in the U.S. whose specialties include loss reserving, insurance pricing, alternative markets and financial risk modeling. Our clients include insurance companies, state regulators and state-operated funds, insurance trade organizations, captive insurers, self-insured businesses, accounting firms and a variety of risk retention groups. As a result of this broad client base, we are called on to provide a wide variety of actuarial consulting services.

Pinnacle Actuarial Resources, Inc. is an independent Illinois corporation, privately owned by its professional actuarial staff. Pinnacle took its current corporate form on January 1, 2003, but our core operations and many of our customer relationships have been maintained continuously since 1984.

Our actuaries have provided loss reserve (unpaid liability) analyses, pricing and funding studies for commercial insurers, state-operated funds self-insured entities and captives. We serve as appointed actuaries and provide public Statements of Actuarial Opinion for a number of insurers in accordance with NAIC Annual Statement instructions and the Actuarial Standards of Practice.

Also included among our practice specialties is the costing of proposed legislation. In this regard, we have performed costing studies of insurance legislation in California, Colorado, Florida, Hawaii, Louisiana, Maryland, New Jersey, New York, Pennsylvania, Texas and West Virginia.

Our staff includes fourteen Fellows of the Casualty Actuarial Society and seven Associates of the Casualty Actuarial Society. All twenty-one credentialed actuaries are members of the American Academy of Actuaries. Biographies for staff members for this project are included with this proposal.

For more information concerning our firm and all the services we provide, please visit our web site at www.pinnacleactuaries.com.

3. Qualifications

A summary of Pinnacle's ability to meet the minimum qualification requirements, as set out in section 3 of the RFQ, immediately follows.

3.1 Licensure

All of our credentialed actuaries are members of the American Academy of Actuaries (AAA) and the Casualty Actuarial Society (CAS).

Laura Maxwell will be responsible for the Peer Review of the project which includes assurance of compliance with the specifications/scope of service of the engagement, as well as adherence to professional standards of the CAS, AAA, and Pinnacle. Laura will also oversee the development of Pinnacle's project plan and adherence to the plan throughout the engagement. She has prior experience with the mine reclamation programs in Kentucky, Ohio, Virginia and West Virginia. She served as the peer reviewer and co-author of Pinnacle's 2013 report to the Special Reclamation Advisory Council. Laura is a Fellow of the Casualty Actuarial Society, Member of the American Academy of Actuaries, and meets the continuing education requirements of both organizations.

Art Randolph will provide analysis on the project, reporting directly to Ms. Maxwell. He has prior experience with the mine reclamation program in Kentucky, co-authoring our 2012 and 2013 reports to the state. Art is a Fellow of the Casualty Actuarial Society, Member of the American Academy of Actuaries, and meets the continuing education requirements of both organizations.

John Wade, who has worked on each of our prior West Virginia mine reclamation studies as well similar studies in Kentucky, Ohio, and Virginia, will provide analysis and assistance with project work flow. He will report directly to Ms. Maxwell. John is an Associate of the Casualty Actuarial Society, Member of the American Academy of Actuaries, and meets the continuing education requirements of both organizations.

3.1.1 Credentials

Documentation of our actuarial credentials is included as Appendix B.1 and B.2.

3.1.2 Continuing Education

Documentation of our continuing education compliance is included as Appendix B.3

3.2 Conflict of Interest

We have reviewed our current and past work for the state of West Virginia and have found no conflict of interest. Our policy regarding possible conflict of interest is listed below.

Before responding to any RFP the consultant must first determine that no potential conflict of interest, or no appearance of conflict of interest, exists. At Pinnacle our conflict check covers past, current and future client relationships.

A conflict of interest may exist on two levels:

- A conflict of interest exists if Pinnacle, or the account executive, has any financial interest which may limit the consultant's ability to render an objective, professional opinion.
- ii) A conflict exists if working for one client harms our ability to do business with another client.

In most cases, if the work is more than three years old that should remove concerns about potential conflicts of interest.

The "business" conflict in (ii) typically arises when a client demands that Pinnacle not do business with one of the client's competitors. This should not be a conflict we would face in any work done for the West Virginia DEP.

The "professional" conflict of interest in (i) is the more common situation and the one to which references of "conflict of interest" usually applies. The key in determining the existence of a conflict is the ability of the consultant and Pinnacle to render an objective opinion.

Our consultant base is large enough to exclude any consultant from the team of consultants that might be reviewing a specific company and still provide an efficient, professional, and comprehensive work product. However, we do and will continue to check with the Client on any potential conflicts before accepting an assignment where the potential for conflict exists.

It can be specifically noted that Ms. Maxwell and Mr. Wade both have been and are currently actively engaged by the West Virginia Offices of the Insurance Commissioner (OIC) in annual actuarial reviews of workers compensation funds managed by the State. The engagement with the OIC does not present itself as a conflict of interest with the services to be provided under this proposal.

We have endeavored to determine the existence of any potential conflict of interests which may exist that would impair our ability, or perceived ability, to render objective actuarial services. We have identified no conflict of interest with regard to any officer or employee of the organizations involved in this assignment. Specifically, none of the consultants and other staff that would be assigned to this engagement have a conflict of interest with the State, their current leadership or their senior staff members.

3.3 External Quality Control

Pinnacle does not have an external quality control report.

Pinnacle utilizes the internal audit procedures of peer review. A brief summary of Pinnacle's peer review procedure immediately follows. Our peer review policy is included at the end of this proposal as Appendix D.

The primary purpose of peer review is to maximize the quality and comprehension of our work product, and to minimize our own professional liability exposure within practical time and fee constraints.

The interest of the firm's clients, and those of the firm itself, mandate that work performed by the firm, and the communication of that work by the firm, conform to high professional standards. Appropriate recognition of such interests deserves and requires adoption of and compliance with certain internal standards and procedures regarding work performance and communication of the work product, the objectives of such standards and procedures being to attempt to determine, to the extent practicable, that:

- methods and assumptions employed are appropriate and acceptable in the circumstances;
- judgments made and applied are reasonable and supportable;
- communications to clients are accurate, complete and understandable; and
- work performed adequately supports all statements and conclusions.

A system of peer review is the tool we use to exercise due care and diligence such that these objectives are achieved.

File documentation is an important element of peer review. The file must maintain an adequate trail which minimizes the risk of an undocumented or unsupported work product when viewed from the perspective of an independent third party. Pinnacle conducts random audits of client files to determine adherence with file documentation.

The peer review system is intended to foster the maintenance of high professional standards and practices, consistently applied to Pinnacle Actuarial Resources, Inc (the Firm's) assignments. Thus, the review should not be considered perfunctory, even in cases of the most routine or straightforward assignments.

It will be the express duty of the Professional Standards Officer (PSO) to ensure the work product of the firm abides by these guidelines.

3.4 Federal or State Reviews

Pinnacle has not been subject to any federal or state desk reviews or field reviews in the past three years.

3.5 Litigation

Pinnacle has not been subject to any litigation, taken or pending, in the past three years with any government regulatory bodies or professional organizations.

3.6 Client References

Pinnacle has provided actuarial studies related to mine reclamation liabilities to West Virginia and other states. Contacts with the West Virginia DEP include Michael Sheehan and Tom McCarthy. Contact information for other State programs (Ohio, Kentucky, and Virginia) will be provided upon request.

3.7 Sample Reports

Upon request we will provide two sample actuarial valuation reports as Appendix A to this proposal.

West Virginia Special Reclamation Fund and Special Reclamation Water Trust Fund

Ohio Mine Reclamation Forfeiture Fund

4. MANDATORY REQUIREMENTS

Pinnacle will provide actuarial services that will meet or exceed the mandatory requirements listed below.

4.1.1 Timeline and Deliverables

The following dates will be met:

Upon Receipt of Contract
Work Commences

❖ July 31, 2015 Progress Report

❖ August 31, 2015 Progress Report

September 30, 2015
Draft Report

October 31, 2015
Exit Conference

❖ November 15, 2015 Delivery of Final Report

4.1.2 Report and Statement of Actuarial Opinion

We reiterate here key components of the Report and Statement of Actuarial Opinion as listed in section 4.1.2 of the RFQ to indicate our understanding and acceptance of the required services. Pinnacle will prepare a report with a statement of actuarial opinion as to the Program's fiscal soundness, in accordance with West Virginia Code §22-1-17. The report and opinion will include the following items:

- 1. A valuation in accordance with applicable actuarial standards of practice promulgated by the actuarial standards board of American Academy of Actuaries that will determine the Program's fiscal soundness;
- 2. An evaluation of the **present** (June 30, 2015) assets and liabilities of the Special Reclamation Program for a minimum of 20 years, including an annual table illustrating those assets and liabilities for underground versus surface mine permits, small versus large permits (based on bond amounts or acreage) and permits for tipples, preparation plants and impoundments and illustrating land and water liabilities separately;
- 3. An evaluation of the **prospective** assets and liabilities of the Special Reclamation Program for a minimum of 20 years, including a table illustrating estimates of underground versus surface mine permits, small versus large permits (based on bond amounts or acreage) and permits for tipples, preparation plants and impoundments and illustrating land and water liabilities separately, including the funded status of the water trust fund as well as the special reclamation fund;

- 4. A table combining the present and prospective findings of items 4.1.2.2 and 4.1.2.3;
- 5. An analysis and discussion of the ability of the Program to support long term and/or perpetual liabilities;
- 6. A one page executive summary of conclusion written in plain English with references to the body of the report;
- 7. Fifteen (15) bound original copies and an electronic copy of the final report in Microsoft Word 2010 or comparable format;
- 8. Provide a physical and an electronic copy of work papers, table and models in Microsoft Excel 2010 or comparable format.

4.1.3 On-Site Entrance Conference

Pinnacle will participate in an on-site entrance conference involving interviews of each Special Reclamation Advisory Council member and other significant staff.

4.1.4 On-Site Entrance Conference

Pinnacle will provide two (2) on-site consultations, which may include presentation at quarterly Council meetings or presentations to the Legislature, in addition to the entrance and exit conferences.

4.1.5 Teleconference

Pinnacle will provide one (1) teleconference with the Special Reclamation Advisory Council.

4.1.6 Exit Conference

Pinnacle will provide an on-site exit conference with the Special Reclamation Advisory Council and significant staff.

Payment Schedule, Travel Expenses, and Facilities Access

Pinnacle recognizes and accepts the Payment Schedule as listed in section 7.1 of the RFQ. Pinnacle further acknowledges that Travel Costs are inclusive in the Pricing Page and will not bill these costs separately to the Agency. We will also comply with all Facilities Access requirements.

5. MISCELLANEOUS ITEMS

Specific Work Plan

In completing the elements of Section 4 above, the following Specific Work Plan will be adopted:

- Review of previous actuarial reports and all other presently available information concerning the present assets and liabilities of the Special Reclamation Fund and the Special Reclamation Water Trust Fund, expected future assets and liabilities of the Funds, and all other information related to the timing of fund deposits/collections and fund reclamation payments.
- On-site Entrance Conference On-site meeting in Charleston to gain insight as to background, operations and significance of obtained data.
- Data Request Immediately following the on-site entrance conference, Pinnacle will issue a formal data request outlining all additional required elements to support our study.
- Data Assimilation Pinnacle will organize and assimilate available data into electronic worksheets for technical analysis
- o Analysis
 - Observations of historical financial data
 - Review of structure of the Funds
 - Selection of appropriate methods and assumptions
 - Incorporation of Business Plan
- o Results
 - Preliminary results
 - Diagnostics and fine-tuning
 - Finalization of range
 - Follow-Up with DEP and Special Reclamation Advisory Council
- o Development of Report
 - Draft and Discussion
 - o Final Report
- o On-site exit conference and presentation to Special Reclamation Advisory Council in Charleston.
- Two Additional Onsite Consultations and One Teleconference which may include presentations at quarterly Council meetings or presentations to the West Virginia Legislature.

Assurance of Quality of Staff

We have assigned three highly qualified experienced consulting actuaries to this engagement team. These three individuals have worked closely together on numerous projects, including mine reclamation studies. Each of these consultants are qualified, able, and available to step in and fill the role of any other one of the consultants on the project team should one of the consultants become unavailable for any reason. We also have a pool of additional consulting actuaries that we could call upon, if needed. No changes would be made to the professional staff assigned to this team without the prior written consent of the Department of Environmental Protection. Finally it can also be noted that our lead supporting analyst on this engagement will be the same analyst used in our prior West Virginia mine reclamation studies, as well as in our studies of our other State mine reclamation programs.

General Terms and Conditions

Pinnacle agrees with the General Terms and Conditions as listed in the RFQ. Specifically, we currently maintain and agree to maintain the professional liability insurance certificates in the amount of \$1,000,000. We also reaffirm that our managing actuary for this assignment, Laura Maxwell is a Fellow of the Casualty Actuarial Society, a member of the American Academy of Actuaries, and has the necessary experience to see this engagement is completed as specified.

Prior Engagements with the State of West Virginia

Pinnacle has provided the three most recent actuarial studies of the Special Reclamation Fund and the Special Reclamation Water Trust Fund for the West Virginia Department of Environmental Protection.

Pinnacle is currently engaged by the State of West Virginia, Department of Revenue, Offices of the Insurance Commissioner (OIC) to provide actuarial services in relation to the review of the remaining workers' compensation liabilities from coverage provided by the state run workers' compensation funds until 2005 and the successor funds created to supplement the private insurance market. Most recently the State has added their own State Entities Workers Compensation (SEWC) self-insurance fund into the mix. Pinnacle provided the original feasibility study for the SEWC and assists in the subsequent evaluations of the financial soundness of this and the other workers compensation funds. The annual contract for the OIC began in 2009 and has been extended/renewed through 2015. This engagement is currently being led by John Wade and Laura Maxwell

Contract Manager

Per section 11.1 of the RFQ, during the course of this engagement, John Wade will serve as the primary contract manager responsible for overseeing Pinnacle's responsibilities under the contract. Laura Maxwell is available as an alternate contact point.

	Primary Contact	Alternate Contact
Contract Manager	John Wade	Laura Maxwell
Telephone Number	317.889.4760	415.692.0938
Fax Number	309.807.2301	309.807.2301
Email Address	JWade@PinnacleActuaries.com	LMaxwell@PinnacleActuaries.com

RFQ DEP1500000090

Appendix A – Sample Reports

(to be provided upon request)



MEMBER DIRECTORY SEARCH RESULT

« Conduct a New Search

Total of 22 records found based on your search criteria.

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Ms. Kathryn Ann Walker, FCASPinnacle Actuarial Resources, Inc.8600 W Bryn Mawr

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[Back to Top]

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[Resources Inc			
Brogadir, Zachary T		Pinnacle Actuarial Resources Inc	Chicago	IL.	USA
<u>Chen,</u> Michael Keryu	Actuary	Pinnacle Actuarial Resources Inc	Bloomington	IL	USA
Freihaut, Derek W	Consulting Actuary	Pinnacie Actuarial Resources Inc	Bloomington	IL.	USA
Godbold, Mary Jo E	Senior Vice President & Actuary	Pinnacle Actuarial Resources Inc	Rosweil	GA	USA
Herbers, Joseph A	Managing Principal	Pinnacle Actuarial Resources Inc	Bloomington	IL.	USA
Hillebrandt, Aaron Nicholas	Consulting Actuary	Pinnacle Actuarial Resources Inc	Bloomington	IL.	USA
Holt. Christopher Morgan	Consulting Actuary	Pinnacie Actuarial Resources Inc	Roswell	GA	USA
<u>Kolde,</u> Thomas R	Consultant	Pinnacle Actuarial Resources Inc	Chlcago	I1.	USA
Maxwell, Laura A	Consulting Actuary	Pinnacle Actuarial Resources Inc	San Ramon	CA	USA
Mosler, Timothy C	Senior Consulting Actuary	Pinnacle Actuarial Resources Inc	Roswell	GA	USA
Mosley, Roosevelt C	Principal & Consulting Actuary	Pinnacle Actuarial Resources Inc	Bloomington	IL	USA
Randolph, II, Arthur R	Senior Consulting Actuary	Pinnacie Actuarial Resources Inc	Roswell	GA	USA`
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Truttmann, Darcie		Pinnacle Actuarial Resources Inc	Bloomington	IL	USA
<u>Wade.</u> John E	Senior Consulting Actuary	Pinnacle Actuarial Resources Inc	Greenwood	IN	USA
Walker, Kathryn A	Consulting Actuary	Pinnacle	Chicago	ΙĹ	USA
Walling, III. Robert J	Principal & Consulting Actuary	Pinnacle Actuarial Resources Inc	Bloomington	ĬĹ	USA
Wang, Gary C		Pinnacle Actuarial Resources Inc	Bloomington	IL	USA
	<u> </u>			<u> </u>	L

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	Primary Area of Practice
	General Insurance/Property Casualty
	Specializations
	Society of Actuaries Sections

SOA does not warrant the accuracy, completeness, or timeliness of the information shown. In no event shall the SOA be liable to you or anyone else for any decision made or action taken by you in reliance on such information.

Laura A Maxwell	
Personal Information	Designations
Laura A Maxwell	MAAA 2002
Consulting Actuary	FCAS-2004
Pinnacle Actuarial Resources Inc	
2603 Camino Ramon Ste 421	Academic Degrees
San Ramon, CA 94583-9128	B.S.
United States	
	 Other Professional Designations
Tel: (415) 692-0938	
Fax: (309) 807-2301	•
Email: <u>Imaxwell@pinnacleactuaries.com</u>	Industry
	Consulting
	Primary Area of Practice
	General Insurance/Property Casualty
	Specializations
	Society of Actuaries Sections
	Joint Risk Management (SOA - CAS - CIA)

SOA does not warrant the accuracy, completeness, or timeliness of the information shown. In no event shall the SOA be liable to you or anyone else for any decision made or action taken by you in reliance on such information.

Arthur R Randolph II	
Personal Information Arthur R Randolph II Senior Consulting Actuary Pinnacle Actuarial Resources Inc Suite 290 515 East Crossville Road	Designations MAAA 2005 FCAS 2007 Academic Degrees
Roswell, GA 30075 United States Tel: 1(678)894-7258 Fax: 1(770)587-0304 Email: arandolph@pinnacleactuaries.com	Other Professional Designations CPCU ARE ARM Industry Consulting
	Primary Area of Practice General Insurance/Property Casualty Specializations
	Society of Actuaries Sections Joint Risk Management (SOA - CAS - CIA)

SOA does not warrant the accuracy, completeness, or timeliness of the information shown. In no event shall the SOA be liable to you or anyone else for any decision made or action taken by you in reliance on such information.



HISTORY PROFILE

« Back to Search Results

Mr. John E. Wade, ACAS

ACAS 2002

Senior Consultant

Pinnacle Actuarial Resources, Inc.

70 East Main Street

Ste F

Greenwood, IN 46143

UNITED STATES

Phone: (317)889-5760

E-mail: jwade@pinnacleactuaries.com

Attestation:

2012 - Have complied

2013 - Have complied

2014 - Have complied

2015 - Have complied

Publications

Committees

Committees				
committee name	position	start date	end date	
University Liaisons	Member	10/16/2014		
Joint Program Committee for CLRS Seminar	Member	10/15/2013		
Committee on Professionalism Education	Member	09/02/2008	11/04/2013	
Member Advisory Panel Committee	Member	12/11/2003	11/19/2008	

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Association Web Design and Development by Matrix Group International, Inc.



HISTORY PROFILE

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Attestation:

2012 - Have complied

2013 - Have complied

2014 - Have complied

2015 - Have complied

Publications

Committee	20

Committees				
committee name	position	start date	end date	
Examination Committee	Member	08/26/2012		
Webinar Committee	Vice Chairperson	08/10/2009		
Examination Committee	Member	04/18/2011	08/27/2012	
Examination Committee	Member	10/06/2009	12/31/2010	
Examination Committee	Member	08/18/2004	10/06/2009	
Student Liaison	Member	05/01/1996	07/31/1999	

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HISTORY PROFILE

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E-mail: arandolph@pinnacleactuaries.com

Attestation:

2012 - Have complied

2013 - Have complied

2014 - Have complied

2015 - Have complied

Publications

~				
Com	m	ITT	e	es

Committees						
committee name	position	start date	end date			-
Program Planning Committee	Member	09/19/2013				
Joint CAS/SOA Committee on Career Encouragement and Actuari	al Member	03/20/2013	04/16/2014			
Diversity						
Joint CAS/SOA Committee on Actuarial Diversity	Member	11/04/2010	03/20/2013			
Examination Committee	Member	09/01/2010	05/04/2011			
Liaison to the International Association of Black Actuaries	Liaison	11/01/2007	11/01/2008			
Examination Committee	Member	08/03/2007	08/31/2010		***************************************	
Joint CAS/SOA Committee on Actuarial Diversity	Member	02/01/2006	 09/09/2010			

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jwade@pinnacleactuaries.com

Focus

State and Municipal Funds Reserving, Statements of Actuarial Opinions and Pricing Regulatory Support

Education

Ball State University
B. S. Actuarial Science
M. A. Actuarial Science

Certifications

Associate of the Casualty Actuarial Society (ACAS)

Member of American Academy of Actuaries (MAAA)

Professional Experience

John Wade is a Senior Consulting Actuary with Pinnacle Actuarial Resources, Inc., managing the Indianapolis, Indiana office and has been providing actuarial consulting services since 1994, after having been employed by two primary carriers from 1978 - 1994. His practice is concentrated in providing reserving, funding and pricing studies for a wide variety of clients, including insurance companies, trade organizations, public entities and regulators.

His skill set includes loss reserving and rating for most lines of business, liability assessment for various funds, hands-on interaction with regulators, and project management. Mr. Wade is an Associate of the Casualty Actuarial Society and a Member of the American Academy of Actuaries. He serves or has served on the Casualty Loss Reserve Seminar Planning Committee, the Committee on Professionalism Education and the Membership Advisory Panel Committee of the Casualty Actuarial Society, as well as the Emerging Issues Task Force of the Casualty Practice Council of the American Academy of Actuaries. Mr. Wade has spoken at several industry events. He has actively mentored college actuarial students as well as young actuarial candidates already in the professional work force.

Engagement Experience

- Appointed Actuary to six domestic insurance companies, supported the reserve analysis of dozens more
- Consultant to State Insurance Departments in the review of rate filings and/or financial examinations
- Consultant to over a dozen State and Municipal Funds in their reserve analysis and funding needs
- On-site consultant at various companies, complementing internal actuarial operations
- Training of client companies' actuarial students
- Conducted numerous rate indications and prepared supporting filing materials

Presentation/Panelist Venues

- Casualty Actuarial Society, Annual and Spring Meetings
- Casualty Actuarial Society, Casualty Loss Reserve Seminar
- Casualty Actuarial Society, Course on Professionalism, Faculty
- Casualty Actuarial Society, Ratemaking and Product Management Seminar
- Casualty Actuarial Society, Webinar
- Indiana Department of Insurance
- National Tanks Conference & Expo
- National Conference of Insurance Guaranty Funds
- Pinnacle Actuarial Resources, Apex Webinar Series
- Society of Insurance Research
- Zurich North American, Internal Training Conference

CURRICULUM VITAE

NAME John E. Wade

BUSINESS 70 East Main Street, Suite F **ADDRESS** Greenwood, IN 46143

Phone: (317) 889-5760 Fax: (309) 807-2301

E-mail: jwade@pinnacleactuaries.con

EDUCATION BALL STATE UNIVERSITY

Bachelor of Science 1977

Major: Actuarial Science Minor: Economics

Master of Arts 1979

Major: Actuarial Science

CONTINUING EDUCATION

Attendance at CAS semi-annual meetings and various ratemaking

and loss reserving seminars

Estimated study time exceeding 4,000 hours necessary for completion of qualifying exams for membership in the Casualty Actuarial Society (CAS)

MEMBERSHIP IN Casualty Actuarial Society (CAS)

PROFESSIONALAssociate Member2002ORGANIZATIONSAmerican Academy of Actuaries (AAA)2002

EMPLOYMENT Pinnacle Actuarial Resources, Inc. 2003 - Present

HISTORY Senior Consultant

Miller, Herbers, Lehmann & Associates, Inc. 1997 – 2002

Consultant

Actuarial Business Consultants, Inc. 1993 - 1997

Independent Consulting Firm, President

Indiana Farm Bureau Insurance 1984 - 1993

Actuarial Department Manager

State Farm Mutual Automobile Insurance 1978 – 1984

Actuarial Analyst

John E. Wade – Curriculum Vitae Page Two

PROFESSIONAL	CAS Membership Advisory Panel Committee	2003 - 2008	
ACTIVITIES	CAS Committee on Professionalism Education	2008 - 2013	
	CAS Casualty Loss Reserve Seminar Planning Com	2014 - Present	
	AAA Emerging Issues Task Force (P&C)	2008 - 2013	

PROFESSIONAL PRESENTATIONS

"Role of the Consulting Actuary"

Society of Insurance Research, 2004

Loss Reserve Training Seminar

Indiana Department of Insurance, Financial Services Division, 2005

"Making an Actuarially Sound Rate Filing"

Pinnacle Actuarial Resources, Inc. Apex Webinar series, 2008

"ASOP Fables, Real World Usage of the Actuarial Standards of Practice" Casualty Actuarial Society, Spring 2008

"Ethical Case Studies from the Course on Professionalism"

Casualty Loss Reserve Seminar, 2009

Faculty, Course on Professionalism

Casualty Actuarial Society, 2009-2013

"Do You Know the Rules of the Actuarial Professionalism Road?" Casualty Actuarial Society, 2010

"Do We Have Enough Money? - An Actuarial Perspective" National Tanks Conference & Expo, 2010

"Interactive Mock Trial Professionalism Session"

Casualty Actuarial Society, 2011

"What is Professionalism?"

Casualty Loss Reserve Seminar, 2011

"State Fund Solvency"

National Tanks Conference & Expo, 2012

"Guaranty Fund Capacity and the NCIGF Stress Test"

National Conference of Insurance Guaranty Funds, 2012

"Sample Reserving Report – Does It Stand Up To Scrutiny?"

Casualty Actuarial Society, 2012

"Lights, Camera, Professionalism"

Casualty Loss Reserve Seminar, 2012

"What is ... Professionalism? Take Two!"

CAS Ratemaking and Product Management Seminar, 2012

"Catastrophes and USTs - No Tanks"

Pinnacle Actuarial Resources, Inc. Apex Webinar series, 2013

"Jeopardy Professionalism"

Zurich North American, Internal Training Conference, 2013

"Professionalism and the Practicing Actuary"

Casualty Actuarial Society, Webinar 2013

"Second Injury Funds, Forever. Really?"

Pinnacle Actuarial Resources, Inc. Apex Webinar series, 2014

John E. Wade – Curriculum Vitae Page Three

"Coal Mine Reclamation Funds"
Pinnacle Actuarial Resources, Inc. Apex Webinar series, 2014
"Balancing Expectations: Actuaries Who Are Also Executives"
Casualty Loss Reserve Seminar, 2014

SIGNIFICANT ASSIGNMENTS	Consulting Actuary to the Indiana Department of Insurance, reviewing P&C Rate Filings	2005 - 2011
	Consulting Actuary to State Insurance Departments providing examination and funding support	2006 - Present
	Appointed actuary to six insurance companies	2006 - Present
	Liability and funding analysis of State, Agency and	2006 - Present
	Municipal Workers Compensation Funds	
	Liability and funding analysis of State Second Injury Funds	2006 - Present
	Liability and funding analysis of State Petroleum Storage Tank Funds	2006 - Present
	Liability and funding analysis of State Mine Reclamation Insurance Funds	2006 - Present
	Liability and funding analysis of state Mine Subsidence Insurance Funds	2006 - Present
	Support on Audits of various State Funds	2006 - Present





Laura A. Maxwell FCAS, MAAA Consulting Actuary

Contact information

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Focus

Public Entities, Enterprise Risk Management, Loss Reserving, Predictive Analytics, Pricing/Product Management, Large Project Management

Education

Moravian College BS Mathematics

Certifications

Fellow of the Casualty Actuarial Society (FCAS)

Member of American Academy of Actuaries (MAAA)

SAS[®] Certified Predictive Modeler Using SAS[®] Enterprise Miner[™] 5

Japanese Language Proficiency Test, Level 3

Professional Experience

Laura Maxwell is a Consulting Actuary with Pinnacle Actuarial Resources, Inc. in the San Francisco, California office. She holds a Bachelor of Science degree in Mathematics from Moravian College. She has more than 25 years of actuarial experience in the property/casualty insurance industry.

Ms. Maxwell is a Fellow of the Casualty Actuarial Society and a Member of the American Academy of Actuaries. She currently serves the Casualty Actuarial Society (CAS) as a member of the Examination Committee and Vice-Chair of the Webinar Committee. Ms. Maxwell is a SAS* Certified Predictive Modeler Using SAS* Enterprise MinerTM 5.

Prior to joining Pinnacle Actuarial Resources, Ms. Maxwell was a consulting actuary for Milliman, Inc. Prior to Milliman she was a product manager for Kemper Direct and held actuarial positions with the New Jersey Department of Banking and Insurance and the National Council on Compensation Insurance. Her background includes personal and commercial lines pricing and reserving.

Engagement Experience

- Serves as the Appointed Actuary for two domestic insurance companies
- Provides loss reserve and funding analysis for several public entities self-insurance exposure
- Conducts reserve analyses for the State of West Virginia monopolistic state funds
- Participated in several insurance company audits for the New York State Insurance Department
- Prepares California rate filings
- Conducted rate filing reviews for several insurance departments
- Assisted in the development of underwriting score models for commercial insurers

Presentations/ Professional Publications

- "Regulatory Review of ORSA Framework", Risk Management: Part Five How to Review an ORSA, Joint Risk Management Section, 2014
- "Ride Sharing and the Impact of the Private Passenger Automobile Insurance Industry," Casualty Actuarial Society Centennial Meeting, November 10 & 11, 2014
- "Effective Reserving Project Management," Casualty Loss Reserve Seminar, September 16, 2014
- "ORSA Implementation Planning The Time is Now", IASA Conference, June 4, 2013
- "You've Set Your Goals! You've Evaluated Your Outcomes! Are You Realizing Your Rewards", CWC & Risk Conference, Dana Point, CA, September 20, 2012
- "Lights! Camera! Professionalism!", Casualty Loss Reserve Seminar, Denver, CO, September 6, 2012 and San Diego, CA, September 15, 2014
- "Using Predictive Modeling to Investigate the Underlying Claims Process and Understand its Impact on Traditional Loss Reserving Methods," Casualty Loss Reserve Seminar, Las Vegas, NV, September 16, 2011
- "Free Markets are the Best Way to Lower Workers Compensation Costs,"
 Pinnacle Research Brief, January, 2010

CURRICULUM VITAE

NAME Laura A. Maxwell

BUSINESS 2603 Camino Ramon, Suite 421 **ADDRESS** San Ramon, California 94583

> Phone: (415) 692-0938 Fax: (309) 807-2301

E-mail: Imaxwell@pinnacleactuaries.com

EDUCATION MORAVIAN COLLEGE

Bachelor of Science 1985

Major – Mathematics

CONTINUING Attendance at CAS meetings and seminars

EDUCATION Estimated study time exceeding 3,000 hours necessary for completion

of qualifying exams for membership in Casualty Actuarial Society (CAS) SAS® Certified Predictive Modeler Using SAS® Enterprise Miner™ 5

MEMBERSHIP Casualty Actuarial Society (CAS)

IN PROFESSIONALAssociate Member2002ORGANIZATIONSFellow2004American Academy of Actuaries (AAA)2002

EMPLOYMENTPinnacle Actuarial Resources, Inc.2006 - PresentHISTORYMilliman, Inc.2003 - 2005Kanna an Binach1008 - 2003

Kemper Direct1998 - 2003NJ Dept. of Banking & Insurance1991 - 1998National Council on Compensation Insurance1987 - 1991

PROFESSIONALCAS Webinar Committee2009 - PresentACTIVITIESCAS Examination Committee2004 - PresentCAS Student Liaison Committee1996 - 1998

PROFESSIONAL "Regulatory Review of ORSA Framework", Risk Management: Part Five **PUBLICATIONS** How to Review an ORSA, Joint Risk Management Section, 2014

How to Review an ORSA, Joint Risk Management Section, 2014 "Free Markets are the Best Way to Lower Workers Compensation

Costs", Pinnacle Research Brief, January, 2010

Laura A. Maxwell – Curriculum Vitae Page 2

PROFESSIONAL PRESENTATIONS

"Ride Sharing and the Impact of the Private Passenger Automobile Insurance Industry," Casualty Actuarial Society Centennial Meeting, November 10 & 11, 2014

"Effective Reserving Project Management," Casualty Loss Reserve Seminar, September 16, 2014

"The Challenge of Property & Casualty ASOPs", Pinnacle Apex Discussion Series, June 17, 2014

"ORSA Implementation Planning – The Time is Now", IASA Conference, Washington, D.C., June 4, 2013 and Pinnacle Apex Discussion Series, June 20, 2013

"You've Set Your Goals! You've Evaluated Your Outcomes! Are You Realizing Your Rewards," CWC & Risk Conference, Dana Point, CA, September 20, 2012

"Lights! Camera! Professionalism!" Casualty Loss Reserve Seminar, Denver, CO, September 6, 2012 and San Diego, CA, September 15, 2014 "Current State of Enterprise Risk Management", Pinnacle Apex Discussion Series, March 15, 2012

"Workers Compensation Healthier in Competitive States", Pinnacle Apex Discussion Series, May 21, 2009

"Workshop: How to Use Predictive Modeling in Claim Organizations", National Underwriter Annual Claim Event, Las Vegas, NV, June 25, 2007





Arthur R. Randolph, II FCAS, MAAA, CPCU, ARM, ARe Senior Consulting Actuary

Contact Information

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Focus

Medical Professional Liability Insurers, Self-Insured Hospitals, Hospital and Physician Groups, Captive Insurers and Large Employers, Ratemaking, Reserving, Risk Transfer Testing, Developing Experience and Retrospective Rating Plans, Personal and Commercial Property, Workers' Compensation

Education

Temple University B.B.A. in Actuarial Science & Risk Management

Certifications

Fellow of the Casualty Actuarial Society (FCAS)

Member of the American Academy of Actuaries (MAAA)

Chartered Property Casualty Underwriter (CPCU)

Associate in Risk Management (ARM)

Associate in Reinsurance (ARe)

Professional Experience

Arthur Randolph is a Senior Consulting Actuary with Pinnacle Actuarial Resources, Inc. in the firm's Atlanta, Georgia office, and has been in the insurance industry since 1998, consulting since 2001. His consulting career has focused on medical professional liability, workers' compensation, general liability, commercial and personal automobile, homeowners, commercial multi-peril, and construction defect exposures.

Mr. Randolph provides actuarial consulting services to medical professional liability insurers, traditional property and casualty insurers, self-insured hospitals and physician groups, public and private self-insured entities, risk retention groups, and captive insurers. His core services include ratemaking, reserving, risk transfer testing, funding allocations among members of risk sharing groups, and developing experience and retrospective rating plans. Mr. Randolph also conducts alternative risk financing feasibility and funding studies (e.g., large deductible plans, self-insurance structures, risk retention groups, captives) for organizations in both the public and private sectors that face various risk exposures. When clients have become involved in mergers and acquisitions, he has worked with them to seamlessly address all associated actuarial issues.

Mr. Randolph is a Fellow of the Casualty Actuarial Society and a Member of the American Academy of Actuaries. He also holds the following insurance designations: Chartered Property Casualty Underwriter, Associate in Risk Management and Associate in Reinsurance. Mr. Randolph is a member of the Joint CAS/SOA Committee on Career Encouragement & Actuarial Diversity, the CAS Program Planning Committee and the AAA Medical Professional Liability Committee, and is actively involved with Physician Insurers Association of America (PIAA), National Association of Mutual Insurance Companies (NAMIC), Florida Chamber of Commerce, Casualty Actuaries of the Southeast (CASE), Gamma lota Sigma Insurance Fraternity (GIS), and International Association of Black Actuaries (IABA, Director & Past Treasurer). He is a past member of the CAS Examination Committee and served as President & Director of the IABA Foundation.

Engagement Experience

- Serves as Appointed Actuary for a national, multiline long-haul trucking insurance carrier and a Florida property writer
- Advises numerous self-insured entities and insurance companies on matters related to financial reporting of unpaid claim liabilities, routinely presenting to Boards of Directors and Executive Committees charged with financial reporting
- Performs extensive rate level reviews for a variety of coverages including preparing and submitting filings, and responding to insurance department inquiries
- Establishes proper funding allocations among members of risk sharing groups and among revenue cost centers of national retail companies
- Conducts valuation analyses of merger and acquisition targets
- Performs alternative risk financing feasibility studies and retention optimization studies including financial performance modeling
- Performs classification relativity studies to ensure price optimization and rate level adequacy for medical professional liability insurers
- Develops experience and retrospective rating plans for medical professional liability and workers' compensation insurers, including post-implementation parameter testing
- Assists insurance companies with new product development and geographic expansion into new territories and states

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BUSINESS 515 East Crossville Road, Suite 290 **ADDRESS** Roswell, Georgia 30075-5846

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E-mail: arandolph@pinnacleactuaries.com

EDUCATION TEMPLE UNIVERSTY, PHILADELPHIA, PA

Bachelor of Business Administration 1997

Major – Actuarial Science & Risk Management

CONTINUING EDUCATION

Estimated study time exceeding over 5,000 hours necessary for completion of qualifying exams for membership in the Casualty Actuarial Society (CAS) and the American Institute for Chartered Property Casualty Underwriters (AICPCU)

Participation as an attendee at the CAS Ratemaking & Product Management Seminar, Casualty Loss Reserve Seminar, CAS Annual and Spring Meetings, Insurance Managers Association of Cayman (IMAC), Physician Insurers Association of America (PIAA), Risk and Insurance Management Society (RIMS), American Society for Healthcare Risk Management (ASHRM), National Association of Mutual Insurance Companies (NAMIC), and other educational seminars on special topics (e.g., medical professional liability, captive and alternative markets, property catastrophe risk)

Met all continuing education requirements of the American Academy of Actuaries (AAA) necessary to sign statements of actuarial opinion

MEMBERSHIP IN	CAS
PROFESSIONAL	,

ORGANIZATIONS

Associate Member (ACAS) 2005 Fellow (FCAS) 2007 AAA 2005

AICPCU

Associate in Risk Management (ARM) 2011 Chartered Property Casualty Underwriter (CPCU) 2012 Associate in Reinsurance (ARe) 2012

International Association of Black Actuaries (IABA) 2001 - Present Casualty Actuaries of the Southeast (CASE) 2007 - Present PIAA 2009 - Present

Arthur R. Randolph, II – Curriculum Vitae Page 2

	ASHRM NAMIC	2012 - Present 2012 – Present
EMPLOYMENT HISTORY	Pinnacle Actuarial Resources, Inc. Towers Watson / Towers Perrin The PMA Insurance Group PricewaterhouseCoopers LLP Allstate Insurance Company / CNA Personal Insurance	2012 - Present 2005 - 2012 2003 - 2005 2001 - 2003 1998 - 2001
ACTUARIAL INTERNSHIPS	Towers Perrin American International Group Milliman & Robertson	1997 1996 1994 - 1995
PROFESSIONAL ACTIVITIES	AAA Medical Professional Liability Committee CAS Program Planning Committee Director, IABA CAS Joint Committee on Actuarial Diversity CAS Examination Committee Treasurer & Director, IABA President & Director, IABA Foundation	2012 - Present 2013 - Present 2014 - Present 2006 - 2014 2007 - 2011 2003 - 2006 2004 - 2007
APPOINTED ACTUARY	Capitol Preferred Insurance Company, Inc. KESA, The Kentucky Workers' Compensation Fund Lincoln General Insurance Company Southern Fidelity Insurance Company, Inc. Southern Fidelity Property & Casualty, Inc. St. Johns Insurance Company, Inc. United Property & Casualty Insurance Company	2014 2014 2010, 2011, 2013, 2014 2014 2014 2014 2013, 2014

PROFESSIONAL PRESENTATIONS

Numerous presentations at educational seminars and professional conferences conducted by a variety of organizations including the CAS, Florida Chamber of Commerce, South Carolina Captive Insurance Association, Temple University, Howard University and IABA on topics including medical professional liability and the impact of the Patient Protection and Affordable Care Act, workers' compensation, credit score utilization in personal automobile insurance and homeowners insurance, and Florida sinkhole reform



Pinnacle Actuarial Resources, Inc. Peer Review Procedures and Requirements

August 2012

Peer Review Procedures and Requirements Table of Contents

Sect	ion	Page
I	Purpose of Peer Review	. 1
II	Structure – Responsibilities & Expectations	. 2
III	Levels of Peer Review	5
IV	Items Requiring Peer Review	6
V	Choosing a Peer Reviewer	13

Attachments

Pinnacle Actuarial Resources, Inc. Peer Review Procedures and Requirements

I. Purpose of Peer Review

The purposes of peer review are to:

- confirm the actuary is qualified to perform the work he/she has undertaken;
- maximize the quality and comprehension of our work product and add value in the process;
- minimize the Firm's exposure to claims of professional liability;
- assure that all work products adhere to professional standards;
- assure the work product is free of errors, readable and is documented consistent with the requirements of ASOP 41; and,
- provide a process whereby more senior staff members provide guidance and mentoring to others in the firm regarding the actuarial work product.

A system of peer review is the compliance tool we use to assure that actuarial services have been provided with skill and care and that the objectives listed above are achieved.

The peer review system is intended to foster the maintenance of high professional standards and practices consistently applied to the Firm's assignments. Thus, the review should not be considered perfunctory, even in cases of the most routine or straightforward assignments.

II. Structure – Responsibilities & Expectations

The peer review structure has many forms and varies depending on the nature of the work being performed.

Billable Work

For <u>billable work</u>, it is the responsibility of the <u>Account Executive</u> (AE) to plan for and arrange for peer review. This task should not be delegated to the Project Manager and the process should involve advance planning. This includes making sure that technical review is performed prior to peer review, or that the peer reviewer is aware of any changes resulting from technical review. The relationship between the AE and peer reviewer throughout the project is also described in the current version of Pinnacle's Account Executive Guidelines.

The AE should provide background, often including the engagement letter or statement of work, and discuss any special client or analysis circumstances with the peer reviewer. After receiving the peer review comments, the AE should make sure that all peer review comments have been incorporated or refuted and that evidence of peer review is maintained in the client file.

Ideally the peer review will take place 1-2 days prior to the due date of the work product to allow time for changes that may be suggested by the peer reviewer. In all instances, avoid the temptation to ask for peer review at the last minute as such an approach will raise tension and decrease the effectiveness of peer review.

Besides reports, the peer review should involve communications conveying results, board meeting presentations, and presentations of draft results.

Non-Billable Work

For <u>non-billable</u> work, it is the responsibility of the <u>Project Manager / Consultant</u> to arrange for peer review. All such non-billable work that will be used by others or read by others must be peer reviewed. This is particularly important for non-billable work that will have a broad exposure to public scrutiny (e.g. papers, articles, monographs, presentations, webinar materials).

Peer Review Process

There are several Firm policies already in place designed to assist in the peer review process. These include but are not limited to conflict of interest, contract review, file retention guidelines and client acceptance. In addition, templates are readily available providing checklists for applicable Actuarial Standards of Practice.

The peer reviewer reasonably expects to have the following prior to engaging in the review itself:

- a complete document with narrative and all attached exhibits and appendices
- footnotes that are accurate and easy to follow
- a narrative that reads clearly and is consistent with the figures in the exhibits

The peer reviewer should generally provide comments in a written format to the consultant and clearly indicate whether or not the document must be reviewed again before being issued outside the Firm.

The following related points pertaining to peer review should be noted:

- If the work product is not ready for a thorough peer review, the peer reviewer may advise the consultant as to the areas needing work and direct that the work be done before further peer review.
- The peer reviewer may determine that an alternative or additional peer reviewer needs to get involved. The peer reviewer should assist in identifying such a peer reviewer with the help of the Professional Standards Officer (PSO described in more detail on following page). A peer reviewer should not ask to be replaced simply because of a disagreement with the consultant.
- Consider whether the work product or results have a more sensitive nature (e.g., assignment evolves into expert witness work; reserve indications have deteriorated markedly from our prior work; any result that may surprise a client). If so, give extra consideration to all aspects of the project, including the scope of project, billing status, support for methods and assumptions, method of communication of results, and ways to turn "bad news" into an opportunity to assist the client.
- Specifically identify items requiring action, follow-up or response by consultant.

At the completion of a peer review, the account executive/project manager should ask whether the peer reviewer needs to see the client product again before it is sent to the client. If peer review comments are relatively minor, the answer will most likely be no. On the other hand, if major changes result from the peer review, the answer will likely by yes.

If the peer reviewer expects to see the product again before it is sent to the client, this should be made clear to the account executive/project manager. Follow-up by the technical reviewer is based on similar guidelines.

Professional Standards Officer

The peer review process is overseen by the Professional Standards Officer (PSO). The duties of the PSO include:

- Assistance in identifying peer reviewers
- Assist in assessing the sensitivity of peer review and recommending what levels of peer review are needed
- Resolution of disputes between author & peer reviewer
- Routine communications to staff about peer review issues
- Recommend changes to peer review process as needed
- Audit peer review process and provide periodic reports to Board of Directors

If the account executive/project manager and the peer reviewer cannot resolve a point of dispute between them, they should agree on an impartial arbitrator, who may be:

- another consultant who would be qualified to peer review the project, agreed upon by both parties
- the PSO
- another consultant designated by the PSO

Both parties should agree to abide by the conclusion reached by the impartial arbitrator. The PSO is available as a resource to resolve peer review conflicts.

On an annual basis, the PSO shall conduct an audit of the files sufficient to determine the degree of compliance with these peer review requirements and shall submit a written report of the audit findings to the Board of Directors.

III. Levels of Peer Review

The firm uses five distinct levels of peer review, but not all assignments involve all five levels:

Enhanced Standard Limited Technical Administrative

Most situations will involve a full and complete peer review – designated as **Standard** peer review. The Standard peer review will typically involve:

- Checking some or all of the computations and data summary totals underlying the work product (i.e., Technical Review);
- Evaluating the appropriateness of methodologies employed;
- Evaluating the reasonableness of assumptions;
- Assuring the work product complies with all pertinent ASOPs;
- Assuring the actuary is qualified to do the work;
- Determining whether the preparing actuary's findings are reasonable and well-supported by the analysis and exhibits;
- Determining whether the work product is reasonably clear and complete, appears consistent with the level of understanding of the intended users, and contains the appropriate disclosures and caveats.

There are some situations that may require an even higher level of scrutiny – **Enhanced** peer review - that will go above and beyond the traditional peer review. These may involve sensitive, litigious, divisive, or highly visible situations, reports that may become publicly available and mergers & acquisitions (M&A). Typically, such Enhanced peer reviews will involve one or more of the Principal's group, Senior Consultants with leadership in the area of practice pertinent to the matter and/or the Managing Principal.

A **Limited** peer review is a review of a work product not subject to the requirements of ASOP 41; a common example would be internal communications.

A **Technical** peer review is an intensive review of the data, formulas, formatting, footnotes and presentation of an actuarial analysis. More detail of the Technical Peer Review Procedures and Guidance is enclosed as Attachment 6.

An **Administrative** peer review focuses on the form and presentation (i.e., grammar, pagination, stylistic standards and so forth) of the actuarial communication.

In the following pages, we will provide guidance on the levels of peer review required in a variety of situations. There are clearly situations where exceptions to this guidance are both permissible and appropriate.

IV. Items Requiring Peer Review

Actuarial Communication is defined in ASOP 41 as "a written, electronic, or oral communication issued by an actuary with respect to actuarial services." <u>All actuarial communications are subject to peer review.</u>

It is also important to recognize that section 3.1 of ASOP 41 specifically states that:

3.1 General Requirements for Actuarial Communications—The completion of a specific actuarial engagement or assignment typically requires significant and ongoing communications between the principal and the actuary regarding the following: the scope of the requested work; the methods, assumptions, data, and other information required to complete the work; and the development of the actuarial communication of the actuary's work product. The requirements of this standard should be applied to the cumulative communications with respect to each specific engagement or assignment so that all of the communications, taken together, satisfy this standard even though individual communications may not. (emphasis added)

Items are subject to the specified level of peer review as shown below. See Section III for descriptions of the levels of peer review.

A. Written Correspondence

All substantive correspondence written in a professional capacity from the Firm must be peer reviewed prior to release. Examples of written correspondence include:

Client Reports - Standard

Documents to be submitted to the client in draft or final forms are to be peer reviewed <u>prior to release to a client</u>. A draft stamp, footnote or watermark are common ways to denote the document or communication is not final. However, releasing a draft <u>does not waive or delay the peer review requirement</u>. Final reports are to be peer reviewed again if there have been changes made to the draft report. Any and all pertinent checklists relating to the ASOPs should be part of the peer review documentation.

 NAIC Statement of Actuarial Opinion/Actuarial Opinion Summary – Standard or Enhanced

Year-end SAO/AOS require a three tier peer review (see Attachment #1) given time constraints at year-end. All SAOs and AOS documents must be peer reviewed by a consultant with specific knowledge of the special requirements, and that consultant must have attended the latest SAO review meeting.

The special SAO/AOS checklist is a requirement of the peer review process (see Attachment #2) and should be retained in the file documentation for 7 years.

An Enhanced peer review is needed if/when the SAO involves any of the following circumstances:

- o anything other than a Reasonable Opinion
- If the company is at or near the Company Action Level RBC (i.e., Surplus <= 2 x Adjusted Capital)
- o Company is insolvent

The peer reviewer should pay special attention to disclosures made in the AOS document if the company has had 3 or more years (out of the last 5) with One Year Development to Surplus >= 5%.

Other Statement of Actuarial Opinion – Standard or Enhanced

Formal SAOs are often required of self-insured entities, captives or insurers not subject to NAIC regulations. These must undergo an ASOP 36 peer review (see Attachment 3 for checklist).

Understand that there are some such entities that are required to file the statutory Annual Statement (i.e., Yellow Book); in such cases the NAIC format is required and the preceding section will apply to the peer review.

The governing documents for non-NAIC SAO peer reviews will be ASOP 36 and specific requirements of the local jurisdiction.

If the review involves a Canadian or Bermudian company, specific language is required in the SAO that must be included by the Appointed Actuary (or designated Loss Reserve Specialist). In many of these situations it is also imperative that the appointed actuary be approved in the applicable domicile.

Proposals and Engagement Letters - Standard

The peer review of proposals and/or engagement letters should review the form and content of the communication. A checklist of the form and content for proposal letters is outlined in Attachment #4

Mention should be made on the expected number of days on site, anticipated attendance at meetings and presentations to management and/or Board of Directors.

To the extent there are changes to the standard terms and conditions, approval must be sought and granted by one of the Principals and documented accordingly. More guidance on issues related to peer review of engagement letters is contained in the current version of Pinnacle's Account Executive Guidelines.

• Expert Witness Testimony - Enhanced

Written testimony must be reviewed by a member of the Principal's group, or other relevant leader in the applicable area of practice. It is desirable to have a peer reviewer present at forums where oral testimony is to be given such as in depositions, hearings and trials. We recognize the logistical concerns about being able to have a peer reviewer present in such instances, but expect a good faith effort to effect such on behalf of the firm. When the peer reviewer cannot be present in a situation, for example a deposition, it is advisable to have the peer reviewer review the written record of these meetings. The additional costs associated with peer review should be contemplated when quoting fees for expert witness services.

• External Communications – Enhanced

All articles, publications, and similar materials intended for broad or general consumption, must be peer reviewed.

- o Articles
- o Professional Papers
- o Monographs
- o Marketing Materials
- o Newsletter
- o Webinars
- o Power Point Presentations Standard / Enhanced
- o Firm responses to periodic professional issues
- o Actuarial Board of Counseling & Discipline (ABCD)
- o Strategic Partners (e.g., SAS, MSB, ISU Katie School, etc.)
- Attorneys
- o Contracts (see Contract Review Policy)

Many other routine external communications do not require a specific peer review but many may warrant a Limited or Administrative review:

- o Invoices
- o Vendors
- o Personnel matters

• Internal Communications

Routine internal communications may need no peer review at all. However, presentations made at internal meetings and firmwide communications should undergo – at a minimum – a Limited peer review. These meetings include:

- o Consultant's Meeting
- o Analyst's Meeting
- o Fall Planning Meeting
- o Pinnacle U.
- o Lunch & Learn
- Other training sessions

Given that many such communications will involve oral presentations, it may be helpful to have the peer reviewer on hand to provide constructive criticism at a rehearsal prior to the date of presentation.

B. Oral Communications

When practical, obtain prior peer review of phone conversations and meetings. The consultant must decide whether peer review (either prior or post) of oral advice and opinions is necessary. In many cases it may not be practical, or even possible, to have a peer reviewer in such cases. However, even discussing key talking points or strategy prior to an important call often adds tremendous value and improves the quality of the consulting advice Pinnacle's customers receive.

Peer review of substantive oral advice may, in certain circumstances, require the presence of a second consultant. When peer review of oral advice is not provided by the presence of a second consultant, there must be a peer review of subsequent written confirmation of the advice which should be present in the client file.

- Proposal Presentations Standard
- Depositions / Litigation Conferences Enhanced

Depending upon the nature of the issues, the presence of a second consultant may be necessary for testimony as an expert witness, either at hearings or depositions. Alternately, a review of the court records may be the only viable course of review.

C. Electronic Communications

The Firm often provides file attachments in an electronic format when conveying actuarial findings. In order to protect the work product and reputation of the Firm, an Administrative peer review, in addition to the otherwise indicated peer review, is required for the electronic form of the work product before being sent outside the firm. The file attachments may take several forms.

Adobe (PDF) Format

The Administrative review will:

- o Assure the electronic copy is in the same format as the hard copy
- o Assure the document is machine readable
- o Protect the file to restrict changes to the document
- o Protect electronic signatures from being copied
- o Replace readable format pages with scanned pages (as needed)
- o Add footnotes or copyright (as needed)
- Assist in reducing file size and increasing clarity of the pdfs
- Modify file properties to increase search optimization features

Microsoft WORD Format

The Administrative review will

- o Assure proper pagination and formatting
- o Assure Table of Contents is accurate and complete
- Assure all exhibits and appendices are in proper order and consistent with the Index of Exhibits and Index of Appendices
- o Remove electronic signatures
- Add the following footnote for SAO/AOS:

The electronic version of this document was released with no security features as per the NAIC requirements. Pinnacle Actuarial Resources, Inc. is not responsible for any additions, deletions or modifications made to this document after its release.

o Add the following footnote for other documents:

The electronic version of this document was released with limited security features. Pinnacle Actuarial Resources, Inc. is not responsible for any additions, deletions or modifications made to this document after its release.

Excel Spreadsheets

In certain instances, we will share electronic spreadsheets with outside parties. These spreadsheets may or may not include functionality. Examples include:

- simple loss projections with all values hard-coded
- IBNR calculators with limited functionality
- Renewal loss fund projections with somewhat more functionality
- Competitive analysis with rating engines and more extensive functionality

Since the firm's core business is consulting – rather than software development – special review procedures are needed when such electronic spreadsheets are provided outside the firm. The primary concern is to **prevent the misuse of our work product**.

Spreadsheets can be categorized into those with functionality and those without functionality. The latter can be sent outside the firm with fairly few disclaimers. However, spreadsheets with functionality will involve more extensive disclosures and disclaimers. Standard examples of such are included in Attachment 8.

• Email

Any e-mail that conveys actuarial findings should undergo Standard peer review consistent with the qualifications of ASOP 41 section 3.1 noted above. A good practice for e-mail documentation is to add the phrase "all reliances and limitations outlined in our prior report dated ____ apply equally well to this communication," or words to that effect.

• Social Media

- o On behalf of Pinnacle Enhanced
- o Actuarial Communication Standard
- Other Professional Communications Standard

Employees using social media for personal communications should be guided by the firm's Social Media policy.

D. Joint Projects

Peer review requirements are not waived on joint projects with other firms. Components of the project and any references to or uses of Pinnacle's work elsewhere in the overall work product are subject to peer review standards of the firm. It would be beneficial for consultants to review the entire work product, even those sections outside of our area of expertise, for reasonableness and consistency.

E. Two Answer Situations

The firm will avoid any and all two answer situations as a *de facto* conflict of interest. Such two answer situations include, but are not limited to:

M&A - buyer vs. seller M&A - two buyers

Rate filings Insurance department vs. insurance company

Two different states
Two filers in same state

Any other potential "two answer" situation

F. Predictive Analytics

Due to the differing nature and development platforms of the predictive analytics data preparation, modeling and implementation processes, a separate section was created to discuss peer and technical review for these projects. One key philosophical difference between predictive analytics projects and other traditional actuarial work worth noting is that the individual peer reviewing decisions made on a predictive analytics project may be involved in other aspects of the project as well. The level of familiarity and understanding often involved in data element breakdowns and relationships in addition to the limited personnel resources currently qualified to peer review such decisions make this a necessary concession at this point in time. Details are provided in Attachment 7.

V. Choosing a Peer Reviewer

A peer reviewer is someone who is qualified to perform the peer review assignment. When deciding between/among potential peer reviewers, the first choice should always be the person with the greater expertise in the type of work being reviewed.

Enhanced peer reviewers are generally members of the Principal's group or senior consultants with specific expertise in the area of practice involved in the matter. In certain instances, the Executive Director may perform such a review.

Standard peer reviewers are generally consultants, senior consultants and/or a member of the Principal's group.

Limited peer reviewers are generally consultants but may involve others.

Administrative peer reviewers are generally members of the administrative staff.

1. Specialty Knowledge

Certain projects require a peer reviewer with expertise in the <u>specific</u> area being addressed, as opposed to <u>general</u> expertise. Consider that construction defect (CD) type exposure, asbestos & environmental (A&E) claims and professional liability type claims have unique characteristics and often vary considerably from one jurisdiction to another.

This is either because of the sensitivity and/or professional liability exposure of the type of assignment, the complex or technical nature of the work, or the desire to have consistent answers (and work quality) in certain industry segments. On the actuarial side, in particular, it is necessary to ensure that assumptions conform to specialty standards or that deviating assumptions are well supported. In the cases where all knowledgeable consultants in a specialty area are already involved in the project, or the specialty consists of a "sole practitioner," a consultant not involved in the project but familiar with the scope of work being performed should review the work for reasonableness. The PSO can assist in peer review selection in such cases.

Whenever there is a question regarding the appropriateness of a peer reviewer for a particular assignment, contact the PSO.

2. Limitations

To minimize bias in the peer review process, the peer reviewer should not have been involved in the project previously other than in the role of peer review. An exception may be made for a former account executive that has recently handed off the responsibilities. This does not preclude keeping the peer reviewer notified as to the project status and the general methodology and assumptions to be used. In fact, the peer reviewer is ideally assigned in the proposal process or when the project is received.

The independence of the consultant and the peer reviewer is a key criterion in the selection of a peer reviewer.

Timing is often problematic in choosing a peer reviewer when there has been no advance planning. Plan ahead and choose the peer reviewer at the outset of the assignment, not at the end. Provide proper notice to the peer reviewer as to the timing of his/her involvement. Insufficient planning and execution is no excuse for not having a proper peer review conducted on every assignment.

If the project at hand is an update of work done in prior years, it is desirable to periodically rotate the peer reviewer on that particular project. There should be a balance between the efficiency gained through repeat peer reviews and the added value of an independent peer reviewer each year.

Index of Attachments

Attachment	Description
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- 1 Year-end SAO Peer Review Procedures
- 2 NAIC SAO/AOS Checklist
- 3 ASOP Checklists
 - a. ASOP 43
 - b. ASOP 36
 - c. ASOP 41 (to be completed)
- 4 Proposal Checklist
- 5 Report Checklist
- 6 Technical Review Checklist
- 7 Predictive Analytics Peer and Technical Review
- 8 Outside Distribution of Excel Spreadsheet

Year-End Statements of Actuarial Opinion Peer Review Procedures

Problem: Report in support of the SAO and AOS is typically not completed until March

or April, but SAO is due by March 1 and AOS is due March 15

Solution: 3 tier peer review

- indicated reserves prior to issuing SAO send updated exhibits and copy of last year's narrative and/or outline of new issues, lines of business, etc. in current year to peer reviewer
- SAO is peer reviewed separately via Supplemental Peer Review Checklist
- Report in support of SAO and AOS is peer reviewed when completed

Timeline: Identify peer reviewer in advance in order to plan ahead

Indicated reserves (both D&A and net) must be peer reviewed prior to issuing the SAO (current year exhibits and prior year text). Should include UPR for long duration contracts, extended reporting reserves and any other items within the scope of the SAO

Annual Statement pages are provided mid February, triggering the calculation of Sch P reconciliation, Sch F ratings, IRIS tests, uncollectible rein., etc.

SAO is prepared and must be peer reviewed using the special SAO checklist

SAO is prepared and delivered by March 1 AOS is prepared and delivered by March 15

Report in support of SAO and AOS is prepared and delivered by May 1

2011 Statement of Actuarial Opinion - Supplemental Peer Review Checklist

Com	pany:			Refe	erence
					ASOP 36
Yes	No	n/a	A 11 11/2 (ABODO)	<u>Note</u>	<u>Section</u>
			Applicability of ASOP 36 Dogs ASOP 36 apply to this SAO2		1.2
<u> </u>	ш	ш	Does ASOP 36 apply to this SAO? Written Statement of actuarial opinion with respect to property/casualty loss and LAE reserves of		1.2
			reins. companies and other p/c risk financing systems, such as self-insurance, that provide simliar		
			coverages under one of the following circumstances. Check one that applies:		
			- the SAO is prepared to comply with NAIC Property and Casualty Annual Statement Instructions, or		1.2
-			- the SAO is otherwise prescribed by law or regulation, or - the SAO is represented by actuary as being in compliance with this standard		1.2 1.2
			Disclose "Statement of Actuarial Opinion" in the title of written opinion?		4.1a
			IDENTIFICATION		
			a) Identify name, affiliation, relationship, credentials, "in good standing", meet qualification standard		
Ш			b) Board appointment date	14	
			SCOPE		
			a) Mention reserves listed in Exhibit A	14	
			b) Identify type of LAE covered by reserve (e.g., coverage disputes, defense, adjusting, etc.)		3.4.e
			c) Mention loss reserve Disclosure Items 8-13 in Exhibit B	15	
			d) Disclosure of person relied upon for data (by name)	15	4.
			e) Evaluate data for reasonableness and consistency f) Disclose reconciliation to Sch P	15 15	11
\vdash			f) Disclose reconciliation to Sch P g) Treatment of Pooling Arrangements	15 13-14	
Щ			g) Treatment of Fooling Arrangements	10 14	
			OPINION		
			a) meet requirements of state of domicile	16	
			b) are (consistent with reserves) computed in accordance with accepted actuarial standards	16	
-			c) make a reasonable provision d) mention long duration contracts in opinion	16 16	
\vdash			e) Disclosure if you made use of another actuary's work?	17, 19	
			h) Was there use of another actuary's work?	17, 10	3.7
			- If Yes to above:		
			- Was the other actuary's work reviewed? And determined to be reasonable?		3.7.2
			- Was the other actuary's work not reasonable and separate analysis completed?		3.7.2
			f) Disclose use of analysis/opinion of another not within the control of actuary for material portion of	reserves	4.2f
-			- If Yes to above:		4.04
\vdash			Disclose whether actuary reviewed the others' underlying analysis Disclose extent of review including methods/assumptions and underlying arithmetic		4.2f 4.2f
			g) State specifically - upfront in paragraph which type of Opinion applies	17	3.11
			Circle the one that applies	• •	• • • • • • • • • • • • • • • • • • • •
			Reasonable Deficient/ Redundant/ Qualified No Opinion		
			Inadequate Excessive		
			h) If reserves are deficient/inadequate, disclose the minimum amount believed reasonable		4.2b
	Ш		i) If reserves are redundant/excessive, disclose the maximum amount believed reasonable		4.2c
	\vdash	\vdash	j) If Qualified Opinion, disclose items to which the qualification relates	amb.	4.2d 4.2d
-			 Disclose whether reserves make a reasonable provision for reserves in scope, except items to which qualification as disclosure that opinion applies to total loss and LAE, or other items combined or separately 	оріу 17	4.2u 3.5b
ш.	ш		n) disclosure that opinion applies to total loss and LAL, or other items combined or separately	17	3.30
			RELEVANT COMMENTS		
			a) Identify intended purpose of SAO	20, 91	3.2, 4.1c
	\vdash	\vdash	b) Identify intended users of SAO	20, 91	3.2, 4.1b
\vdash	\vdash	$\vdash\vdash$	c) Identify reserves being opined upon d) Identify accounting date		3.3.a., 4.1d 3.3.b
			e) Identify applicable accounting standards (i.e., Stat, GAAP, IFRS, etc.)		3.3.c
	\vdash	\vdash	f) RMAD paragraph included	20, 91	4.2e
			- Disclose materiality threshold	20, 91	4.2e
			- Clear disclose as to whether there is a significant risk of material adverse deviation (RMAD)	20, 91	4.2e
	Ш	Щ	- If Yes, disclose major risk factors faced by company	20	4.2e
	\vdash	$\vdash\vdash$		20-21, 91	
\vdash	\vdash	\vdash	 g) Other Disclosures in Exh. B paragraph included (individual impact & in combination) - Anticipated net salv/sub recoveries 	20 24	
\vdash	\vdash	\vdash	- Anticipated het salvisub recoveries - Discounting - identify whether stated reserves are nominal or discounted	24 24	3.4.a
	\square	\vdash	- Identify items discounted (e.g., IBNR only, tabular, etc.)		3.4.a
			- Identify basis for interest rate in discount calc (e.g., portfolio, risk-free, etc.)		3.4.a
			- Reserves for poole/associations PINNACLE ACTUARIAL RESOURCES, INC.	24-25	
			FININACLE ACTUARIAL RESOURCES, INC.		

2011 Statement of Actuarial Opinion - Supplemental Peer Review Checklist

Com	pany:					rence
						ASOP 36
Yes	No	n/a			<u>Note</u>	<u>Section</u>
			<u>g</u>)		25-27	
				- Extended reporting reserve (losses v unearned premium)	27	
				Did SAO rely on Present Values?		4.2g
				- If Yes to above and actuary judges such to have a material effect on results of evaluation:		
				- Disclose that PV were used in forming opinion		4.2g
				- Disclose interest rate(s) used by actuary		4.2g
				- Disclose monetary amount of discount reflected in reserve amount		4.2g
			h)	Identify whether reserves include risk margin		3.4.b
				- If yes disclose basis of risk margin (i.e., percentile, load above mean, etc.)		3.4.b
			i)	Identify whether reserves are gross or net of specified recoverables		3.4.c
			<u>''/</u>	- Identify line in financial statement related to reserves being opinioned upon, if applicable		optional
				- Identify specified recoverables (i.e., ceded reinsurance, deductibles, salv/subro, etc.)		3.4.c
				- Identify whether uncollectible recoverables are considered		3.4.d
-		-				
				- Identify when uncollectible recoverables are involved		3.4.d
				- Identify categories of uncollectible recoverables considered		3.4.d
			<u>J)</u>	Reinsurance paragraph included	28	
				- Disclose retroactive reinsurance	28-29	
				- Disclose any loss portfolio transfers or financial rein effected in 2011	29	
				- Disclose potential reinsurance collectibility problems or problem reinsurers	30	4.2h
				- Identify whether concerns about these uncollectible recoverables are based on currently known		3.4.d
				and/or potential ultimate collectibility concerns		
				- Disclose review of reinsurer ratings by A M Best	30	
				- Disclose review of Sch F for indications of regulatory activity or recoverables	20	
				on paid losses over 90 days past due		
				- Disclose findings in reinsurance supplement	28	
			k)	IRIS Ratios paragraph included	31	
			/	- Disclose results of IRIS tests based on reserves	31	
				- Relevant comments on factors that led to unusual values	31	
				- Check of calculations of test results	31	
			I)	Methods and Assumptions paragraph included	23	
		-	<u>'')</u>	- Disclose significant changes in methods/assumptions	23	4.2
				If not able to review prior actuaries work, disclose prior assumptions, procedures and methods a		
					ie ulikilo	4.Za
				- Disclose impact of changes in methods/assumptions		4.41-
				- Disclose whether any material assumption or method was prescribed by law	_	4.1h
				- Disclose whether reliance on other source and/or disclaims responsibility for material assumptio	n	4.1i
			<u>m)</u>	Prepaid Loss Adjustment Expenses appropriately addressed - if relevant		91
			Instruc a)	ction 7 - Disclose availability of actuarial report		
\dashv	\vdash		b)	- Disclose workpapers supporting Opinion will be maintained for 7 years	32	
			,	Discolsures	32	l
					52	2.50
		-	<u>c)</u>	Identify review date, if different from date the SAO is signed		3.5a
			<u>d)</u>	disclosure any other item needed to describe scope of review		3.5c
	_	_	SIGNA	TURE BLOCK		
			a)	Date included	34	
			b)	Original signature	34	
			c)	Printed name, company affiliation, address, phone #, e-mail	34	
			GENEI	RAL		3.3.2d
			a)	Was opinion qualified due to material amounts not within scope?		-
			,	if "Yes" to a), identify claims exposure covered by SAO (i.e., LOB, AY, state, etc.)?		3.4.f
\Box			b)		le Requir	
\rightarrow					ral Sugge	
	\vdash		<u>d)</u>	Was an electronic version of opinion provided to client?	34	
\dashv		1	e)	Disclose material deviation from ASOP 36	U -T	4.1j
\dashv	\vdash		i)	Form/content specified by regulators followed in this SAO?		4.1j 4.2i
	\vdash	-		Opining actuary has knowledge to comply with specific requirements of the laws or regulations.		3.1
				Opining actuary has knowledge to comply with specific requirements of the laws of regulations.		J. I
				Peer Reviewed by:		
					Initials	Date

2011 Statement of Actuarial Opinion - Supplemental Peer Review Checklist

Company:			Refe	rence
Yes No n/a		Prac <u>No</u>	ctice ote	ASOP 36 Section
	Exh A and B included and updated for changes (see page 2)			
	Exhibit A			
	Disclose Loss Reserves			
	1. Net Unpaid Loss	3	5	
	2. Net Unpaid LAE		5	
	3. D&A Unpaid Loss	3	5	
	4. D&A Unpaid LAE	3	5	
	Reserve for Retroactive Reinsurance		5	
	6. Other Loss Reserve Items	3	5	
	Disclose Premium Reserves			
	7. D&A UPR for long duration contracts	3	5	
	Net UPR for long duration contracts	3	5	
	Other premium reserves (list separately)	3	5	
	Exhibit B			
	Name of Appointed Actuary	3	6	
	Appointed Actuary's Relationship with Company (E/C)		6	
	3. Appointed Actuary's Qualification (FAMO)		6	
	4. Type of Opinion (RIEQN)	3	6	
	5. Materiality Standard	3	6	
	6. RMAD (Yes/No/N/A) Note: N/A only applicable to Pools	3	6	
	7. Statutory Surplus	3	6	
	Anticipated net salvage/subro recoveries		6	
	Discounting of loss reserves		6	
\square	10. Net reserves for residual markets, pools, underwriting associations		6	
\square	11. Net reserves for asbestos and EIL		7	
	12. Total CM extended reporting reserves per Sch P Interrogatories13. Other Items	3	7 37	
	•	· ·	•	
	Actuarial Opinion Summary (AOS) AOS issued as separate document with letter	2	9	
\square	1 Range - net and gross	3 40-		
	2 Point estimate - net and gross	40-	-	
	3 Company recorded reserve - net and gross	40-		
	4 Difference between recorded and point/range		-43	
	5 Description of reserve elements or major contributory management decisions		-43	
	where one-yr reserve dev't exceeded 5% of surplus (Sch P, Pt 2) in 3 of past 5 cal yrs.			
	General			
	1. Process for change in Appointed Actuary followed	8	3	
	2. AA sufficiently aware of background & disclosure on RX to provide informed opinion on net	reserves Gene	eral S	uggestion
	3. Does Actuarial Report compare AA conclusions to carried reserves (net and gross).	Gene	eral S	uggestion
	Note: RX = risk transfer Peer Reviewed I	by:		
		Initi	ials	Date

ASOB 43 - I	Appendix D - Page 22 Inpaid Claim Estimates - Supplemental Peer Review Checklist Atta	ahmant 2a
Company:	——————————————————————————————————————	chment 3a
Yes No n/a		ASOP 43 <u>Section</u> <u>Reference</u>
	Principal is identified	2.9
	Intended purpose or use is identified	3.1, 4.1
	Are multiple purposes or uses intended? - If yes, were potential conflicts and adjustments considered?	3.1 3.1
	Acknowledge any data, staff or time constraints	3.2, 4.1
	Type of measure is disclosed and described Actuarial Central Estimate Range If a range, disclose basis Discounted? Interest Rate	3.3 a , 4.1 c 4.2 a
	Other Risk Margin	
	Gross	3.3 b
	Net of specified recoverables - If yes, is collectibility risk considered?	3.3 c
	Type of unpaid claim expense covered in estimate is identified	3.3 d
	Claims to be covered by unpaid claim estimate are adequately described	3.3 e
	Risks posing a material effect disclosed	3.4
	Methods or models are appropriate and clearly documented	3.6.1
	If only one method is used for a material component, disclosure and discussion of rationale for such	
	is included	3.6.1
	Assumptions are appropriate, unbiased, internally consistent and documented	3.6.2
	If estimates were calculated using principal's (client) assumptions, disclosure is made.	3.6.2
	Sensitivity to alternate assumptions considered and disclosed if material	3.6.2, 4.1 f
	Relevant known external factors are appropriately considered	3.6.6
	Significant changes in conditions considered Supporting evidence for management representations obtained? Reliance on management representations? Were representations reasonable?	_ 3.6.7
	Elements of uncertainty considered	3.6.8
	If uncertainty is measured, consideration given to independence or correlation between components of reserve estimates.	3.6.8
	Relevant dates are clearly disclosed Accounting date Valuation date Review date	4.1 d
	Specific significant risks and uncertainties, if any, disclosed	4.1 e
	If an updated analysis, changes in methods and assumptions having a material impact are disclosed.	4.2 b
	Deviation from ASOP 43 disclosed NOTE: ANY DEVIATION FROM STANDARD MUST BE DISCUSSED WITH THE PEER REVIEW OFFICER Peer Pavioused by:	4.4
Effective Date:	Peer Reviewed by: 4/15/2009 Edition Date: 4/6/2009	Date
Encouve Date.	7/10/2000 Edition Date. 4/0/2003	

Stateme Company:		of Ac	tuarial Opinion - ASOP 36 Peer Review Checklist		ment 3b Page 1
Yes No	n/a			ASOP 36 Section Reference	
		1. A	applicabilty of ASOP 36	Kelelelice	
		a) Does ASOP 36 apply to this SAO?	1.2	
			Written Statement of actuarial opinion with respect to property/casualty loss and loss adjustment expense reserves of reinsurance companies and other property/casulaty risk financing systems, such as self-insurance, that provide similar coverunder one of the following circumstances. Check one that applies:		
			- the statement of actuarial opinion is prepared to comply with NAIC Property and Casualty Annual Statement Instructions,	or 1.2	
			- the statement of actuarial opinion is otherwise prescribed by law or regulation, or	1.2	
			- the statement of actuarial opinion is represented by actuary as being in compliance with this standard	1.2	
		2. Ir	ntended Purpose & Users	Section	
		a) Identify intended purpose of SAO	3.2, 4.1c	
		b		3.2, 4.1b	
		3. R	Reserves Being Opined Upon		
		a	, , , , , ,	3.3.a., 4.1d	
		<u>b</u>	, J	3.3.b	
		<u>C</u>) Identify applicable accounting standards (i.e., Stat, GAAP, IFRS, etc.)	3.3.c	
		4. S	stated Basis of Reserve Presentation	4.1e	
		a) Identify whether stated reserves are nominal or discounted	3.4.a	
			- Identify items discounted (e.g., IBNR only, tabular, etc.)	3.4.a	
			- Identify basis for interest rate in discount calc (e.g., portfolio, risk-free, etc.)	3.4.a	
		b) Identify whether reserves include risk margin	3.4.b	
			- If yes disclose basis of risk margin (i.e., percentile, load above mean, etc.)	3.4.b	
		C) Identify whether reserves are gross or net of specified recoverables	3.4.c	
			- Identify line in financial statement related to reserves being opinioned upon, if applicable	optional	
			- Identify specified recoverables (i.e., ceded reinsurance, deductibles, salv/subro, etc.)	3.4.c	
			- Identify whether uncollectible recoverables are considered	3.4.d	
			- Identify when uncollectible recoverables are involved	3.4.d	
		_	- Identify categories of uncollectible recoverables considered	3.4.d	
		d) Identify whether concerns about these uncollectible recoverables are based on currently known	3.4.d	
		_	and/or potential ultimate collectibility concerns		
	\vdash	<u>e</u>	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	3.4.e	
	\vdash	<u>t)</u>	Identify claims exposure covered when SAO covers only a portion of reserve (i.e., LOB, AY, state, etc.)	3.4.f	
\square		<u>g</u>		3.4.g	
	Ш	h	,	3.7	
			- If Yes to above: Was the other actuary's work reviewed? And determined to be reasonable?	270	
	\vdash		- Was the other actuary's work reviewed? And determined to be reasonable? - Was the other actuary's work not reasonable and separate analysis completed?	3.7.2 3.7.2	
	1 1		- vvas ine oniei actuary s work not reasonable and separate analysis completed:	3.1.∠	

State Compa		of A	Actu	uarial Opinion - ASOP 36 Peer Review Checklist	Attach	ment 3b Page 2
	No n/a	_	Sco	ope of Analysis	ASOP 36 Section Reference 4.1f	
		7	a)	Identify review date, if different from date the SAO is signed	3.5a	
		†	b)	disclosure that opinion applies to total loss and LAE, or other items combined or separately	3.5b	
		†	c)	disclosure any other item needed to describe scope of review	3.5c	
L				•		
		6.		inion	4.1g	
			a)	State specifically - upfront in paragraph which type of Opinion applies	3.11	
				Circle the one that applies Reasonable Deficient/ Redundant/ Qualified No Opinion Inadequate Excessive		
		7.	Co	mmunications and Disclosures		
		7	a)	Disclose "Statement of Actuarial Opinion" in the title of written opinion?	4.1a	
		1	b)	Disclose whether any material assumption or method was prescribed by law	 4.1h	
		Ī	c)	Disclose whether reliance on other source and/or disclaims responsibility for material assumption	 4.1i	
]	d)	Disclose material deviation from ASOP 36	4.1j	
			. له. ۵	ditional Disclosures		
		⊤ ö. ⊺	a)	ditional Disclosures Disclose nature of changes in assumptions, procedures or methods since prior opinion	4.2a	
\vdash		+	a)	- If not able to review prior actuaries work, disclose prior assumptions, procedures and methods are unknown	4.2a 4.2a	
\vdash		1	b)	If reserves are deficient/inadequate, disclose the minimum amount believed reasonable	4.2a 4.2b	
\vdash		†	c)	If reserves are redundant/excessive, disclose the maximum amount believed reasonable	4.2c	
	\rightarrow	┪	<u>d)</u>	If Qualified Opinion, disclose items to which the qualification relates	4.2d	
		†	<u>u,</u>	- Disclose whether reserves make a reasonable provision for reserves in scope, except items to which qualification apply	4.2d	
		†	e)	Significant risks/uncertainty that could result in material adverse disclosed	4.2e	
		1	-,	- If Yes to above:	_	
		Ī		- Was RMAD paragraph included?	4.2e	
		Ī		- Disclose amount of adverse deviation judged to be material	4.2e	
		Ī		- Disclose major factors / conditions that could result in material adverse deviation	 4.2e	
		1	f)	Disclose use of analysis/opinion of another not within the control of actuary for material portion of reserves	4.2f	
				- If Yes to above:		
		Ĭ		- Disclose whether actuary reviewed the others' underlying analysis	4.2f	
		Ī		- Disclose extent of review including methods/assumptions and underlying arithmetic	4.2f	
			g)	Did SAO rely on Present Values?	4.2g	
				- If Yes to above and actuary judges such to have a material effect on results of evaluation:		
				- Disclose that PV were used in forming opinion	4.2g	
]		- Disclose interest rate(s) used by actuary	4.2g	
		1		- Disclose monetary amount of discount reflected in reserve amount	4.2g	
igsqcut		1	h)	If ceded rein is material, comment on reinsurance collectibility included?	4.2h	
oxdot		1	i)	Form/content specified by regulators followed in this SAO?	4.2i	
		1	<u>j)</u>	Opining actuary has knowledge to comply with specific requirements of the laws or regulations.	3.1	
				Peer Reviewed by:		
				i eei neviewed by.	Initials	Date

ASOP 41 - Actuarial Communications - Supplemental Peer Review Checklist

Company:		
		ASOP 41
Yes No	n/a	Reference
[100]	Requirements for Actuarial Communications:	
	Form & Content are Appropriate for Intended Use	3.1.1
	Clarity of Report for Intended Users	3.1.2
	Actuarial Report:	
	Actuarial Findings Clearly Stated	3.2
	Disclose Methods, Procedures, Assumptions and Data Sources	3.2
	Allow Another Qualified Actuary Objectively Appraise for Reasonableness	3.2
	Specific Circumstances:	
	Do circumstances exist that constrain including content?	3.3
	If so, have circumstances been identified and supported	3.3
	in 30, have circumstances been rachemed and supported	3.3
	Explanation of Material Differences from Prior Report	3.5
	Communications & Disclosures:	
	Identification of Responsible Actuary	4.1.1
	Identification of Actuarial Documents (Date/Subject in Cover Letter)	4.1.2
	Identification of Intended Users (Distribution & Use section)	4.1.3a
\Box	Scope/Purpose of Engagement	4.1.3b
\Box	Acknowledgement of Qualification	4.1.3c
	Cautions Regarding Risk or Uncertainty	3.4.1 & 4.1.3d
	Limitations on Use/Applicability of Actuarial Findings	4.1.3e
	Conflict of Interest	3.4.2 & 4.1.3f
	Reliance on Other Sources for Data/Information	3.4.3 & 4.1.3g
	Data/Information Date Identified	3.4.5 & 4.1.3h
	Subsequent Events Identified	3.4.6 & 4.1.3i
	Disclose Assumptions/Methods Prescribed by Law	4.2
	Disclose Responsibility for Assumptions/Methods	3.4.4 & 4.3
\square	Deviation from Standard	4.4
	NOTE: ANY DEVIATION FROM STANDARD MUST BE DISCUSSED WITH THE	
	PEER REVIEW OFFICER	
	Peer Reviewed	by:
	Da	te:

Edition: August, 2012

Proposal / Engagement Letter Peer Review Checklist

- 1. Scope of Work
- 2. Background on client's operations
- 3. Work plan and/or methodology
- 4. Project team
- 5. Background on Pinnacle
- 6. Firm's qualifications
- 7. Individual qualifications
- 8. Data requirements
- 9. Expected reliance on client and/or external data
- 10. Time table for completion
- 11. Specific deliverables
- 12. Expected professional fees and expenses
- 13. Signature block for acceptance
- 14. Standard terms & conditions
- 15. References
- 16. Biographies and/or Curriculum Vitae

Report Peer Review Checklist

- 1. Purpose/Scope appropriate to proposal
- 2. Distribution & Use and Reliances/Limitations complete
- 3. Conclusions
 - a. address the important issues
 - b. conform to scope
 - c. adequately supported
- 4. Methods employed (assumptions/judgments)
 - a. reasonable and appropriate
 - b. documented and described
- 5. Text and overall organization and appearance
 - a. clear and well-formatted
 - b. includes background where necessary
 - c. use draft paper/stamp if not final
- 6. Exhibits/graphs clear and understandable
- 7. Background checks
 - a. conflicts of interest/independence resolved/disclosed
 - b. letter of representation, if required
 - c. indemnification agreement, if required

Pinnacle Tech Review Procedures and Guidance

This document includes a tech review punch list and general guidance for tech reviews. The punch list is not a checklist that must be followed step by step or "checked off" during a tech review. It is instead a list of common considerations that should being taken into account during all tech reviews.

Following the punch list, is a general guidance section. This section was built on several conversations within the tech review subcommittee and feedback from several employees about the process. It is also where a number of the punch list items are expanded upon and should be referenced for general guidance when performing tech reviews.

Punch List

- 1. Begin with a specific scope for your tech review.
- 2. Begin with a completed project.
- 3. Perform tech review with flow of the exhibits. Typically you should begin in the back.
- 4. Check links in Edit Links.
- 5. Check all hardcoded data. Inquire on any unlabeled data (should not be any).
- 6. If you don't understand something, ASK.
- 7. Check formulas/footnotes for both consistency and <u>accuracy</u>.
- 8. Check exhibit numbers, general formatting, and overall presentation.
- 9. Check for appropriate pro-rating and interpolating, especially with partial years.
- 10. Check for reasonability of results.
- 11. Use spell check on headers, titles, footnotes, etc.
- 12. For full review or presentation review, exhibits should be printed out for review.
- 13. Document all significant disputes and provide documentation to project manager. Refer to the Dispute section in General Guidance for how to handle unresolved disputes

General Guidance

This section is meant to provide some general guidance on a number of tech review issues raised in the subcommittee. There may be some overlap with the previously discussed punch list, but this section is intended to provide further background and description than what is in the punch list.

Scope – The scope of every tech review should be laid out clearly to the tech reviewer at the onset of the review. The scope should include what specifically needs to be teched, including what data, if any, needs to be teched, and which links, if any, will need to be teched. Some examples of tech review scopes are provided below. <u>Full Tech Review</u> – This is the most typical type of tech review. It generally is a full tech review of the entire project. It includes, but is not limited to, all formulas, formatting, footnotes, presentation, and the reasonability of the data. It does <u>not</u> include checking the data input unless specifically specified.

<u>Data Check</u> – This is check of all data input or data pulled into the analysis. Ideally, a data check will occur before any type of review of the formulas.

<u>Incremental Tech Review</u> – This tech review is to check updates to specified portions of the analysis. An incremental tech review can be done for a number of reasons, including if the project manager desires to only check the updated portions of an analysis updated from a prior year. For any incremental tech review, the sheets and cells need to be communicated and/or highlighted. Handing an analysis to someone and telling them to "tech the current year" is not specific enough.

Tech review meetings – Meetings to wrap up a tech review are generally a good use of time. Typically these meetings should not take more than 15 minutes of time. If they take more than 30 minutes, there should be reasons why and the project manager should be notified. If a longer meeting is anticipated, keeping the project manager in the loop early on is advised. The tech review should always be 100% complete prior to the meeting to avoid inefficient use of time. A wrap up meeting is not required. Email or electronic notes are acceptable and can sometimes be more appropriate. A secondary check of the file after the tech review updates have been made is not required, but follow up from the setup analyst notifying the tech reviewer that changes have been made is good practice.

<u>Disputes</u> – When there are unresolved disputes, the setup analyst should take the concern to the project manager. The tech reviewer may also take concerns to the project manager if the setup analyst is unavailable or unresponsive. It is good practice for the setup analyst to keep the tech reviewer in the loop when resolving disputes through the project manager.

<u>Splitting out data versus formula reviews</u> – If there is a clear divide, it is generally appropriate to split the data input checking from the formula tech review. Splitting out the two items into separate checks can be beneficial for timelines and to help keep costs low, since the data input checks can often be performed by technical analysts and interns. Obviously, a project needs to be sufficiently big enough before efficiencies can be gained.

<u>Streamlining of files</u> – Many of our files could be streamlined to make tech reviews more efficient and to improve the accuracy of updates. There are several areas where the efficiency of our files could be improved as laid out in the following list.

- 1. <u>Documentation</u> All inputs, including those outside of the print range must be documented. This includes benchmarks, which should be documented with what they are and specifically where they come from (i.e. file name and location). A descriptor of "benchmark" is not sufficient.
- Items out of print range Items outside of the print range that are not relied upon and not clearly labeled should be removed from the file. It would be good practice for the setup analyst to follow up with the project manager before deleting significant items outside of the print range.
- 3. <u>Overly complex formulas</u> –Unnecessarily complex formulas introduce or increase opportunities for errors and increase tech review time. When setting up a file, consider

- how easy it will be for someone else to follow your work and consider breaking complex formulas into multiple steps when appropriate. It is within the tech reviewer's responsibilities to question the necessity of overly complex formulas. If there is a disagreement, it should be brought to the attention of the project manager. Most importantly, be pragmatic. Don't get cute, silly, too clever, etc.
- 4. <u>Compute times</u> Be aware of compute time in files. Consider taking steps to decrease file size or break links if opening or working in a file is too cumbersome. Also consider using the format cleaner for excel.
- 5. <u>Links</u> Links make setting up files much simpler but can be overused and neglected. They can also lead to longer compute times and problems when linked files change or files are moved around. Because of this it is good practice to keep links to a minimum. For files with significant data links, the links should be broken after checking and balancing is completed. Obviously, files should then include proper documentation for where the data came from. Generally the only links that should be necessary are links to interacting files and links to large stable benchmark files. It is the duty of the setup analyst to manage links in the file and the tech reviewer should check the links. For files that require indirect formulas for links, a macro to open the required file is often a good idea.
- 6. Ranges If ranges are used in a file, the setup analyst should be maintaining the ranges (i.e. keeping an appropriate number and deleting unnecessary ones) and the tech reviewer should be checking them.

Non formulaic errors/ Reasonability Checks – This is a difficult but important discussion item. A non formulaic error is one that is easily missed because the formula may seem correct, but it is being used incorrectly. An example of a non formulaic error is the pro rating of IBNR in the current year. The formula for the current year's IBNR may look correct because it matches the prior years, but it is wrong because it needed to pro rate the ultimate losses.

There is no clear way to be sure a tech reviewer is catching the non formulaic errors, but there are some things to consider. A tech review is not just checking formulas and the reviewer should consider the reasonability of the results the exhibits are producing. The setup analyst and tech reviewer should always take a look at the file from the viewpoint of their customers (the client and the project manager they are giving it to). The tech reviewer needs to seek guidance and ask questions when they don't know something or if anything looks "funny". Also, don't check items against the previous year and accept them as correct if you can't verify it. We have had errors carried over multiple years due to this type of checking. This is also why it is wise to avoid pairing inexperienced setup analysts with inexperienced tech reviewers.

- <u>Use of check formulas and tech files</u> We recognize that there is a clear need for these type of tech reviews (CRI renewals with a large number of members being the most obvious example). We also recognize that at times some reviews can be too time intensive and gloss over significant errors. It is also important to remember that most tech reviews include some sort of check file being used, at least on a temporary basis.
- <u>Current Selections</u> The selections in a worksheet are not typically within the scope of a tech review. They could be included if there are formulaic selections that are specifically outlined in the scope when the tech review is assigned. The tech reviewer should still consider the reasonability of the results given the selections in the analysis.

Predictive Analytics Peer and Technical Review

Due to the differing nature and development platforms of the predictive analytics data preparation, modeling and implementation processes, a separate section was created to discuss peer and technical review for these projects. One key philosophical difference between predictive analytics projects and other traditional actuarial work worth noting is that the individual peer reviewing decisions made on a predictive analytics project may be involved in other aspects of the project as well. The level of familiarity and understanding often involved in data element breakdowns and relationships in addition to the limited personnel resources currently qualified to peer review such decisions make this a necessary concession at this point in time.

Technical Review

Data Import

Review data formats and variable lengths.

File Joins

- Review order and purpose of joins. Is this a logical way to assemble the data tables?
- Review record counts through joins to ensure they are logical.
- Review variables being joined to ensure all desired variables have been calculated.
- For projects that require joining losses to policy information, review loss tabulation to ensure all
 losses are being joined and that duplicate records are not being created.

Creating Additional Variables

- For analyses that include policy dates and mid-term transaction, review record effective and expiration date structure.
- Review additional variables created to ensure consistent with expectations.

Mapping

- Review variable levels to ensure all levels have been accounted for appropriately in mapping.
- Review levels to ensure sufficient credibility.

Model Process

- Review data table import, noting especially variable formats and labeling of exposure, claim, incurred losses.
- Review node settings in data partition and modeling nodes.
- If mapping or other data manipulation is done in a SAS node, verify code appropriateness and completeness.

Clustering

- Review data (internal and external)
- Review formulas from Analysis Template (capping, weighting changes, cat adjustments, etc.)
 - Note if original or modified Analysis Template was used.

Peer Review

One-Ways

While a meeting with the client is set up with the purpose of reviewing the results and
reasonability of the one-ways, a peer review of the data distribution of key variables ahead of
time will ensure that meeting is optimally productive.

Mapped One-Ways

- Review the bucketing of levels. Note especially the granularity of such variables as age of home, amount of insurance, model year, etc. and any variable where data sparseness may have forced unusual bucketing.
- Review variables which were dropped or should have been dropped due to data sparseness.

Model Process

- Review appropriateness of variables included in final model, both type III results and variable performance.
- Evalute the reason variables were eliminated during the modeling process. Modeler should have tracked whether variable was eliminated due to its type III value, model performance, aliasing, etc.
- Verify no other variables or interactions need to be revisited in the final model or that there should not be other specific variables or interactions included in the final model despite their performance.

Clustering

- Review the use of external data as a compliment of credibility.
- Review capping considerations.
- Review catastrophe adjustments.
- Review smoothing settings used.
- Review selected number of clusters.

Scorecard

Review variables and selections used in scorecard to ensure they are appropriate and complete.

Implementation

Outside Distribution of Excel Spreadsheet Peer Review Checklist

- 1. Intended Purpose clearly identified
- 2. Standard disclaimers are disclosed
- 3. All links to external sources removed
- 4. Worksheets not involved in Input/Output are hidden
- 5. Spreadsheets in "Normal View" with adequate print size
- 6. Common Disclosures

Loss cost projections are based on Pinnacle analysis of data and information supplied by Client/Broker in the underwriting submission. To the extent such information is not accurate and complete, our loss cost projections may need to be revised significantly.

Loss cost projections are provided at retention levels consistent with the entity's net retention.

Pinnacle incorporates significant assumptions regarding anticipated future loss development, changes in statutory benefit levels for WC, expected loss ratios, trend (in both losses and exposures) and weighting by policy period as documented in the footnotes to the exhibits.

Pinnacle is available to answer any questions that may arise regarding these loss projections

Third parties using the information contained in this communication are hereby notified that they can place no reliance on this work product that would in any way create a duty or liability to Pinnacle.

7. Common Disclaimers

The possessor of this spreadsheet and/or accompanying models should be aware that this does not represent the full scope of Pinnacle Actuarial Resources, Inc.'s capabilities.

Pinnacle has developed many customized models for several client insurance companies. These models may include much more detailed analysis than presented herein. The enclosed spreadsheet contains preloaded parameters which may or may not be appropriate for other types of applications not identified in the Intended Use description above.

Pinnacle Actuarial Resources, Inc. and any of its representatives are not responsible for how the

Attachment 8

spreadsheet model is installed and/or used by the user. We are also not responsible for any results and outputs developed and the manner in which these outputs are interpreted.

This software is provided as is, without warranty of any kind, either expressed or implied. This includes, but is not limited to, implied warranties of merchantability and fitness for a particular purpose. You bear the entire risk regarding the performance and quality of this program. Should the software prove defective, you assume the entire cost of all servicing and necessary corrections.

PROPERTY/CASUALTY ACTUARIAL CONSULTING ENGAGEMENT

Our firm has over 500 active clients including insurers of all sizes, state insurance regulators, government insurance programs, captive insurance companies, self-insured entities, municipal pools, and risk retention groups. Following is a list of selected clients:

Mine Reclamation Projects

Kentucky Department for Natural Resources Ohio Department of Natural Resources Virginia Department of Mines, Minerals and Energy

West Virginia Department of Environmental Protection

Other Projects

AIK Comp

Allstate Insurance Group
American Family Insurance
American Medical Association
Amerisure Insurance Companies
California Department of Insurance
Central Illinois Regional Airport Authority

Champaign County, IL
City of Chesapeake, VA
City of Detroit, MI
City of Las Cruces, NM
City of Phoenix, AZ
City of Tupelo, MS

Connecticut Department of Insurance Educational School Insurance Cooperative Farmers Insurance Group

Florida Association of Counties Trust Florida Department of Financial Services GEICO

Governmental Interinsurance Exchange
Hillsborough Area Regional Transit Illinois
Public Transit Authority
Illinois State Toll Highway Authority
Indiana Department of Insurance
Kansas City Transit Authority

Kentucky Office of Insurance Kentucky Transportation Cabinet Kentucky Underground Storage Tank Fund Liberty Mutual Insurance Group Los Angeles Department of Water and Power

Maine Bureau of Insurance
Michigan Division of Insurance
Michigan University Self-Insured Corp.
Midwestern Higher Education Commission
Missouri Department of Insurance
Missouri Workers Compensation Division
Nationwide Insurance Group
New Mexico Public Regulation Commission
New Mexico Patient Compensation Fund
New York State Insurance Department
Ohio Bureau of Workers Compensation
Ohio Casualty Insurance

Onio Casualty Insurance
Ohio Department of Insurance
Oregon Insurance Division
Pennsylvania Department of Environmental
Protection
ResCare

SAIF Corporation
Santa Clara Valley Water District
State Farm Insurance Company
Southwest Agency Risk Management
Tennessee Department of Corrections
Tennessee Department of Finance and
Administration
Vermont Department of Insurance

Vermont Department of Insurance Virginia Birth Related Injury Fund Wisconsin Patient Compensation Fund



I, Natalie E. Tennant, Secretary of State of the State of West Virginia, hereby certify that

PINNACLE ACTUARIAL RESOURCES, INC.

a corporation formed under the laws of Illinois filed an application to be registered as a foreign corporation authorizing it to transact business in West Virginia. The application was found to conform to law and a "Certificate of Authority" was issued by the West Virginia Secretary of State on June 11, 2009.

I further certify that the corporation has not been revoked by the State of West Virginia nor has a Certificate of Withdrawal been issued to the corporation by the West Virginia Secretary of State.

Accordingly, I hereby issue this

CERTIFICATE OF AUTHORIZATION

Validation ID:8WV7A_SPED2



Given under my hand and the Great Seal of the State of West Virginia on this day of June 08, 2015

Secretary of State



STATE OF WEST VIRGINIA State Tax Department, Excise and Support Unit P. O. Box 885 Charleston, WV 25323-0885



Earl Ray Tomblin, Governor

Mark W. Matkovich, Tax Commissioner

PINNACLE ACTUARIAL RESOURCES, INC. PO BOX 6139
BLOOMINGTON IL 61702-6139

Letter Id: L1288534336 Issued: 06/09/2015

West Virginia State Tax Department Statement of Good Standing

EFFECTIVE DATE: June 9, 2015

A review of tax accounts indicates that the above named taxpayer is in good standing as of the effective date of this document.

The issuance of this Statement of Good Standing shall not bar any audits, investigations, assessments, refund or credits with respect to the taxpayer named above and is based only on a review of the tax returns and not on a physical audit of records.

Sincerely,

Crystal G. Peal, Tax Unit Supervisor

Cuptal & Poal

Excise and Support Unit

Tax Account Administration Division



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY) 2/6/2015

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

001/504.050		66110206	
		INSURER F:	
BECOMINATION, IE 01704		INSURER E: Steadfast Insurance Company	26387
2817 REED ROAD , SUITE 2 BLOOMINGTON. IL 61704		INSURER D: Indian Harbor Insurance Company	36940
Pinnacle Actuarial Resources, Inc.		INSURER C: ACE Insurance Company Ltd	
INSURED	PINNACT-01	INSURER B: Hartford Financial Services Group	
		INSURER A: Hartford Casualty Insurance Company	29424
		INSURER(S) AFFORDING COVERAGE	NAIC #
Itasca IL 60143		E-MAIL ADDRESS: Denise_Payton@ajg.com	
Arthur J. Gallagher Risk Management Services, Inc. 127 North Walnut St		PHONE (A/C, No, Ext): 630-694-4408 FAX (A/C, No): 63	0-694-4401
PRODUCER	. •	CONTACT Denise Payton	
certificate floider in fled of such e	naoraement(a).		

COVERAGES CERTIFICATE NUMBER: 566119296 REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

ISR TR		TYPE OF INSURANCE	ADDL INSD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMIT	S
A	Х	COMMERCIAL GENERAL LIABILITY	Υ	83SBAPL7914	1/17/2015	1/17/2016	EACH OCCURRENCE	\$1,000,000
		CLAIMS-MADE X OCCUR					DAMAGE TO RENTED PREMISES (Ea occurrence)	\$300,000
							MED EXP (Any one person)	\$10,000
							PERSONAL & ADV INJURY	\$1,000,000
	GEN	L'L AGGREGATE LIMIT APPLIES PER:					GENERAL AGGREGATE	\$2,000,000
	Х	POLICY PRO- JECT LOC					PRODUCTS - COMP/OP AGG	\$2,000,000
		OTHER:						\$
١	AUT	OMOBILE LIABILITY		83SBAPL7914	1/17/2015	1/17/2016	COMBINED SINGLE LIMIT (Ea accident)	\$1,000,000
		ANY AUTO					BODILY INJURY (Per person)	\$
		ALL OWNED SCHEDULED AUTOS					BODILY INJURY (Per accident)	\$
	Х	HIRED AUTOS X NON-OWNED AUTOS					PROPERTY DAMAGE (Per accident)	\$
								\$
۱,	Х	UMBRELLA LIAB X OCCUR		83SBAPL7914	1/17/2015	1/17/2016	EACH OCCURRENCE	\$2,000,000
		EXCESS LIAB CLAIMS-MADE					AGGREGATE	\$2,000,000
		DED X RETENTION \$ 10,000						\$
		KERS COMPENSATION EMPLOYERS' LIABILITY		83WECKB7307	1/17/2015	1/17/2016	X PER OTH- STATUTE ER	
	ANY I	PROPRIETOR/PARTNER/EXECUTIVE CER/MEMBER EXCLUDED?	N/A				E.L. EACH ACCIDENT	\$500,000
	(Man	datory in NH)	,,,				E.L. DISEASE - EA EMPLOYEE	\$500,000
	If yes	s, describe under CRIPTION OF OPERATIONS below					E.L. DISEASE - POLICY LIMIT	\$500,000
2	Profe	ctors & Officers Liability essional Liability er Liability		G27165199 002 MPP002287707 SPR6221049-01	2/14/2015	1/17/2016 2/14/2016 1/17/2016	Policy Aggregate	1,000,000 2,000,000 1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

Umbrella Liability- Follow Form

CERTIFICATE HOLDER CA	NCELLATION
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EVIDENCE OF INSURANCE ONLY 2817 Reed Road, Suite 2 Bloomington IL 61704 SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE
PLA 2 Gell Ther

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Rev. 04/14

Date: June 10, 2015

State of West Virginia

VENDOR PREFERENCE CERTIFICATE

Certification and application* is hereby made for Preference in accordance with West Virginia Code, §5A-3-37. (Does not apply to construction contracts). West Virginia Code, §5A-3-37, provides an opportunity for qualifying vendors to request (at the time of bid) preference for their residency status. Such preference is an evaluation method only and will be applied only to the cost bid in accordance with the *West Virginia Code*. This certificate for application is to be used to request such preference. The Purchasing Division will make the determination of the Vendor Preference, if applicable.

DIVISIQI	Twill make the determination of the verticor Frederice, if applicable.
1.	Application is made for 2.5% vendor preference for the reason checked: Bidder is an individual resident vendor and has resided continuously in West Virginia for four (4) years immediately preceding the date of this certification; or, Bidder is a partnership, association or corporation resident vendor and has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or 80% of the
	ownership interest of Bidder is held by another individual, partnership, association or corporation resident vendor who has maintained its headquarters or principal place of business continuously in West Virginia for four (4) years immediately preceding the date of this certification; or, Bidder is a nonresident vendor which has an affiliate or subsidiary which employs a minimum of one hundred state residents and which has maintained its headquarters or principal place of business within West Virginia continuously for the four (4) years immediately preceding the date of this certification; or,
2.	Application is made for 2.5% vendor preference for the reason checked: Bidder is a resident vendor who certifies that, during the life of the contract, on average at least 75% of the employees working on the project being bid are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,
3.	Application is made for 2.5% vendor preference for the reason checked: Bidder is a nonresident vendor employing a minimum of one hundred state residents or is a nonresident vendor with an affiliate or subsidiary which maintains its headquarters or principal place of business within West Virginia employing a minimum of one hundred state residents who certifies that, during the life of the contract, on average at least 75% of the employees or Bidder's affiliate's or subsidiary's employees are residents of West Virginia who have resided in the state continuously for the two years immediately preceding submission of this bid; or,
4.	Application is made for 5% vendor preference for the reason checked: Bidder meets either the requirement of both subdivisions (1) and (2) or subdivision (1) and (3) as stated above; or,
5. ——	Application is made for 3.5% vendor preference who is a veteran for the reason checked: Bidder is an individual resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard and has resided in West Virginia continuously for the four years immediately preceding the date on which the bid is submitted; or,
6.	Application is made for 3.5% vendor preference who is a veteran for the reason checked: Bidder is a resident vendor who is a veteran of the United States armed forces, the reserves or the National Guard, if, for purposes of producing or distributing the commodities or completing the project which is the subject of the vendor's bid and continuously over the entire term of the project, on average at least seventy-five percent of the vendor's employees are residents of West Virginia who have resided in the state continuously for the two immediately preceding years.
7.	Application is made for preference as a non-resident small, women- and minority-owned business, in accordance with West Virginia Code §5A-3-59 and West Virginia Code of State Rules. Bidder has been or expects to be approved prior to contract award by the Purchasing Division as a certified small, women- and minority-owned business.
require against	understands if the Secretary of Revenue determines that a Bidder receiving preference has failed to continue to meet the ments for such preference, the Secretary may order the Director of Purchasing to: (a) reject the bid; or (b) assess a penalty such Bidder in an amount not to exceed 5% of the bid amount and that such penalty will be paid to the contracting agency acted from any unpaid balance on the contract or purchase order.
authorize the requ	mission of this certificate, Bidder agrees to disclose any reasonably requested information to the Purchasing Division and zes the Department of Revenue to disclose to the Director of Purchasing appropriate information verifying that Bidder has paid uired business taxes, provided that such information does not contain the amounts of taxes paid nor any other information d by the Tax Commissioner to be confidential.
and ac	penalty of law for false swearing (West Virginia Code, §61-5-3), Bidder hereby certifies that this certificate is true curate in all respects; and that if a contract is issued to Bidder and if anything contained within this certificate es during the term of the contract, Bidder will notify the Purchasing Division in writing immediately.
Bidder	: Pinnacle Actuarial Resources, Inc. Signed:

Title:

Managing

Principal

STATE OF WEST VIRGINIA Purchasing Division

PURCHASING AFFIDAVIT

MANDATE: Under W. Va. Code §5A-3-10a, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

DAISY PRITCHARD
Notary Public, State of Illinois
My Commission Expires 04/04/2016

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceed five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (*W. Va. Code* §61-5-3) that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE: Vendor's Name: Pinnacle Actuarial Resources, Inc Authorized Signature: Date: June 12, 2015 Joseph A. Herbers, Managing Principal/President State of Illinois County of McLean , to-wit: Taken, subscribed, and sworn to before me this 12th day of 2015. My Commission expires NOTARY PUBLIC AFFIX SEAL HERE OFFICIAL SEAL Furchasing Affidavit (Revised 07/01/2012)



State of West Virginia **Request for Quotation**

Appendix K Page 1

Proc Folder: 77826

Doc Description: Actuarial Consulting Services

Proc Type: Central Contract - Fixed Amt

Date Issued	Solicitation Closes	Solicitation No		Version
2015-05-08	2015-06-16 13:30:00	CRFQ	0313 DEP1500000090	1

BID RECEIVING LOCATION

BID CLERK

DEPARTMENT OF ADMINISTRATION

PURCHASING DIVISION

2019 WASHINGTON ST E

CHARLESTON

WV

25305

US

VENDOR

Vendor Name, Address and Telephone Number:

Pinnacle Actuarial Resources, Inc.

3109 Cornelius Drive Bloomington, IL 61704 Phone: 309.807.2300

FOR INFORMATION CONTACT THE BUYER

Beth Collins (304) 558-2157 beth.a.collins@wv.gov

Signature X

FEIN# 11-3669570

DATE June 12, 2015

All offers subject to all terms and conditions contained in this solicitation

Page: 1

FORM ID: WV-PRC-CRFQ-001

INVOICE TO		SHIP TO	Appendix K
			Page 2
ENVIRONMENTAL PROTE		ENVIRONMENTAL PROTECTION OFFICE OF SPECIAL RECI	
47 SCHOOL ST, STE 301		47 SCHOOL ST, STE 301	
PHILIPPI	WV26416	PHILIPPI	WV 26416-9998
US		US	

Line	Comm Ln Desc	Qty	Unit Issue	Unit Price	Total Price
1	Actuarial consulting services	1.00000	JOB		

Comm Code	Manufacturer	Specification	Model #	
80101512				

Extended Description:

Actuarial consulting services for the WVDEP Office of Special Reclamation

Appendix K
Page 3

	Document Phase	Document Description	Page 3
DEP1500000090	Final	Actuarial Consulting Services	of 3

ADDITIONAL TERMS AND CONDITIONS

See attached document(s) for additional Terms and Conditions

CERTIFICATIONAND SIGNATURE PAGE

By signing below, or submitting documentation through wvOASIS, I certify that I have reviewed this Solicitation in its entirety; understand the requirements, terms and conditions, and other information contained herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration.

Pinnacle Actuarial Resources, Inc.

(Company)

1,4Managing Principal/President

(Authorized Signature) (Representative Name, Title)

309-807-2300/309-807-2301 06/12/2015

(Phone Number) (Fax Number) (Date)

ADDENDUM ACKNOWLEDGEMENT FORM SOLICITATION NO.:

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

	umbers Received: N/A - No A		ums Received
	Addendum No. 1		Addendum No. 6
	Addendum No. 2		Addendum No. 7
	Addendum No. 3		Addendum No. 8
	Addendum No. 4		Addendum No. 9
	Addendum No. 5		Addendum No. 10
discussion he	ld between Vendor's represen	tatives	made or assumed to be made during any oral and any state personnel is not binding. Only ne specifications by an official addendum is
Pinnacle Act Company Authorized Si	uarial Resources, Inc.		
June 12, 201			
Date	<u> </u>		
NOTE: This		ent show	ald be submitted with the bid to expedite

RFQ DEP1500000090

<u>Appendix N – Client References</u>

(to be provided upon request)

A Proposal to Serve the State of West Virginia Department of Environmental Protection Office of Special Reclamation RFQ DEP1500000090

Cost Proposal

June 12, 2015



3109 Cornelius Drive Bloomington, IL 61704 309.807.2300 pinnacleactuaries.com



3109 Cornelius Drive Bloomington, IL 61704 309.807.2300 pinnacleactuaries.com

Joseph A. Herbers, ACAS, MAAA, CERA Managing Principal jherbers@pinnacleactuaries.com

June 12, 2015

Department of Administration Purchasing Division 2019 Washington Street East Charleston, WV 25305-0130 Attention: Ms. Beth Collins

Re:

RFQ DEP1500000090 – Cost Proposal

Dear Ms. Collins:

On behalf of Pinnacle Actuarial Resources, Inc., I am pleased to offer our Cost Proposal to provide the requested actuarial services to West Virginia Department of Environmental Protection's Office of Special Reclamation (Agency). We trust that you will find it in accordance with your Request for Quotation.

As Pinnacle's Managing Principal, I am empowered to bind the company to this proposal. The attached proposal is "a firm and irrevocable offer" for 120 days or as long as necessary to finalize contract details.

Please feel free to contact me or Contract Manager, John Wade, to discuss any issues or concerns or if additional information is needed. Mr. Wade's contact information can be found within the attached response.

Respectfully submitted,

Joseph A. Herbers, ACAS, MAAA, CERA

Managing Principal

309.807.2300

Enclosures

DEP1500000090 BID SCHEDULE

ITEM	DESCRIPTION	UNIT MEASURE	TOTAL.
1.0	Actuarial Study	JB	\$ 96,500.00
	TOTAL BID		\$ 96,500.00

FIRM NAME: Pinnacle Actuarial Resources, Inc.

SIGNATURE: DATE: June 12, 2015

Joseph A Herbers

Managing Principal and President