JOINT BOARD FOR THE ENROLLMENT OF ACTUARIES

AMERICAN SOCIETY OF PENSION PROFESSIONALS AND ACTUARIES

SOCIETY OF ACTUARIES

EXAMINATION PROGRAM

NOVEMBER 2015 PENSION EA-2 (SEGMENT F) EXAMINATION

MAY 2016 BASIC (EA-1) EXAMINATION

MAY 2016 PENSION EA-2 (SEGMENT L) EXAMINATION

July 2015
Revised August 19, 2015

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INTRODUCTION

The Joint Board for the Enrollment of Actuaries administers two actuarial examinations that must be successfully completed by individuals to satisfy the actuarial knowledge requirement for the designation of Enrolled Actuary.

The actuarial knowledge requirement for enrollment is augmented by a requirement that a candidate have certain responsible pension actuarial experience. Through a combined knowledge and experience requirement, the Joint Board seeks to determine which applicants for the designation of Enrolled Actuary have the skills necessary to protect the interests of pension plan participants.

The examinations are structured as follows:

> The EA-1 examination is two-and-one-half hours in length and covers (1) the mathematics of compound interest and practical financial analysis and (2) the mathematics of life contingencies and practical demographic analysis.
>
> The pension (EA-2) examination consists of two segments:
>
> (a) The EA-2 (Segment L) law examination (formerly EA-2 (Segment B)) is two-and-one-half hours in length and covers relevant pension laws (in particular the provisions of the Employee Retirement Income Security Act (ERISA) and related laws, regulations, and rulings) as they affect pension actuarial practice. The EA-2 (Segment L) examination presupposes knowledge of the topics covered in the EA-1 examination.
>
> (b) The EA-2 (Segment F) examination (formerly EA-2 (Segment A)) is four hours in length and covers the selection of actuarial assumptions and calculation of minimum required and maximum tax-deductible contributions under current pension law, along with the related actuarial mathematics. The EA-2 (Segment F) examination presupposes knowledge of the topics covered in the EA-1 and EA-2 (Segment L) examinations.

EA-1 and the EA-2 (Segment L) examinations are given in May; the EA-2 (Segment F) examination is given in November.

A candidate for enrollment may be able to satisfy part of the actuarial knowledge requirement of the Joint Board regulations by earning a degree in actuarial mathematics or its equivalent from an accredited college or university. Such candidates will not have to pass the EA-1 examination. The courses in the plan of study and their successful completion must comply with guidelines adopted by the Joint Board for determining what demonstrates the requisite knowledge. The Joint Board will grant a waiver of the EA-1 examination to any candidate who received credit from the Society of Actuaries (SOA) for Courses FM and MLC of the SOA's education and examination program. Under either approach, the candidate must apply to the Joint Board for a waiver of the EA-1 examination as outlined on the Joint Board website at http://www.irs.gov/Tax-Professionals/Enrolled-Actuaries/Joint-Board-Examination-Program.

Both the EA-1 and EA-2 actuarial examinations consist solely of multiple-choice questions. Each question will be assigned from one to five points. Point values for each question will be shown at the beginning of the question. The score on each examination is based on the questions answered correctly; no credit is given for omitted answers and no credit is deducted for wrong answers.

ALL EXAMINATIONS

Most examination questions require arithmetical computations. Each candidate should bring an electronic calculator to the examination center for use in performing computations. Calculators should be able to compute financial functions such as amortization payments, present and future values, interest rates, time periods, logarithmic functions, and exponential functions. Calculators are permitted subject to the following conditions:

The examination supervisor will ascertain that all calculators:

- have self-contained power sources,
- are noiseless, and
- do not have the capability to retain text.

A candidate generally will be allowed to take the examination using a questionable calculator. However, any questions raised as to the appropriateness of a calculator will be noted on the supervisor's report along with the candidate's number and the make and model number of the calculator; a determination will be made later as to whether the calculator was permissible.

Candidates are solely responsible for the proper functioning and operation of their calculators during the examination. In addition, candidates must indicate on their examination answer sheets both the make and the model number of any calculator used.

The use of a calculator that does not meet the conditions above constitutes an irregularity and may be sufficient cause for disqualification from the examination.

In preparing the examinations, great care is taken so that each question has one and only one correct answer based on the data given. Each question is reviewed by all members of the Advisory Committee on Actuarial Examinations and by representatives of the sponsoring organizations. Nevertheless, because mistakes can occur, a request for consideration of an alternative answer to a given question, or for disregarding a question, will be entertained by the Joint Board but only under the following conditions:

An appeal must be made in writing and postmarked not later than six months after the examination was administered.

The appellant must describe in detail the fault found with the question and an alternative answer if one is claimed.

In the case of claimed ambiguity, credence will be given to an alternative interpretation only to the extent that such interpretation is one that might be reasonably made and is not strained in the light of attendant circumstances. This policy is of positive benefit to most candidates; otherwise, it would be necessary to burden each question with numerous qualifications and stipulations that the qualified practitioner does not require and which would make the question more difficult to read.

Not all topics listed in the syllabus of this examination program are necessarily covered on any particular year's examination, nor are the examination questions necessarily confined solely to the listed topics or suggested readings. Also, it is assumed that all candidates are familiar with the basic concepts and techniques of algebra and calculus.

Candidates are urged to develop a thorough understanding of the conditions generally or specifically applicable to all examination questions as set forth later in this examination program. Conditions for each examination will be included in the applicable examination booklets.

In addition, candidates should familiarize themselves with the list of limits, tables, and formulas applicable to the EA-2 (Segment F) and EA-2 (Segment L) examinations, as set forth in this program. A copy of the appropriate list will also be included in the respective examination booklet.

PENSION EA-2 (SEGMENT F) EXAMINATION
NOVEMBER 2015

The EA-2 (Segment F) examination is four hours in length and covers the calculation of minimum required contributions and deductible limits under current pension law for both single-employer and multiemployer plans, along with related topics including actuarial mathematics, assumption selection, and excise taxes.

Please note that EA-2 (Segment F) presupposes knowledge of the topics covered in the EA-1 examination and in the EA-2 (Segment L) examination. Therefore, a candidate taking the EA-2 (Segment F) examination is responsible for all topics covered on the EA-2 (Segment L) examination, even if a particular topic does not appear in the syllabus or the reading list for EA-2 (Segment F). Questions on the EA-2 (Segment F) examination will focus on the effect of the law on funding requirements. Questions on the EA-2 (Segment L) examination will focus on the effect of the law on non-funding aspects.

Questions on the Pension EA-2 (Segment F) examination may contain commutation functions. **Candidates are expected to understand and be able to use commutation functions**. Candidates who are not familiar with commutation functions may wish to read the SOA Study Note "Commutation Functions".

SYLLABUS

Actuarial cost methods, including unit credit, projected unit credit, entry age normal, individual level premium, aggregate, individual aggregate, attained age normal, frozen initial liability, shortfall, one-year term, and variations thereof.

Determination of the actuarial (i.e. smoothed) value of assets.

Valuation of ancillary benefits.

Selection of assumptions.

Valuation techniques for handling employee contributions.

Effect on valuation results of various patterns of experience, including experience with respect to investment earnings, changes in asset value, mortality, disability, employee turnover, changes in compensation, retirement, choice of retirement options, and Social Security.

Effect on valuation results of changes in plan provisions, actuarial cost methods, asset valuation methods, and actuarial assumptions.

Minimum funding requirements including, but not limited to:

> For single employer plans (including multiple employer plans), determination of the minimum required contribution, including calculation of funding target and target normal cost, at-risk provisions, transition rules, effects of IRC section 436 on plan funding, PRA funding relief and MAP-21 and HATFA stabilization provisions, funding balance(s), and waivers of minimum required contributions.

For multiemployer plans, the basics of the minimum funding standards including those for plans in critical, endangered, or critical and declining status, amortization periods, credit balance, funding standard account, amortization period extensions, and waivers of funding deficiencies.

Required quarterly contributions and liquidity shortfall.

Deductible limits for federal income tax purposes.

Penalty taxes for failures to meet minimum funding standards.

SUGGESTED READINGS FOR EA-2 (SEGMENT F)

The Advisory Committee on Actuarial Examinations believes that most (if not all) of the topics in the syllabus are covered in one or more of the following sources. There is a great deal of overlap among the books listed below. Candidates do not need to use them all. The references listed below are to identify available resources from which the candidate may select. This list is not meant to describe or modify the syllabus listed above. Pension law and IRS promulgations can be found in publications of Warren, Gorham & Lamont, Commerce Clearing House, Maxwell Macmillan, Research Institute of America, and similar organizations.

Please note that EA-2 (Segment F) presupposes knowledge of the topics covered in the EA-1 examination and in the EA-2 (Segment L) examination. Therefore, a candidate taking the EA-2 (Segment F) examination is responsible for all topics covered on the EA-2 (Segment L) examination, even if a particular topic does not appear in the syllabus or the reading list for EA-2 (Segment F).

Aitken, W.H., *A Problem-Solving Approach to Pension Funding and Valuation*, (2nd Edition–1996); ACTEX Publications, P.O. Box 974, Winsted, CT 06098

Anderson, A.W., *Pension Mathematics for Actuaries*, (3rd Edition–2006);
ACTEX Publications, P.O. Box 974, Winsted, CT 06098

Berin, B. N., *Fundamentals of Pension Mathematics*, (1989);
Society of Actuaries, 475 N. Martingale Road, Suite 600, Schaumburg, IL 60173-2226

Farrimond, W., Mayer, D., Farber, D., and Matray, G., *Actuarial Cost Methods, A Review (3rd Edition–1999)*; ASPPA Book Order Department, Department 417, P.O. Box 753, Waldorf, MD 02604

Actuarial Standard of Practice No. 4, “Measuring Pension Obligations and Determining Pension Plan Cost or Contributions”

Actuarial Standard of Practice No. 27, “Selection of Economic Assumptions for Measuring Pension Obligations”

Actuarial Standard of Practice No. 35, “Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations”

Employee Retirement Income Security Act of 1974 (ERISA) sections 206(g), 302, 303, 304, and 305, as amended through May 31, 2015

Current Schedules SB and MB of Form 5500, including instructions

INTERNAL REVENUE CODE SECTIONS, AS AMENDED THROUGH MAY 31, 2015

404	Deductible employer contributions to a deferred-payment plan
412	Minimum funding standards
413	Collectively bargained plans, etc.
414(*l*)	Mergers and consolidations of plans or transfers of plan assets
417(e)	Restrictions on cash outs
418	Multiemployer plan reorganization rules
430	Minimum funding requirements for single-employer defined benefit pension plans
431	Minimum funding requirements for multiemployer defined benefit plans
432	Additional funding rules for multiemployer plans in endangered status or critical status
436	Funding-based limits on benefits and benefit accruals under single-employer defined benefit plans
4971	Taxes on failure to meet minimum funding standards
4972	Tax on nondeductible contributions to qualified employer plans
6059	Periodic report of actuary

REGULATIONS

1.401(a)(2)-1	Refund of mistaken contributions and withdrawal liability payments to multiemployer plans
1.404(a)-14	Special rules in connection with ERISA – Deductible Limits
11.412(c)-12	Extension of time to make contributions
1.412(c)(1)-1	Determinations to be made under funding method
1.412(c)(1)-2	Shortfall method
1.412(c)(2)-1	Valuation of plan assets; reasonable actuarial methods
1.412(c)(3)-1	Reasonable funding methods
1.414(*l*)-1	Mergers and consolidations of plans or transfers of plan assets
1.417(e)-1	Restrictions and valuations of distributions from plans subject to sections 401(a)(11) and 417
1.430(d)-1	Determination of target normal cost and funding target
1.430(f)-1	Effect of prefunding balance and funding standard carryover balance
1.430(g)-1	Valuation date and valuation of plan assets
1.430(h)(2)-1	Interest rates used to determine present value
1.430(h)(3)-1	Mortality tables used to determine present value
1.430(i)-1	Special rules for plans in at-risk status
1.431(c)(6)-1	Mortality tables used to determine current liability
1.436-1(a)	General rules
1.436-1(f)	Methods to avoid or terminate benefit limitations
1.436-1(j)	Definitions
301.6059-1	Periodic report of actuary

PROPOSED REGULATIONS

1.430(a)-1	Determination of minimum required contribution
1.430(j)-1	Payment of minimum required contributions
1.432(a)-1	General rules relating to section 432
1.432(b)-1	Determination of status and adoption of a plan
54.4971(c)-1	Taxes on failure to meet minimum funding standards

REVENUE RULINGS

77-2	Change in benefit structure after valuation date
78-48	Assumptions & methods specified in plan
78-331	Assumption that employees retire at normal retirement date
79-237	Terminating plan – funding standard account and penalty taxes
80-315	Supplementary benefits

81-13	Full funding limitation
81-136	Election to receive benefits less than plan provides
81-137	Separate funding account for separate plans
81-195	Effect of 415 limits on minimum and maximum contribution levels, and inability to project future increases in limits for funding purposes
81-213	Experience gains & losses, amortizations
81-214	Interest charges in funding standard account
81-215	Effect of 415 limits after valuation date but within plan year
82-125	Full funding limitation and deductible limit
84-62	Deductible limit under 404(a)(1)(A)
85-131	Reasonable allocation of past and future liabilities under unit credit method when 415 limit is involved
86-48	Determining "Benefits on a Termination Basis" for the purpose of a spin-off. (i.e. early retirement benefits, optional forms, …)
96-7	Disability mortality tables
2000-20	Minimum funding standards – funding standard account – amortization bases
2001-51	Limitations on benefits and contributions under qualified plans
2003-83	Entry age normal funding method
2007-67	Calculation of minimum present value under IRC section 417(e)(3)

NOTICES

2009-22	Asset valuation methods for single employer defined benefit plans under WRERA
2010-83	Funding relief for multiemployer defined benefit plans under PRA 2010
2011-3	Funding relief for single-employer plans under PRA 2010
2011-96	Model amendment, benefit restrictions under section 436
2013-49	Updated Static Mortality Tables for the Years 2014 and 2015

REVENUE PROCEDURES

87-27	Plan year changes
90-49	Recovery of excess contributions
2000-40	Automatic approval for change of funding method
2000-41	Change in funding method

ANNOUNCEMENTS

2010-3	Automatic approval of changes in funding method for takeover plans and changes in pension valuation software
2015-3	Automatic approval of change in funding method for takeover plans.

SOCIETY OF ACTUARIES STUDY MATERIAL

The Society of Actuaries has developed various study notes for the use of students preparing for its examinations on these subjects. These study notes are revised periodically, and new study notes may be added.

Excerpt on Plan Qualification

Assessment and Selection of Actuarial Assumptions for Measuring Pension Obligations

Penalty Taxes Under the U.S. Internal Revenue Code

Commutation Functions

It should be realized, however, that such material was not necessarily drawn up with the particular nature of the Joint Board examinations in mind.

The Society of Actuaries also suggests the following text:

> McGinn, Daniel F., *Multi-employer Retirement Plans: Handbook for the 21st Century (2003)*; International Foundation of Employee Benefits; P.O. Box 69, Brookfield, WI 53008

AMERICAN SOCIETY OF PENSION PROFESSIONALS AND ACTUARIES STUDY MATERIAL

The American Society of Pension Professionals and Actuaries (ASPPA) suggests the following books. These books, while not designed specifically for the examination, cover much of the syllabus and more.

> McGhie, G. N., *The Defined Benefit Answer Book* (Current Edition), Aspen Publishers; 7201 McKinney Circle; P.O. Box 990; Frederick, MD 21701

> Tripodi, Sal L., *The ERISA Outline Book*, (Current Edition)

The ERISA Outline Book is available from ASPPA.

CONDITIONS GENERALLY APPLICABLE TO ALL EA-2 (SEGMENT F) EXAMINATION QUESTIONS

If applicable, the following conditions should be considered a part of the data for each question, unless otherwise stated or implied.

For purposes of this examination, IRS, Treasury and PBGC releases granting disaster relief should be ignored.

GENERAL CONDITIONS REGARDING PLAN PROVISIONS

(1) "Plan" or "pension plan" means a defined benefit pension plan.

(2) The plan is qualified under IRC section 401. Thus, for example, any benefit formulas should be understood to be limited by other plan provisions required by the Code.

(3) The normal retirement age is 65.

(4) Retirement pensions commence at normal retirement age and are paid monthly for the life of the retiree at the beginning of each month.

(5) The plan covers all active employees of the employer; there is no age or service requirement for participation. Thus, when referring to active employees, the terms "employee" and "participant" are synonymous.

(6) There are no, and never have been any, mandatory or voluntary employee contributions.

(7) Service for purposes of vesting and benefit accrual is credited on the basis of time elapsed since date of hire.

(8) When the normal retirement benefit is computed as a dollar amount, or as a percentage of compensation, for each year of service, the accrued benefit is defined likewise.

(9) Actuarial equivalence is based on the mortality table and interest rate assumed for funding purposes.

(10) Qualified joint and survivor annuities, qualified pre-retirement survivor annuities, and any other specified forms of payment are provided in such manner that they result in no cost to the employer.

(11) The plan has not been amended since its effective date.

(12) The adoption date of any plan or amendment is the same as its effective date.

(13) The terms "applicable mortality (table)" and "applicable interest (rate)" are as defined in IRC section 417(e)(3).

(14) The plan is not an applicable defined benefit plan described in IRC section 411(a)(13)(C).

(15) Any actuarial valuation includes not only all active employees but also retired employees, beneficiaries, alternate payees, and former employees entitled to vested deferred pensions.

(16) The valuation date is the first day of the plan year; i.e., participant data, present values, asset values, etc. are as of that date. Also, normal costs and target normal costs are payable annually, the first being due on the valuation date.

(17) The assumed retirement age is the normal retirement age.

(18) There are no pre-retirement decrements.

(19) All actuarial assumptions are deemed “reasonable” and meet the “best estimate” criterion.

(20) The actuarial cost method, or funding method, is “reasonable” within the meaning of all relevant IRC sections and the regulations thereunder.

(21) Where the normal cost under an actuarial cost method may be computed as either a level percentage of compensation or a level dollar amount, the level percentage approach is used if the plan benefits are based on compensation, and the level dollar approach is used if they are not.

(22) Under the frozen initial liability method, whenever there is a change in the plan, actuarial assumptions, or asset valuation method, the unfunded liability is adjusted by adding to it the resulting change (positive or negative) in the unfunded entry age normal accrued liability due to the change. Likewise, under the attained age normal method, the unfunded liability is adjusted by adding to it the change in the unfunded unit credit accrued liability.

(23) For multiemployer plans, all funding method changes after 1999 were made in accordance with Rev. Proc. 2000-40. Bases established because of funding method changes prior to 2000 are amortized over 10 years from the date established.

(24) The unit credit funding method is as defined in Rev. Proc. 2000-40.

(25) Ancillary benefits are funded using the same method as the retirement benefits. They are not funded on a term cost basis.

(26) For purposes of spreading future normal costs under spread-gain methods, the present value of future compensation is not limited by IRC section 401(a)(17).

(27) The terms “value of plan assets”, “actuarial value of assets” and “market value of assets” mean the values developed for purposes of IRC section 412, 430, and 431 before being adjusted for items such as the existing credit balance, funding standard carryover balance, prefunding balance, or the outstanding balances of certain bases.

(28) The plan sponsor does not elect to reduce the amount of the funding standard carryover balance and/or prefunding balance pursuant to IRC section 430(f)(5) prior to the determination of the value of plan assets for the plan year or prior to the application of the balances in reducing the minimum required contribution for the plan year.

(29) The plan sponsor elects to add the maximum amount permitted to the prefunding balance.

(30) The plan has no funding standard carryover balance.

(31) Where a prefunding or funding standard carryover balance exists, the plan was at least 80% funded in the prior year and is therefore eligible to credit the balance(s) against the otherwise-applicable minimum required contribution.

(32) If eligible, the plan sponsor elects to credit the prefunding and funding standard carryover balances against the otherwise-applicable minimum required contribution.

(33) The actuarial cost method, asset valuation method, and actuarial assumptions have not been changed since the plan effective date except as required by PPA.

(34) The term **"<u>minimum required contribution</u>"** means the smallest contribution for a plan year which will prevent a funding deficiency or unpaid minimum for that plan year, without regard to the alternative minimum funding standard account, and **<u>before</u>** reflecting items such as the existing credit balance, funding standard carryover balance, or prefunding balance, as applicable. Amounts to be amortized are not combined or offset against one another.

(35) The term **"<u>smallest amount that satisfies the minimum funding standard</u>"** means the same as "minimum required contribution" **<u>except</u>** that it is determined **<u>after</u>** reflecting items such as the existing credit balance, funding standard carryover balance, or prefunding balance, as applicable. Amounts to be amortized are not combined or offset against one another.

(36) No waivers of funding deficiencies or extensions of amortization periods have been granted.

(37) The interest rate used for amortizing waivers and for extensions of amortization periods is the same as the valuation interest rate.

(38) The employer is taxable, and all employer contributions for each prior plan year have been deducted by the employer for its tax year coincident with such plan year.

(39) For purposes of determining the deductible limit for any year, the employer does not use (and has never used) the fresh-start alternative and does not combine (and has never combined) amortization bases.

(40) The full funding limitation has never applied and there has been no early deemed amortization of shortfall amortization bases.

(41) Expenses are paid directly by the employer, rather than from the assets of the plan, and therefore do not affect the funding of the plan.

(42) Assumed compensation increases first apply to the year immediately following the latest year for which valuation compensation is shown.

(43) The full funding limitations based on current liability shall be disregarded if sufficient information to determine such limitations is not provided.

(44) For purposes of determining the deductible limit, the unfunded current liability shall be disregarded if sufficient information to determine such liability is not provided.

(45) The plan is not currently in at-risk status nor has it ever been in at-risk status.

(46) The terms “at-risk funding target” and “at-risk target normal cost” mean the funding target and target normal cost calculated reflecting additional actuarial assumptions and loading factors (if applicable) for a plan in at-risk status prior to the application of any five-year transition as described in IRC section 430(i)(5).

(47) There have been no late quarterly contributions (and thus no associated interest penalties), and there is no liquidity shortfall, unless sufficient information to determine such amounts is provided.

GENERAL CONDITIONS REGARDING BENEFIT RESTRICTIONS

(48) AFTAPs have been certified on a timely basis.

(49) The plan has provisions for automatically restoring accruals ceased due to the application of IRC section 436, to the extent permitted by regulations, and the plan’s actuary has provided the required certification to permit such restoration.

MISCELLANEOUS GENERAL CONDITIONS

(50) All plan provisions and funding calculations comply with all temporary and final regulations under the Internal Revenue Code and ERISA, as amended through May 31, 2015, and proposed regulations as listed in the Suggested Readings.

(51) The plan is sponsored by a single employer; the sponsoring employer is a taxable entity and is not a member of a controlled group.

(52) The plan is not established or maintained in connection with a collective bargaining agreement.

(53) Employees subject to a collective bargaining agreement are non-professional. If employees covered by a collective bargaining agreement are covered by the plan, their coverage is pursuant to that collective bargaining agreement.

(54) The plan year, the employer's limitation year, and the employer's tax year are all the calendar year.

(55) The employer has never maintained a defined contribution plan or another defined benefit plan. No employee has been covered by a defined contribution or defined benefit plan that is required to be aggregated with his employer’s plans for purposes of IRC section 415.

(56) Where IRC section 401(a)(17) applies, compensation does not exceed these limits unless sufficient information to apply the limits is provided.

(57) Benefits do not exceed IRC section 415 limits unless sufficient information to apply these limits is provided.

(58) The plan is covered by the PBGC.

(59) All union plans are collectively bargained and all union employees are subject to collective bargaining.

(60) The plan sponsor is not now, and never has been, in bankruptcy.

(61) References to law and regulation section numbers are for clarity and can be assumed to be correct.

(62) Even if not so, assume all due dates are NOT Saturdays, Sundays, or holidays.

(63) Disregard any industry-specific rules. Furthermore, plans are not CSEC plans nor are they eligible for PPA delayed effective dates (PPA sections 104-106).

(64) The plan has not been top-heavy in any year.

(65) The plan sponsor did not elect funding relief under the Pension Relief Act of 2010 for any plan year.

If applicable, the preceding conditions should be considered a part of the data for each question, unless otherwise stated or implied.

IMPORTANT

THESE FACTORS MAY BE USED FOR ALL QUESTIONS UNLESS OTHER FACTORS ARE PROVIDED, FOR BOTH SINGLE EMPLOYER AND MULTIEMPLOYER PLANS

2015 EA-2 (Segment F) Examination - Selected Commutation Factors
Interest Rates: 3.0%, 4.0%, and 5.0%

MALES	Interest Rate = 3.0%		Interest Rate = 4.0%		Interest Rate = 5.0%		MALES
Age	D_x	$N_x^{(12)}$	D_x	$N_x^{(12)}$	D_x	$N_x^{(12)}$	Age
60	162,371	2,658,791	90,937	1,340,228	51,213	684,044	60
61	156,901	2,498,928	87,029	1,251,083	48,545	634,053	61
62	151,492	2,344,506	83,220	1,165,800	45,979	586,684	62
63	146,148	2,195,463	79,513	1,084,278	43,512	541,836	63
64	140,836	2,051,750	75,886	1,006,428	41,132	499,414	64
65	135,583	1,913,322	72,353	932,161	38,844	459,331	65
66	130,379	1,780,124	68,907	861,387	36,641	421,497	66
67	125,183	1,652,127	65,525	794,031	34,511	385,832	67
68	120,037	1,529,303	62,227	730,017	32,462	352,260	68
69	114,973	1,411,587	59,029	669,256	30,500	320,698	69
70	109,959	1,298,912	55,912	611,656	28,614	291,062	70
71	105,032	1,191,212	52,893	557,128	26,812	263,274	71
72	100,146	1,088,419	49,948	505,585	25,078	237,257	72
73	95,292	990,498	47,069	456,957	23,407	212,945	73
74	90,457	897,422	44,251	411,179	21,797	190,276	74
75	85,635	809,175	41,490	368,193	20,242	169,192	75
76	80,779	725,766	38,761	327,954	18,730	149,643	76
77	75,938	647,206	36,087	290,418	17,272	131,581	77
78	71,068	573,500	33,448	255,541	15,857	114,958	78
79	66,174	504,676	30,846	223,285	14,484	99,730	79
80	61,264	440,752	28,282	193,614	13,153	85,856	80
81	56,348	381,741	25,763	166,487	11,868	73,292	81
82	51,418	327,652	23,283	141,860	10,623	61,995	82
83	46,499	278,489	20,853	119,691	9,424	51,922	83
84	41,695	234,192	18,519	99,909	8,289	43,018	84
85	36,971	194,662	16,263	82,424	7,210	35,224	85

FEMALES	Interest Rate = 3.0%		Interest Rate = 4.0%		Interest Rate = 5.0%		FEMALES
Age	D_x	$N_x^{(12)}$	D_x	$N_x^{(12)}$	D_x	$N_x^{(12)}$	Age
60	163,946	2,815,736	91,820	1,409,832	51,710	715,452	60
61	158,455	2,654,307	87,891	1,319,814	49,026	664,972	61
62	153,040	2,498,334	84,071	1,233,674	46,449	617,127	62
63	147,696	2,347,743	80,355	1,151,306	43,973	571,812	63
64	142,409	2,202,470	76,734	1,072,610	41,591	528,931	64
65	137,188	2,062,454	73,210	997,492	39,304	488,388	65
66	132,027	1,927,631	69,778	925,855	37,104	450,092	66
67	126,914	1,797,948	66,431	857,611	34,988	413,958	67
68	121,864	1,673,349	63,174	792,673	32,956	379,901	68
69	116,876	1,553,771	60,006	730,951	31,005	347,839	69
70	111,948	1,439,153	56,923	672,358	29,132	317,693	70
71	107,073	1,329,440	53,921	616,811	27,333	289,385	71
72	102,271	1,224,568	51,007	564,226	25,610	262,842	72
73	97,500	1,124,484	48,160	514,523	23,950	237,993	73
74	92,792	1,029,141	45,394	467,631	22,359	214,773	74
75	88,114	938,493	42,691	423,476	20,828	193,115	75
76	83,512	852,489	40,072	381,985	19,364	172,959	76
77	78,949	771,068	37,519	343,083	17,957	154,239	77
78	74,383	694,211	35,009	306,715	16,596	136,906	78
79	69,860	621,902	32,564	272,827	15,290	120,908	79
80	65,379	554,096	30,182	241,355	14,037	106,193	80
81	60,944	490,749	27,864	212,235	12,836	92,706	81
82	56,559	431,815	25,610	185,403	11,685	80,398	82
83	52,225	377,242	23,421	160,797	10,584	69,218	83
84	47,950	326,976	21,297	138,349	9,533	59,115	84
85	43,741	280,955	19,241	117,995	8,530	50,042	85

IMPORTANT

THESE FACTORS MAY BE USED FOR ALL QUESTIONS UNLESS OTHER FACTORS ARE PROVIDED, FOR BOTH SINGLE EMPLOYER AND MULTIEMPLOYER PLANS

2015 EA-2 (Segment F) Examination - Selected Commutation Factors
Interest Rates: 5.0%, 6.0%, and 7.0%

MALES	Interest Rate = 5.0%		Interest Rate = 6.0%		Interest Rate = 7.0%		MALES
Age	D_x	$N_x^{(12)}$	D_x	$N_x^{(12)}$	D_x	$N_x^{(12)}$	Age
60	51,213	684,044	28,999	353,283	16,509	184,514	60
61	48,545	634,053	27,229	325,094	15,356	168,534	61
62	45,979	586,684	25,547	298,636	14,273	153,674	62
63	43,512	541,836	23,948	273,822	13,254	139,868	63
64	41,132	499,414	22,424	250,573	12,295	127,054	64
65	38,844	459,331	20,977	228,812	11,394	115,172	65
66	36,641	421,497	19,601	208,466	10,547	104,166	66
67	34,511	385,832	18,287	189,467	9,748	93,985	67
68	32,462	352,260	17,039	171,752	8,998	84,580	68
69	30,500	320,698	15,858	155,254	8,296	75,904	69
70	28,614	291,062	14,738	139,909	7,638	67,909	70
71	26,812	263,274	13,679	125,657	7,023	60,553	71
72	25,078	237,257	12,673	112,439	6,446	53,795	72
73	23,407	212,945	11,718	100,203	5,904	47,597	73
74	21,797	190,276	10,808	88,902	5,395	41,927	74
75	20,242	169,192	9,943	78,491	4,917	36,751	75
76	18,730	149,643	9,113	68,928	4,464	32,042	76
77	17,272	131,581	8,325	60,176	4,040	27,772	77
78	15,857	114,958	7,570	52,197	3,639	23,915	78
79	14,484	99,730	6,850	44,957	3,262	20,449	79
80	13,153	85,856	6,162	38,423	2,907	17,349	80
81	11,868	73,292	5,507	32,561	2,574	14,595	81
82	10,623	61,995	4,883	27,340	2,261	12,164	82
83	9,424	51,922	4,291	22,728	1,968	10,037	83
84	8,289	43,018	3,739	18,691	1,699	8,193	84
85	7,210	35,224	3,221	15,189	1,450	6,608	85

FEMALES	Interest Rate = 5.0%		Interest Rate = 6.0%		Interest Rate = 7.0%		FEMALES
Age	D_x	$N_x^{(12)}$	D_x	$N_x^{(12)}$	D_x	$N_x^{(12)}$	Age
60	51,710	715,452	29,281	367,702	16,669	191,248	60
61	49,026	664,972	27,499	339,237	15,508	175,111	61
62	46,449	617,127	25,808	312,513	14,418	160,103	62
63	43,973	571,812	24,202	287,442	13,395	146,153	63
64	41,591	528,931	22,675	263,940	12,432	133,200	64
65	39,304	488,388	21,225	241,929	11,529	121,181	65
66	37,104	450,092	19,849	221,335	10,680	110,041	66
67	34,988	413,958	18,540	202,086	9,883	99,726	67
68	32,956	379,901	17,298	184,115	9,135	90,186	68
69	31,005	347,839	16,121	167,356	8,434	81,372	69
70	29,132	317,693	15,004	151,747	7,776	73,240	70
71	27,333	289,385	13,945	137,229	7,159	65,747	71
72	25,610	262,842	12,942	123,744	6,583	58,852	72
73	23,950	237,993	11,989	111,238	6,041	52,517	73
74	22,359	214,773	11,087	99,662	5,534	46,709	74
75	20,828	193,115	10,231	88,968	5,059	41,392	75
76	19,364	172,959	9,422	79,108	4,615	36,537	76
77	17,957	154,239	8,655	70,037	4,200	32,111	77
78	16,596	136,906	7,924	61,718	3,809	28,090	78
79	15,290	120,908	7,231	54,112	3,444	24,449	79
80	14,037	106,193	6,576	47,181	3,103	21,161	80
81	12,836	92,706	5,956	40,889	2,784	18,205	81
82	11,685	80,398	5,371	35,201	2,487	15,557	82
83	10,584	69,218	4,819	30,083	2,211	13,197	83
84	9,533	59,115	4,300	25,502	1,954	11,104	84
85	8,530	50,042	3,811	21,426	1,716	9,259	85

2015 EA-2 (Segment F) Examination - Selected Amortization Factors

Segment Rates = {3.0%, 4.0%, 5.0%}

Remaining Period	Amortization Factor
7 years	6.3293
6 years	5.5390
5 years	4.7171
4 years	3.8286
3 years	2.9135
2 years	1.9709

Segment Rates = {5.0%, 6.0%, 7.0%}

Remaining Period	Amortization Factor
7 years	5.9982
6 years	5.2932
5 years	4.5460
4 years	3.7232
3 years	2.8594
2 years	1.9524

LIMITS AND TABLES
(Included with the 2015 EA-2 (Segment F) examination)

Maximum Benefit Limit IRC section 415(b)	
Year	Limit at SSRA
2000	135,000
2001	140,000
Year	Limit at 65
2002-2003	160,000
2004	165,000
2005	170,000
2006	175,000
2007	180,000
2008	185,000
2009-2011	195,000
2012	200,000
2013	205,000
2014-2015	210,000

Compensation Limit IRC section 401(a)(17)	
Year	Limit
2000-2001	170,000
2002-2003	200,000
2004	205,000
2005	210,000
2006	220,000
2007	225,000
2008	230,000
2009-2011	245,000
2012	250,000
2013	255,000
2014	260,000
2015	265,000

Key Employee Compensation IRC section 416		
Year	Officer	1% owner
2003	130,000	150,000
2004	130,000	150,000
2005	135,000	150,000
2006	140,000	150,000
2007	145,000	150,000
2008	150,000	150,000
2009-2011	160,000	150,000
2012-2013	165,000	150,000
2014-2015	170,000	150,000

Highly Compensated Employee Compensation IRC section 414(q)	
Year	Limit
2000-2001	85,000
2002-2004	90,000
2005	95,000
2006	100,000
2007	100,000
2008	105,000
2009-2011	110,000
2012-2014	115,000
2015	120,000

BASIC EA-1 EXAMINATION
MAY 2016

The EA-1 examination is two-and-one-half hours in length and covers (1) the mathematics of compound interest and practical financial analysis and (2) the mathematics of life contingencies and practical demographic analysis.

Questions on the Basic EA-1 examination may contain commutation functions. **Candidates are expected to understand and be able to use commutation functions.** Candidates who are not familiar with commutation functions may wish to read the SOA Study Note "Commutation Functions".

SYLLABUS

Mathematics of Compound Interest and Financial Analysis

Nominal and effective rates of interest and discount, force of interest, accumulated value factors, and present value factors.

All forms of annuities including, but not limited to annuities certain, increasing and decreasing annuities, annuities in which the payment frequency is not the same as the frequency at which interest is compounded, and perpetuities.

Amortization schedules and sinking funds, including the determination of outstanding principal, the split of payments into principal and interest, and the determination of required periodic payments.

Bonds and related securities, including bond price formulas, bond accounting, the split of periodic payments into amortization and interest, mortgages, and variable interest securities.

Determination of fund yield rates and effective rates of return using time-weighted and dollar-weighted methods.

Duration and immunization of cash flows.

Asset reporting, including realized and unrealized gains/losses, asset reconciliation, book value versus market value, and receivables.

Financial analysis, including inflation and its role, elements of risk and uncertainty, yield curves and available investments, and employee compensation increases.

Mathematics of Life Contingencies and Demographic Analysis

Measurements and demographic analysis of mortality, including the definition and application of standard mortality probability symbols and force of mortality.

Approximation of fractional period decrements using a uniform distribution assumption.

Measurement and demographic analysis of disability, employee turnover and employee retirement, including construction of single and multiple decrement tables.

Adjustments to mortality, disability, turnover and retirement rate tables, such as age setbacks and set forwards, select and ultimate tables, projection scales and generation adjustments.

Life annuities, including life annuities with a term certain.

Population theory, including complete and curtate expectation of life, central death rates, stationary population, and average ages in a stationary population.

Multiple life functions, probabilities and annuities.

Multiple decrement functions, including associated single decrement tables, probabilities of decrement and the construction of multiple decrement tables from associated single decrement tables.

Principles of actuarial equivalence and related calculations.

One-year term costs for ancillary benefits.

Life insurance, including basic forms, single and annual premiums, varying insurance, and insurance and annuity relationships.

SUGGESTED READINGS FOR EA-1

The Advisory Committee on Actuarial Examinations believes that most (if not all) of the topics in the syllabus are covered in one or more of the following sources. There is a great deal of overlap among the following references. Candidates do not need to use them all. The references listed below are to identify available resources from which the candidate may select. This list is not meant to describe or modify the syllabus listed above.

Bowers, N.L. et. al., *Actuarial Mathematics*, (Second Edition–1997) (excluding Chapters 1, 2, 12, 13, 14, and 15); Society of Actuaries, 475 N. Martingale Road, Suite 600, Schaumburg, IL 60173-2226.

Brown, R.L., *Introduction to Mathematics of Demography*, (Third Edition–1997), Chapters 3-5; ACTEX Publications, P.O. Box 974, Winsted, CT 06098

Broverman, S.A., *Mathematics of Investment and Credit*, (Sixth Edition–2015); ACTEX Publications, P.O. Box 974, Winsted, CT 06098

Camilli, S., Herzog, T.N, London, R.L., *Models for Quantifying Risk*, Chapters (Sixth Edition, 2015); ACTEX Publications, P.O. Box 974, Winsted, CT 06098

Jordan, C.W., *Life Contingencies*, (Second Edition–1967, Second Printing 2003); Society Of Actuaries, 475 N. Martingale Road, Suite 600, Schaumburg, Il 60173-2226

Kellison, S.G., *The Theory of Interest*, (Third Edition–2008); McGraw-Hill, 6350 Crested Butte Circle, Colorado Springs, CO 80919

London, D., *Survival Models and Their Estimation*, (Third Edition–1997), Chapters 1, 3-6, 8-9; ACTEX Publications, P.O. Box 974, Winsted, CT 06098

Parmenter, M.M., *The Theory of Interest and Life Contingencies with Pension Applications: A Problem-Solving Approach*, (Third Edition–1999); ACTEX Publications, P.O. Box 974, Winsted, CT 06098

Zima, P. and Brown, R.L., *Mathematics of Finance* (2001), (Fifth Edition); McGraw-Hill Ryerson Limited, 300 Water Street, Whitby, ON, L1N 9B6

Actuarial Standard of Practice, No. 27, "Selection of Economic Assumptions for Measuring Pension Obligations"

Actuarial Standard of Practice, No. 35, "Selection of Demographic and Other Noneconomic Assumptions for Measuring Pension Obligations"

SOCIETY OF ACTUARIES STUDY MATERIAL

The Society of Actuaries has developed various study notes for the use of students preparing for its examinations on these subjects. These study notes are revised periodically, and new study notes may be added.

Measurement of Investment Return

Actuarially Equivalent Benefits

Commutation Functions

It should be realized, however, that such material was not necessarily drawn up with the particular nature of the Joint Board examinations in mind.

CONDITIONS GENERALLY APPLICABLE TO ALL EA-1 EXAMINATION QUESTIONS

If applicable, the following conditions should be considered a part of the data for each question, unless otherwise stated or implied:

(1) The normal retirement age is 65.

(2) Retirement pensions commence at normal retirement age and are paid monthly for life at the beginning of each month.

(3) There are no pre-retirement death or disability benefits.

(4) Actuarial equivalence is based on the mortality table and interest rate assumed for funding purposes.

(5) Interest rates that are compounded more frequently than annually are expressed as nominal rates.

(6) Where multiple lives are involved, future lifetimes are assumed to be independent of each other.

(7) The term "gross single premium" is equivalent to "contract single premium;" the term "net single premium" is equivalent to "single benefit premium;" the term "gross annual premium" is equivalent to "annual contract premium;" the term "net annual premium" is equivalent to "annual benefit premium."

(8) There are no policy loans in effect.

(9) For a bond, the face amount and the redemption value are the same.

(10) Interest rate equals yield rate.

(11) The term "duration" means "Macaulay duration".

PENSION EA-2 (SEGMENT L) EXAMINATION
MAY 2016

The EA-2 (Segment L) examination is two-and-one-half hours in length and covers relevant pension laws (in particular the provisions of the Employee Retirement Income Security Act (ERISA) and related laws, regulations, and rulings) as they affect pension actuarial practice. The EA-2 (Segment L) examination presupposes knowledge of the topics covered in the EA-1 examination.

Please note that certain topics are tested on both the EA-2 (Segment L) and EA-2 (Segment F) examinations. Questions on the EA-2 (Segment F) examination will focus on the effect of the law on funding requirements. Questions on the EA-2 (Segment L) examination will focus on the effect of the law on non-funding aspects.

Questions on the Pension EA-2 (Segment L) examination may contain commutation functions. **Candidates are expected to understand and be able to use commutation functions.** Candidates who are not familiar with commutation functions may wish to read the SOA Study Note "Commutation Functions".

SYLLABUS

Requirements with respect to vesting, service credits, employee contributions, accrued benefits, normal retirement.

Requirements with respect to and adjustments for early retirement, postponed retirement, joint and survivor annuities, optional forms of distribution, and pre-retirement death benefits.

Determination of benefits, including permitted disparity.

Maximum benefit limitations.

Determination of top-heavy status; additional requirements with respect to top-heavy plans.

Funding-based limits on benefits and benefit accruals under single-employer defined benefit plans.

Nondiscrimination requirements including those related to plan participation, coverage, and permitted disparity.

Requirements with respect to reporting and disclosure, including underfunded plans, reductions in future benefit accruals, and reportable events.

PBGC premium requirements.

Plan termination requirements including standard and distress terminations, involuntary terminations, missing participants, guaranteed benefits, allocation of assets, plan liability and employer liability.

Withdrawal liability under multiemployer plans.

Prohibited transactions and fiduciary standards.

Excise taxes other than for funding requirements.

Standards of performance and professional conduct for enrolled actuaries.

SUGGESTED READINGS FOR EA-2 (SEGMENT L)

Pension law and IRS promulgations can be found in publications of Warren, Gorham & Lamont, Commerce Clearing House, Maxwell Macmillan, Research Institute of America, and similar organizations. This list is not meant to describe or modify the syllabus listed above.

Employee Retirement Income Security Act of 1974 (ERISA), as amended through November 30, 2015..

Current PBGC Comprehensive Premium Payment Instructions

INTERNAL REVENUE CODE SECTIONS, ALL AS AMENDED THROUGH NOVEMBER 30, 2015

318	Constructive Ownership of Stock
401	Qualified Plans – definition Excluding subsections – (f),(g),(i),(m),(n),(o)
410	Minimum Participation Standards Excluding subsections – (c),(d)
411	Minimum Vesting Standards Excluding subsections – (e)
413	Collectively Bargained Plans, etc.
414	Definitions and Special Rules – controlled group, multiemployer, mergers, HCE, SLOB, compensation Excluding subsections – (d), (e), (u), (w)
415	Limitations on benefits & contributions, excluding subsections – (m), (n)
416	Top heavy rules
417	Minimum Survivor Annuity Requirements
420	Transfers of excess pension assets to retiree health or applicable life insurance accounts
436	Funding based limits on benefits and benefit accruals under single employer defined benefit plans
1563	Definitions and Special Rules
4974	Excise Tax on Certain Accumulations in Qualified Retirement Plans
4975	Tax on Prohibited Transactions
4980	Tax on Reversion of Qualified Plan Assets to Employer
4980F	Failure of Applicable Plans Reducing Benefit Accruals to Satisfy Notice Requirements
6057	Annual Registration
6058	Information Required in Connection with Certain Plans of Deferred Compensation
6059	Periodic Report of Actuary

Joint Board regulations (20 CFR Part 901.20) governing the performance of actuarial services under ERISA

Treasury Department Circular No. 230 (31 CFR Part 10) Section 10.3

IRS PROMULGATIONS

REGULATIONS

1.401(a)-1	Normal retirement age
1.401(a)(4)	Nondiscrimination requirements
1.401(a)(9)	Minimum Distribution (-1, -2, -3, -6 except Q&A-12)
1.401(a)(26)	Minimum participation requirements
1.401(*1*)	Permitted disparity
1.410(b)	Minimum coverage requirements
1.411(a)(13)-1	Hybrid plans
1.411(b)(5)-1	Age nondiscrimination requirements
1.411(d)-2	Nonforfeitability of benefits, termination or partial termination of a plan
1.411(d)-3	Section 411(d)(6) protected benefits
1.411(d)-4	Section 411(d)(6) protected benefits
1.414(s)	Definition of Compensation
1.414(q)-1T	Highly compensated employees
1.415(a)-1	General rules with respect to limitations on benefits and compensations under qualified plans
1.415(b)-1	Limitations for defined benefit plans
1.415(c)-1	Limitations for defined contribution plans
1.415(c)-2	Compensation
1.415(d)-1	Cost of living adjustments
1.415(f)-1	Aggregating plans
1.415(g)-1	Disqualification of plans and trusts
1.415(j)-1	Limitation year
1.416-1	Questions and answers to top-heavy plans
1.417(a)(3)-1	Disclosure on relative values of optional forms of benefit
1.436-1(a)	General rules
1.436-1(b)	Limitation on shutdown benefits and other unpredictable contingent event benefits
1.436-1(c)	Limitations on plan amendments increasing liability for benefits
1.436-1(d)	Limitation on prohibited payments
1.436-1(e)	Limitation on benefit accruals for plans with severe funding shortfalls
1.436-1(f)	Methods to avoid or terminate benefit limitations
1.436-1(g)	Rules of operation for periods prior to and after certification
1.436-1(h)	Presumed underfunding for purposes of benefit limitations
1.436-1(j)	Definitions
54.4980F-1	Final regulations implementing section 659 of EGTRRA
301.6057-1	Employee retirement benefit plans; identification of participant with deferred vested retirement benefit
301.6057-2	Employee retirement benefit plans; notification of change in plan status
301.6058-1	Information required in connection with certain plans of deferred compensation
301.6059-1	Periodic report of actuary

REVENUE RULINGS

81-11	Minimum accrued benefits; fractional rule; break-in service
81-140	Suspension of benefits due to reemployment
89-60	Interest rates used in determining employees' "accumulated contributions"
2002-42	Partial termination merger or conversion of money purchase plan: IRC section 4980F notice and 204(h) of ERISA
2002-43	General rules relating to excise tax on prohibited transactions
2003-65	Vesting service upon resumption of accruals

2003-85	Application of IRC section 4980 excise tax
2007-43	Partial termination, turnover
2012-4	Rollover from qualified defined contribution plan to qualified defined benefit plan to obtain additional annuity
2013-17	Effect of Windsor decision on certain federal tax matters.

NOTICES

97-75	Guidance relating to the amendments to the minimum distribution requirements of section 401(a)(9) of the Code made by section 1404 of the Small Business Job Protection Act of 1996, Pub. L. 104-188
2008-30	Sections III and IV – Guidance on PPA changes to IRC sections 401(a)(11) and 417
2010-15	Miscellaneous HEART Act changes
2014-19	Application of Windsor decision and Rev. Rul. 2013-17 to qualified retirement plans

PBGC PROMULGATIONS

REGULATIONS

4001	General and Definitions
4006	Computing Premiums
4007	Paying Premiums
4010	Notification to PBGC
4022	Guaranteed Benefits
4041	Terminations
4043	Reportable Events
4044	Allocation of Assets
4050	Missing Participants
4062	Termination Liability for Sponsor
4211	Multiemployer Plan Withdrawal Liability
4219	Multiemployer Plan Withdrawal Liability

PBGC TECHNICAL UPDATES

00-7	Increased Guarantee Limit for Multiemployer Plans
08-4	Lump Sum Issues in Standard Terminations
09-2	Section 4010 Reporting
10-3	Withdrawal Liability for Multiemployer Plans in Critical Status
11-1	Reportable Events
12-1	Effect of MAP-21 on PBGC Premiums
12-2	Effect of MAP-21 on 4010 Reporting
13-1	Reportable Events
14-1	Effect on HATFA on PBGC Premiums
14-2	Effect of HATFA on 401 Reporting

DOL PROMULGATIONS

REGULATIONS

	DEFINITIONS
2510.3-3	Definition of pension plans
2510.3-21	Definition of fiduciary
	REPORTING AND DISCLOSURE
2520.101-5	Annual funding notice for defined benefit plans

2520.101-6	Multiemployer pension plan information made available on request
2520.102-2	Style and format of summary plan description
2520.102-3	Contents of summary plan description
2520.104b-2	Summary plan description
2520.103-1	Contents of the annual report
2520.103-10	Annual report financial schedules
2520.104-42	Waiver of certain actuarial information in the annual report
2520.104-46	Waiver of examination and report of an independent qualified public accountant for employee benefit plans with fewer than 100 participants
2520.104a-5	Annual report filing requirements
2520.104b-3	Summary of material modifications to the plan and changes in the information required to be included in the SPD
2520.104b-10	Summary annual report (SAR)
2520.107-1	Use of electronic media for maintenance and retention of records
	FIDUCIARY RESPONSIBILITY
2550.403a-1	Establishment of trust
2550.403b-1	Exemptions from trust requirement
2550.404a-4	Selection of annuity providers – safe harbor for individual account plans
2550.408b-2	General statutory exemption for services or office space
2550.408c-2	Compensation for services
	ADMINISTRATION AND ENFORCEMENT
2560.502c-8	Civil penaltiles under ERISA Section 502(c)(8)
2570	Subpart I – Procedures for civil penalties under ERISA Section 502(c)(8)

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INTERPRETIVE BULLETINS

2509.75-2	Prohibited Transactions
2509.75-4	Indemnification of fiduciaries
2509.75-5 & 2509.75-8	Questions and answers relating to fiduciary responsibility
2509.75-6	Section 408(c)(2) of ERISA
2509.75-9	Guidelines on independence of accountant retained by employee benefit plan
2509.95-1	Fiduciary standard under ERISA when selecting an annuity provider for a defined benefit pension plan

SOCIETY OF ACTUARIES STUDY MATERIAL

The Society of Actuaries has developed various study notes for the use of students preparing for its examinations on these subjects. These study notes are revised periodically, and new study notes may be added.

Pension Plan Terminations

Contributory Pension Plans after OBRA '89

Tax Forms

Summary of Economic Growth and Tax Relief Reconciliation Act of 2001 (EGTRRA) Provisions Relating to Pension and Profit-Sharing Plans

Penalty Taxes under the U.S. Internal Revenue Code

Commutation Functions

It should be realized, however, that such material was not necessarily drawn up with the particular nature of the Joint Board examinations in mind.

The Society of Actuaries also suggests the following text:

McGinn, Daniel F., *Multi-employer Retirement Plans: Handbook for the 21st Century (2003)*; International Foundation of Employee Benefits; P.O. Box 69, Brookfield, WI 53008

AMERICAN SOCIETY OF PENSION PROFESSIONALS AND ACTUARIES STUDY MATERIAL

The American Society of Pension Professionals and Actuaries (ASPPA) suggest the following books. These books, while not designed specifically for the examination, cover much of the syllabus and more.

McGhie, G. N., *The Defined Benefit Answer Book* (Current Edition), Aspen Publishers; 7201 McKinney Circle; P.O. Box 990; Frederick, MD 21701

Tripodi, Sal L., *The ERISA Outline Book*, (Current Edition)

The ERISA Outline Book is available from ASPPA.

CONDITIONS GENERALLY APPLICABLE TO ALL EA-2 (SEGMENT L) EXAMINATION QUESTIONS

If applicable, the following conditions should be considered a part of the data for each question, unless otherwise stated or implied.

For purposes of this examination, IRS, Treasury and PBGC releases granting disaster relief should be ignored.

GENERAL CONDITIONS REGARDING PLAN PROVISIONS

(1) "Plan" or "pension plan" means a defined benefit pension plan.

(2) The plan is qualified under IRC section 401. Thus, for example, any benefit formulas should be understood to be limited by other plan provisions required by the Code.

(3) The normal retirement age is 65.

(4) Retirement pensions commence at normal retirement age and are paid monthly for the life of the retiree at the beginning of each month.

(5) The plan covers all active employees of the employer; there is no age or service requirement for participation. Thus, when referring to active employees, the terms "employee" and "participant" are synonymous.

(6) There are no, and never have been any, mandatory or voluntary employee contributions.

(7) Service for purposes of vesting and benefit accrual is credited on the basis of time elapsed since date of hire.

(8) When the normal retirement benefit is computed as a dollar amount, or as a percentage of compensation, for each year of service, the accrued benefit is defined likewise.

(9) Actuarial equivalence is based on the mortality table and interest rate assumed for funding purposes.

(10) Qualified joint and survivor annuities, qualified pre-retirement survivor annuities, and any other specified forms of payment are provided in such manner that they result in no cost to the employer.

(11) The plan has not been amended since its effective date.

(12) The adoption date of any plan or amendment is the same as its effective date.

(13) The terms "applicable mortality (table)" and "applicable interest (rate)" are as defined in IRC section 417(e)(3).

(14) The plan is not an applicable defined benefit plan described in IRC section 411(a)(13)(C) unless otherwise stated.

GENERAL CONDITIONS REGARDING FUNDING

(15) Any actuarial valuation encompasses not only all active employees but also retired employees, beneficiaries, alternate payees, and former employees entitled to vested deferred pensions.

(16) The terms "value of plan assets," "actuarial value of assets," and "market value of assets" mean the values developed for purposes of IRC section 412, 430, and 431 before being adjusted for items such as the existing credit balance, funding standard carryover balance, prefunding balance, or the outstanding balances of certain bases.

(17) All actuarial assumptions are deemed "reasonable" and meet the "best estimate" criterion.

GENERAL CONDITIONS REGARDING NONDISCRIMINATION TESTING

(18) For purposes of nondiscrimination testing under IRC section 401(a)(4), grouping of allocation rates or accrual rates has not been used.

(19) For purposes of coverage testing under IRC section 410(b), "snapshot" testing is not used and permitted disparity is not imputed.

GENERAL CONDITIONS REGARDING BENEFIT RESTRICTIONS

(20) AFTAPs have been certified on a timely basis.

(21) The plan has provisions for automatically restoring accruals ceased due to the application of IRC section 436, to the extent permitted by regulations, and the plan's actuary has provided the required certification to permit such restoration.

MISCELLANEOUS GENERAL CONDITIONS

(22) All plan provisions and funding comply with all temporary and final regulations under the Internal Revenue Code and ERISA, as amended through November 30, 2014, and proposed regulations as listed in the Suggested Readings.

(23) The plan is sponsored by a single employer; the sponsoring employer is a taxable entity and is not a member of a controlled group.

(24) The plan is not established or maintained in connection with a collectively bargained agreement.

(25) Employees subject to a collective bargaining agreement are non-professional. If employees covered by a collective bargaining agreement are covered by the plan, their coverage is pursuant to that collective bargaining agreement.

(26) The plan year, the employer's limitation year, and the employer's tax year are all the calendar year.

(27) The employer has never maintained a defined contribution plan or another defined benefit plan. No employee has been covered by a defined contribution or defined benefit plan that is required to be aggregated with his employer's plans for purposes of IRC section 415.

(28) Where IRC section 401(a)(17) applies, compensation does not exceed these limits unless sufficient information to apply the limits is provided.

(29) Benefits do not exceed IRC section 415 limits unless sufficient information to apply these limits is provided.

(30) The plan is covered by the PBGC.

(31) All union plans are collectively bargained and all union employees are subject to collective bargaining.

(32) The plan sponsor is not now, and never has been, in bankruptcy.

(33) The PBGC has determined that a terminated plan was terminated for a legitimate business purpose.

(34) References to law and regulation section numbers are for clarity and can be assumed to be correct.

(35) Even if not so, assume all due dates are NOT Saturdays, Sundays, or holidays.

(36) Disregard any industry-specific rules. Furthermore, plans are not eligible for PPA delayed effective dates (PPA sections 104-106).

(37) The plan has not been top-heavy in any year.

If applicable, the preceding conditions should be considered a part of the data for each question, unless otherwise stated or implied.

LIMITS AND TABLES
(Included with the 2016 EA-2 (Segment L) examination)

Compensation Limit IRC section 401(a)(17)	
Year	Limit
2000-2001	170,000
2002-2003	200,000
2004	205,000
2005	210,000
2006	220,000
2007	225,000
2008	230,000
2009-2011	245,000
2012	250,000
2013	255,000
2014	260,000
2015	265,000

Maximum Benefit Limit IRC section 415(b)	
Year	Limit at SSRA
2000	135,000
2001	140,000
Year	Limit at 65
2002-2003	160,000
2004	165,000
2005	170,000
2006	175,000
2007	180,000
2008	185,000
2009-2011	195,000
2012	200,000
2013	205,000
2014-2015	210,000

Nondiscriminatory Classification Test IRC section 410(b)		
Nonhighly compensated employee concentration percentage	Safe harbor percentage	Unsafe harbor percentage
0-60	50.00	40.00
61	49.25	39.25
62	48.50	38.50
63	47.75	37.75
64	47.00	37.00
65	46.25	36.25
66	45.50	35.50
67	44.75	34.75
68	44.00	34.00
69	43.25	33.25
70	42.50	32.50
71	41.75	31.75
72	41.00	31.00
73	40.25	30.25
74	39.50	29.50
75	38.75	28.75
76	38.00	28.00
77	37.25	27.25
78	36.50	26.50
79	35.75	25.75
80	35.00	25.00
81	34.25	24.25
82	33.50	23.50
83	32.75	22.75
84	32.00	22.00
85	31.25	21.25
86	30.50	20.50
87	29.75	20.00
88	29.00	20.00
89	28.25	20.00
90	27.50	20.00
91	26.75	20.00
92	26.00	20.00
93	25.25	20.00
94	24.50	20.00
95	23.75	20.00
96	23.00	20.00
97	22.25	20.00
98	21.50	20.00
99	20.75	20.00

LIMITS AND TABLES

(Included with the 2016 EA-2 (Segment L) examination)

Permitted Disparity Tables IRC section 401(*l*)

Annual factor in maximum excess allowance and maximum offset allowance percent

Age at benefit Commencement	SSRA 65	SSRA 66	SSRA 67	Simplified Table
70	1.209	1.101	1.002	1.048
69	1.096	0.998	0.908	0.950
68	0.996	0.907	0.825	0.863
67	0.905	0.824	0.750	0.784
66	0.824	0.750	0.700	0.714
65	0.750	0.700	0.650	0.650
64	0.700	0.650	0.600	0.607
63	0.650	0.600	0.550	0.563
62	0.600	0.550	0.500	0.520
61	0.550	0.500	0.475	0.477
60	0.500	0.475	0.450	0.433
59	0.475	0.450	0.425	0.412
58	0.450	0.425	0.400	0.390
57	0.425	0.400	0.375	0.368
56	0.400	0.375	0.344	0.347
55	0.375	0.344	0.316	0.325

FICA Taxable Wage Base

Year	Limit
2000	76,200
2001	80,400
2002	84,900
2003	87,000
2004	87,900
2005	90,000
2006	94,200
2007	97,500
2008	102,000
2009-2011	106,800
2012	110,100
2013	113,700
2014	117,000
2015	118,500

Key Employee Compensation IRC section 416

Year	Officer	1% owner
2003	130,000	150,000
2004	130,000	150,000
2005	135,000	150,000
2006	140,000	150,000
2007	145,000	150,000
2008	150,000	150,000
2009-2011	160,000	150,000
2012-2013	165,000	150,000
2014-2015	170,000	150,000

Highly Compensated Employee Compensation IRC section 414(q)

Year	Limit
2000-2001	85,000
2002-2004	90,000
2005	95,000
2006	100,000
2007	100,000
2008	105,000
2009-2011	110,000
2012-2014	115,000
2015	120,000

LIMITS AND TABLES (Included with the 2016 EA-2 (Segment L) examination)

Maximum PBGC Guaranteed Life-Only Annuity at Age 65	
Year	Monthly Benefit
2001	3,392.05
2002	3,579.55
2003	3,664.77
2004	3,698.86
2005	3,801.14
2006	3,971.59
2007	4,125.00
2008	4,312.50
2009-2011	4,500.00
2012	4,653.41
2013	4,789.77
2014	4,943.18
2015	5,011.36

FACTORS USED TO ADJUST MAXIMUM PBGC GUARANTEED BENEFITS FOR PAYMENTS OTHER THAN AS A SINGLE LIFE ANNUITY AT AGE 65

Commencement Age	
Age	Factor
75	3.04
74	2.76
73	2.48
72	2.21
71	1.93
70	1.66
69	1.49
68	1.34
67	1.21
66	1.10
65	1.00
64	0.93
63	0.86
62	0.79
61	0.72
60	0.65
59	0.61
58	0.57
57	0.53
56	0.49
55	0.45
54	0.43
53	0.41
52	0.39
51	0.37
50	0.35
49	0.33
48	0.31
47	0.29
46	0.27
45	0.25

Form of Payment Certain & Life*	
Years	Factor
1	0.995
2	0.990
3	0.985
4	0.980
5	0.975
6	0.965
7	0.955
8	0.945
9	0.935
10	0.925

*Reduction decreases by 0.01 per year in excess of 10.

Age Difference For J&S and J&C Beneficiary		
Difference	Younger	Older
1	0.99	1.005
2	0.98	1.010
3	0.97	1.015
4	0.96	1.020
5	0.95	1.025
6	0.94	1.030
7	0.93	1.035
8	0.92	1.040
9	0.91	1.045
10	0.90	1.050

Form of Payment Joint & Contingent (J&C)		
Percent	Factor	with 10 yr Certain
50%	0.900	×0.960
66 2/3 %	0.867	×0.970
75%	0.850	×0.975
100%	0.800	×0.990

Form of Payment Joint & Survivor (J&S)	
Percent	Factor
50%	1.00
66 2/3 %	0.93
75%	0.90
100%	0.80

PBGC Premium Rates				
	Single Employer Plans			Multiemployer Plans
		Variable-Rate Premium		
Plan Years Beginning in:	Per Participant Rate for Flat-rate Premium	Rate per $1,000 UVBs	Per Participant Cap	Per Participant Rate for Flat-rate Premium
2008	33.00	9.00	N/A	9.00
2009	34.00	9.00	N/A	9.00
2010	35.00	9.00	N/A	9.00
2011	35.00	9.00	N/A	9.00
2012	35.00	9.00	N/A	9.00
2013	42.00	9.00	400.00	12.00
2014	49.00	14.00	412.00	12.00
2015	57.00	24.00	418.00	13.00