

Issue Paper Number 99-005



BOARD OF EQUALIZATION
KEY AGENCY ISSUE

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BIOPHARMACEUTICAL INDUSTRY - INTERIM ASSESSMENT PRACTICE GUIDELINES

I. Issue

Should the Board adopt interim valuation factors and guidelines or advise assessors as an interim measure to follow the Appendix H, *Lifing Studies* (AH 504) in valuing laboratory, manufacturing, and specialized fixture property of the biopharmaceutical industry?

II. Staff Recommendation

Staff recommends that interim valuation factors and guidelines for valuing biopharmaceutical industry equipment not be adopted at this time. Rather, staff recommends that the Board authorize a Letter to Assessors advising assessors to follow the methodology published in Appendix H, "*Lifing Studies*," of Assessors' Handbook 504, "*Assessment of Personal Property and Fixtures*," specifically pages 215-224, for purposes of valuing such equipment. Definitive data for purposes of publishing either an interim or final table of valuation factors for biopharmaceutical industry equipment is not currently available. In Appendix H (attached), the Board approved a methodology for analytically deriving the economic life of equipment which can use data from business property statements and any other reliable supporting documentation available when retirement records are unavailable. Staff recommends that the Board issue a letter to assessors endorsing the use of this methodology for biopharmaceutical equipment. In addition, staff recommends that the Board reaffirm its directive per the Request for Proposal (RFP) No. 98-132 for adoption of long-term valuation factors and tables after completion of a study by an independent consultant.

III. Other Alternative(s) Considered

1. Approve the "Interim Biopharmaceutical Equipment Percent Good Table" recommended by the biopharmaceutical industry of California (See Attachment A).
2. Endorse the cooperative audit proposal of the California Assessors' Association.

IV. Background

Section 401.5 of the Revenue and Taxation Code requires that the Board shall issue to assessors "...data relating to costs of property, or, with respect to commercial and industrial property, shall, after a public hearing, review and approve commercially available data, and shall issue to assessors other information as in the judgment of the board will promote uniformity in appraisal practices and in assessed values throughout the state." Since the data relating to the valuation of biopharmaceutical equipment is not yet available, no hearing before the Board has been scheduled.

The Board complies with section 401.5 by issuing various Assessors' Handbooks and Letters to Assessors (LTA). The Board specifically complies with section 401.5 for business personal property by publishing Assessors' Handbook Section 581, *Equipment Index and Percent Good Factors*, yearly. This handbook section contains several tables of equipment index factors and percent good factors.

In December 1998, the Board complied with Section 401.5 by issuing Assessors' Handbook 504 which, in Appendix H, pages 215-224 (attached), includes a detailed description of an accepted methodology for calculating an economic life for specialized commercial and industrial property and equipment. This methodology is specifically stated to be applicable through the use of information obtained from business property statements (although not as reliable as accurate retirement records) and all other reliable information available in situations where equipment retirement records are not available. The appendix on *Lifing Studies* was originally proposed for inclusion in the staff's draft of AH 504 by Lane, Westly, Inc. Staff, together with all interested parties, discussed, modified and finalized the described methodology and sample spreadsheets proposed. Per staff and industry representatives' recommendation, the Board voted to approve the proposed language as Appendix H in AH 504.

In June of 1998, a number of letters were received from biopharmaceutical industry representatives requesting the Board to adopt the percent good table developed by Lane, Westly, Inc. for use in valuing laboratory, process, and production biopharmaceutical equipment. As a result of these requests, the issue of whether or not to recommend the Lane, Westly percent good table specifically for biopharmaceutical equipment was brought to the Property Tax Committee for consideration at its July 28, 1998 meeting (See Issue Paper 98-022). Testimony was heard from industry representatives and county assessor representatives regarding assessment practices for biopharmaceutical industry property. At its July 30, 1998 meeting, the Board directed the Property Taxes Department to (1) gather information and engage in discussions with the biopharmaceutical industry and county assessors to identify issues and develop interim guidelines and/or tables, if possible, to be presented to the Property Tax Committee; (2) issue a new Letter to Assessors (No. 98/45) describing the relevance of equipment index factors to biotech equipment specifically; and (3) to prepare an RFP (Attachment B, 98-132, Schedule of Events) for a hired consultant to develop reliable valuation factors for biopharmaceutical industry property.

Per these directives, the Property Taxes Department staff conducted an investigation of county assessment practices in the eight counties where biopharmaceutical companies are located. The information obtained from the assessors indicated that the lives used by these counties for assessing laboratory equipment ranges from 5 years to 12 years and manufacturing equipment ranges from 8 years to 15 years.

On the Industry side, staff reviewed the fixed asset accounting records of the two largest biopharmaceutical firms, Amgen and Genentech. Based on these Industry records, staff attempted to perform an economic life study like that described in Appendix H of AH 504. Both Amgen and Genentech asserted, however, that the records contained in their fixed asset accounting systems do not reflect all retirements of property. This being the case, neither company was able to provide the data necessary for staff to calculate an economic life in the manner recommended by AH 504 for the specialized property of the biopharmaceutical industry.

On January 26, 1999, Property Taxes Department staff in Sacramento conducted a workshop on "Biopharmaceutical Industry Assessment Practices" with interested parties representing both industry and assessors. Per Board directive set forth at its July 30, 1998 meeting, the objectives of the workshop were to clearly define all of the issues remaining unresolved between the parties, and if possible, to arrive at consensus for recommending a table of interim valuation factors.

As a result of the workshop, it became clear that there was no consensus on what the valuation factors should be for biopharmaceutical industry machinery and fixtures. The only issue resolved between the parties at this time was a definition for the term "biopharmaceutical industry."

The biopharmaceutical industry has pursued adoption of its position by seeking the Board's approval of its "Interim Percent Good Table," Attachment A, hereto. The county assessors have pursued adoption of their position by seeking the Board's approval of their "Cooperative Audit Proposal" described in Alternative 2 herein. The detailed positions of the biopharmaceutical industry and the county assessors are discussed in the actual language each submitted to the staff in the "Alternatives" section of this issue paper.

V. Staff Recommendation

A. Description of the Staff Recommendation

Staff recommends that the "Interim Biopharmaceutical Equipment Percent Good Table" valuation factors and guidelines not be adopted due to the lack of definitive data, particularly retirement records, presently available to calculate an economic life for the specialized property of the biopharmaceutical industry.

Staff recommends that the Board authorize a letter to assessors advising that assessors follow the methodology in Appendix H "*Lifing Studies*" specifically pages 215-224, attached, for purposes of valuing the specialized property of the biopharmaceutical industry.

Staff also recommends that the Board reaffirm its directive per RFP No. 98-132 (Attachment B) for the adoption of reliable long-term valuation factors and guidelines to be adopted after completion of a study by an independent consultant now in the process of being hired.

In conducting a study for a long term recommendation, staff would also call to the Board's attention the fact that the same difficulties encountered in attempting to do the interim study would be encountered by the independent consultant or, as the counties propose, the cooperative audit team (See Alternative 2). It is requested therefore, that the Board encourage Amgen, Genentech and/or other industry assessees to perform a fixed asset inventory and update their fixed asset accounting records (both in-service and retired property) by July 1, 1999 for use by the independent consultant. This will help to ensure that the resources expended for retention of an independent consultant result in a useful product for all concerned parties.

Consistent with Property Tax Committee direction, staff attempted to facilitate (at the January 26, 1999 workshop) a compromise using equipment life estimates based on staff appraisal judgment. Due to lack of sound independent data upon which all parties could rely, no agreement on any tables or index factors was accepted.

B. Pros of the Staff Recommendation

By not issuing interim valuation tables the Board will confirm the necessity of proceeding with the hiring of an independent consultant proposed in RFP No. 98-132 (Attachment B) to provide accurate and verifiable data for publication of reliable and acceptable valuation tables. Industry did not provide the information necessary to independently determine economic lives. The biopharmaceutical industry should perform a physical inventory of fixed assets and make the necessary improvements to its fixed asset accounting systems in order to assist the independent consultant contemplated in the RFP.

During the interim, the Board should advise assessors to conform to the Board's methodology in Appendix H "*Lifing Studies*" for purposes of valuing the specialized property of the biopharmaceutical industry. As a follow-up to LTA No. 98/45 "*Equipment Index Factors for Biotechnology Equipment*," a new Letter to Assessors with Appendix H attached would reaffirm that the Board-approved methodology for analytically deriving the economic life of such equipment is appropriate by using data from business property statements and all other reliable information available when retirement records are unavailable.

C. Cons of the Staff Recommendation

By not adopting interim assessment guidelines and/or tables, each county will continue to use the valuation factors it determines to be appropriate for the January 1, 1999 lien date assessment. Apart from the assessors' recognition of the Board's methodology set forth in Appendix H of AH 504, this will result in a lack of uniformity in the valuation factors being used by the counties.

D. Statutory or Regulatory Change

None

E. Administrative Impact

None

F. Fiscal Impact

1. Cost Impact

The Fiscal Year 1998-99 cost of the Request for Proposal (RFP) is projected to be \$100,000.

2. Revenue Impact

None

G. Taxpayer/Customer Impact

Possible overassessments resulting in the need to file an assessment appeal with county Assessment Appeals Boards and, if they lose, to litigate in Superior Court; however, assessors may voluntarily agree to roll back values to reflect the consultant's results in recommended long term tables.

H. Critical Time Frames

Valuation factors and guidelines are developed, compiled and published yearly in AH 581 or an LTA. This information must be made available to the assessors on or near the lien date, January 1, in order for the assessors to utilize the information in their yearly processing of property statements.

VI. Alternative 1

A. Description of the Alternative

Adoption of the Interim Valuation Table recommended by Industry as illustrated in Attachment A.

B. Pros of the Alternative

[The following text was supplied by Genentech.]

JUSTIFICATION FOR SPECIFIC VALUATION TABLES

In constructing an interim biopharmaceutical equipment percent good table, three factors ought to be taken into consideration. These are trending, lifetime and market data applicable to this equipment and fixtures. Unlike the more traditional method for constructing valuation tables, these additional factors must be considered for the biopharmaceutical industry since they account for the rapid development of science and technology. These factors are outlined below.

I. Trending

According to Assessors Handbook Section 504 (page 71), as well as standard appraisal practice, the trend index incorporated in the interim biotech table should reflect the technological progress inherent in this industry, in both laboratory equipment and production equipment. ("Trending" is used here to mean the application of an index to multiply by historical cost to arrive at an estimate of replacement cost new (RCN)). The primary pieces of lab equipment (for thermal cycling, high power liquid chromatography, and nuclear magnetic resonance) have seen sharp improvements in performance at the same time that costs are declining. For example, the 1998-vintage of nuclear magnetic resonance scanners is 40% of the cost of the 1993 vintage, while offering better resolution, improved and more accurate data collection, a much smaller magnetic "footprint", and greatly reduced requirements for lead shielding and special physical support systems. In production equipment, there have been small improvements in process piping and vats, but more importantly, approximately 25-30% of all costs for production equipment goes into embedded computers and digital control systems. These systems are constantly evolving, at the rate of computers in general, and so overall, production equipment should have a declining RCN index factor.

II. Lifetime

Any lifetime used to develop the interim biotech table should reflect current experience and rates of obsolescence in this industry, and the economic lifetime chosen should be distinctly shorter than the physical lifetime. Mechanical lifing

studies performed on acquisitions and retirements are not reliable in this industry, for many reasons.

Repeated studies have been performed by different taxpayers within the biopharmaceutical industry on the issue of obsolescence of equipment. (Each of these studies has been summarized in greater detail to BOE staff elsewhere.) *[Staff Comment: As of the date of this issue paper, staff has only received partial information pertaining to the study that concluded 5.25 years was appropriate.]* In summary, this work includes:

A 1994-95 study analyzed the number of times different lab and production areas had been significantly remodeled since first occupancy of each space. The study concluded that the average lifetime of biotech trade fixtures and construction was 5.25 years. Since a remodeling consists of retirement of the original fixturization, followed by a replacement investment with new fixturization, this information produced a survivor curve declining to 50% at 63 months (5.25 years).

1985 through 1998 tracking of the utilization and renovation of a significant manufacturing facility, as a sampling, found that complete renovation of existing manufacturing buildings occur every five years on average.

III. Market Data

Per the Assessors Handbook 504, good market data is the best basis for determining a depreciation schedule. In the biopharmaceutical industry, the purchase of previously leased equipment is one of the best ways to determine the market value of equipment in use.

Several industry studies have documented the market value of leased equipment purchased once in service:

A 1994-95 study, based on the purchase option documents and an independent investigation with the brokers involved, found lifetimes of between 4 and 5 years. The analysts established to their own satisfaction that the purchase amounts were market values negotiated in arms-length transactions. The data were somewhat sparse and consisted of only 16 points of comparison. The value curve falls between the (untrended) SBE curves for 4-year and 5-year average lifetimes.

A 1998 study using methodology recommended by the Assessors Handbook 504 (Assessment of Personal Property and Fixtures), Appendix G (Application of the Market Method) generally found that market values decline at over 20% per year.

The basis for the 1998 study was a set of 262 used biotech sales for which the new price and age were known. Items included equipment (e.g., incubators), furniture (e.g., lab tables), and fixtures (e.g., wall ovens). For each item, the analysts collected the selling price used, the original selling price new, the date of used sale, and the date of original new sale. A regression analysis yielded a relationship between age and percent good, with a high coefficient of correlation. The regression

analysis result was that value declines at 23% per year, including both price level changes and depreciation.

A 1994 study by a different biopharmaceutical company used three appraisals to estimate the value of most of its remaining manufacturing equipment that had been acquired in 1987. The average of the fair market values established by the three appraisals for this equipment was 18% of its original cost (before sales tax, transportation and installation), as compared to 42.84% of original cost from the application of the hospital index factors and a 10-year average life, as applied by the Assessor.

Accordingly, it is appropriate to design valuation tables, even interim ones, which recognize a decline in biotech equipment and fixture market value, as well as the actual useful life of this specialized apparatus.

RECOMMENDED BIOPHARMACEUTICAL INTERIM TABLE

It is understood by industry that staff intends to recommend two valuation tables for interim use. One will be applicable to lab fixtures and equipment, while the second is for use with manufacturing fixtures and equipment. It is further understood that the valuation table for the lab will have a **six**-year average life (untrended) and the table for manufacturing will have an average life of **nine** years (untrended). *[Staff Comment: The six and nine year life estimates informally discussed with industry and counties were an attempt to reach consensus given a lack of definitive data.]*

Since this effort is for an interim basis only, and since having two separate tables would be extremely complicating for taxpayers in the short run, industry recommends a compromise based upon the staff recommendation. Industry's earlier request called for a five-year table. In order to move the effort forward, however, industry now recommends a table based upon the staff's findings but which is administratively feasible. *[See Staff Comment above]*

Accordingly, industry urges the Board to adopt the following table, with a **seven-year** average life, as a compromise between the two tables recommended by staff. Furthermore, given the significant evidence indicating declining values, the table must also reflect a downward trend for obsolescence.

C. Cons of the Alternative

[The following text was provided by the California Assessors' Association (CAA)]

Industry's proposal requests a substantial change from standard assessment practices for one small industry within this State. To justify such a decision, the CAA believes that there must be reliable and convincing evidence to support the special treatment and a departure from uniform assessment practices. Industry has not provided that justification. To the extent that Industry has shared its studies with the CAA, those studies and reports do not meet this Board's standards for lifing

studies under AH 504. Absent a more complete lifing study, there is no basis to conclude that the biopharmaceutical industry warrants treatment different than any other industry in California. Adoption of guidelines at this point without any firm basis to support those guidelines merely opens the door for other industries to demand similar special treatment.

1. Industry Is Asking for a Dramatic Change in Assessment Practices

As a preliminary matter, it is important to recognize that Industry is asking for more than just guidelines on the lifing of its property. Industry has asked for a single combined table for all of its biopharmaceutical equipment, whether it is lab or production, personal property or fixture. This is a significant departure from accepted principles of assessment practices for personal property. No other industry's property is assessed in this manner. Personal property and fixtures are typically reported and assessed separately. In fact, in order to maintain the integrity of a cost approach to value, an assessor is required to account for distinctions among individual properties to ensure that the methodology is not arbitrary and the value is accurate. (See Bret Harte Inn, Inc. v. City and County of San Francisco (1976) 16 Cal.3d 14, 24-26.).

Furthermore, information available on biopharmaceutical properties demonstrates that there are differences among the various types of equipment and fixtures. Thus, the types of property need to be assessed separately in order to maintain the integrity of the cost approach. It does not make sense to assume that research equipment like a spectrometer is comparable to production equipment like a fermentation tank or to a fixture like an air conditioning system. Yet, under industry's proposal, a spectrometer, a fermentation tank and an air conditioning system would all be assessed with the same lives, trend and depreciation factor. There is no basis to make this assumption and create a new assessment practice that defies standard appraisal theory for this one industry.

2. Industry's Studies Fail to Meet Board Standards

Although Industry has not shared all of its studies with the CAA, the studies that have been shown to the CAA do not comply with the Board's required standards for lifing studies under AH 504. The Board's standards expressly state that "[o]nly studies based on reliable and complete records specific to individual assets can give reliable estimates of lifetime. Therefore, a review of the records specific to each asset is appropriate and generally necessary when such a specific study is conducted." (AH 504, Appendix H, p. 216.)

Industry's "Specialized Fixtures Lifing Study" does not track individual property assets as required by the Board in AH 504. In fact, the study does not study property assets at all. It simply studies how frequently Genentech remodeled some of its facilities. There was no analysis as to why the remodeling occurred, e.g., whether the equipment or fixtures needed to be replaced or whether there was some other unrelated business purpose of the company. Most importantly, there was no

analysis as to what happened to the individual property assets in the facility after the remodel. It is not known whether the assets were simply relocated to another facility or perhaps even reinstalled in the same facility after remodeling. In addition to these critical flaws, the study used a weighted average that overstates the remodeled areas and understates the non-remodeled areas. Thus, the study not only failed to analyze the lives of property assets as required by AH 504; its methodology was flawed.

Similarly, Industry's "Market Data Study" of lease buyouts on some equipment is also flawed and inconclusive. The study used too small a number of leases to be reliable and relied upon the opinion of brokers involved in the lease-buyout transaction to establish value. There was no market data, as defined under Property Tax Rules 2 and 4, to support the opinion of value. It is also highly likely that this study included computer equipment in addition to biopharmaceutical property. The inclusion of computer equipment would skew the results of the study.

The other studies by Amgen have not yet been provided to the Ventura County Assessor or the CAA. The only information that the CAA has is that contained in industry's letter dated January 25, 1999, which in itself, indicated that many of these studies were preliminary. If the Board wishes to rely upon preliminary studies, there is at least one county that has undertaken a preliminary study. That study produced results that clearly conflict with Industry's proposal. If desired, the CAA is willing to provide that study. However, the CAA believes that any analysis should be based upon a full study that meets the standards set by this Board in the AH 504. Industry's proposal is not based upon such studies.

D. Statutory or Regulatory Changes

None

E. Administrative Impact

None

F. Fiscal Impact

1. Cost Impact

If the Board adopts this alternative, which only recommends an interim valuation table, the independent study would still be required in order to provide guidance beyond lien date 1999. The Fiscal Year 1998-99 cost of the RFP is projected to be \$100,000.

2. Revenue Impact

See attached revenue analysis

G. Taxpayer/Customer Impact

None.

H. Critical Time Frames

None

VI. Alternative 2

A. Description of the Alternative

Endorse the cooperative audit proposal put forth by the California Assessors' Association (CAA) and defer any interim guidelines until the cooperative audit is completed.

[The following text was supplied by the California Assessors' Association (CAA)]

The CCCASE Co-op Audit Proposal

During the Biopharmaceutical Industry Assessment Practice Workshop, the CAA offered the idea of using a cooperative audit through the California Counties Cooperative Audit Service Exchange (CCCASE) to assist in developing assessment practices guidelines for the biopharmaceutical industry. CCCASE is an inter-county program that allows county assessors to combine audits and to share audits and audit costs. County assessors routinely use this program to conduct mandatory audits of taxpayers with personal property in more than one county. County assessors also use the program to address assessment issues faced by multiple counties. For example, the CCCASE program was used a few years ago to audit AT&T properties to ensure that assessors were not double-assessing those properties after the break-up of the communication industry. The CCCASE program helps to develop consistency in assessment practices among county assessors. It also provides the benefit of assigning an auditor from a different county with a fresh look and perspective to review a local assessment issue.

For the biopharmaceutical industry, county representatives suggested a cooperative audit of two large biopharmaceutical companies. The scope of the audit will be determined by both county and industry representatives. It has been suggested that the audit team be comprised of 5 auditors: two from county assessors, two from

industry and one advisory auditor from State Board staff. The audit will look for information and data that is not routinely collected during a normal mandatory audit. It is anticipated that the cooperative audit will take approximately 6 months to complete, depending upon the agreed scope of the audit and the availability of information.

B. Pros of the Alternative

[The following text was supplied by the California Assessors' Association (CAA)]

A cooperative audit under the CCCASE program will allow neutral auditors from another county to develop the additional necessary data and to complete a lifing study. There is precedent for this type of approach, such as the situation involving AT&T properties. The CAA believes that a cooperative audit program for biopharmaceutical properties will stop the guesswork and help establish uniform assessment practices statewide. The CAA is willing to involve biopharmaceutical industry representatives in the development of the proposed program. It is hoped that the cooperative audit will be completed in time to be reflected in assessments on the 1999 roll. If, however, the program is not completed by that time, the county with the largest share of biopharmaceutical industry has offered to adjust its 1999 roll to the program results. Other counties are also considering this action. If a taxpayer must pay taxes prior to any adjustment, any amount of overpayment would be refunded.

C. Cons of the Alternative

Industry did not submit a "cons" analysis of the alternative. Staff is of the opinion that the cooperative audit proposal will not yield a result satisfactory to all parties. Since neither the Board staff nor two industry consultants have been able to come up with a definitive lifing study based on industry asset accounting records, it is unlikely that a cooperative audit will produce the needed data. Also, given the number of appeals and litigation between the counties and this industry, the level of trust is not high. The independent consultant offered by the RFP process is an opportunity for a "fresh start" and a "new look" at the issues. The cooperative audit does not offer this perspective. Also the logistical difficulties of allocating county staff to this project and the associated costs make this a challenging project from the county perspective. Again, the independent consultant proposed by the RFP appears to be better positioned to complete an analysis that will be both timely and generally accepted.

D. Statutory or Regulatory Changes

None

E. Administrative Impact

None

F. Fiscal Impact

1. Cost Impact

There would be the absorbable cost of providing a Board advisory auditor for the duration of the cooperative audit and study. In addition, if the Board adopts this alternative as guidelines for lien date 1999 and beyond, it may not be necessary to proceed with the independent consultant study. The projected cost of \$100,000 would be avoided.

2. Revenue Impact

If the Board approves Alternative 2, there will likely be a revenue impact. The magnitude of the revenue impact is unknown until the cooperative audit and studies are completed.

G. Taxpayer/Customer Impact

Major industry participants would need to allocate accounting staff time to generate records and documents to complete the audit.

H. Critical Time Frames

The audit would have to be completed by March 1, 2000 to be useful for January 1, 2000 lien date.

Prepared by: Property Taxes Department; Policy, Planning, and Standards Division

Current as of: February 9, 1999