

May 3, 2002

## **Section 18s Program and Proposed Reforms**

Backgrounder for May 10, 2002 PPDC Meeting

### ***What is Section 18?***

Section 18 of the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) authorizes EPA to allow states to use a pesticide for an unregistered use for a limited time if EPA determines that emergency conditions exist (to grant emergency exemptions). 40 CFR, part 166 describes procedures for exemption from provisions of FIFRA to allow an unregistered pesticide use, or emergency exemption/Section 18. It provides criteria for emergency conditions which qualify for an exemption. These regulations were first promulgated in 1973 and revised in 1986 as a result of a negotiated rulemaking process with various external groups.

### ***How does the Section 18 process work?***

Most requests for emergency exemptions are made by state lead agricultural agencies, although the United States Departments of Agriculture, Defense and Interior also request exemptions. The process generally begins with growers in particular regions identifying a problem situation which registered pesticides will not alleviate. Growers contact their state lead agency (SLA) (usually the state department of agriculture) and request that the SLA apply to EPA for a Section 18 emergency exemption for a particular use. Requests are most often made for pesticides that have other food uses registered. The state agency evaluates the requests and submits requests to EPA for emergency exemptions they believe are warranted. The uses are requested for a limited period of time (usually no longer than 1 year) to address the emergency situation only. To be as responsive as possible to the states and growers, EPA works to make decisions on these requests within 50 days of receipt.

### ***What steps does EPA take to evaluate Section 18's?***

During the 50-day time period EPA must perform a multi-disciplinary risk assessment of the requested use, relying largely on data that have already been reviewed for the pesticide. A dietary risk assessment, an occupational risk assessment, an ecological and environmental risk assessment and an assessment of the emergency are conducted prior to making a decision. For the past several years, EPA has also evaluated the risk to the most sensitive sub-population (often infants and children) in its dietary risk assessments. The Agency's evaluation also includes an assessment of the progress toward registration for the use in question.

### ***What happens once EPA has completed the risk assessment and evaluated the emergency?***

If the emergency appears valid and the risks are acceptable, EPA approves the emergency exemption request. EPA will deny an exemption request if the pesticide use may cause unreasonable adverse effects to human health and/or the environment; or, if emergency criteria are not met. Also, as a matter of course, a state may withdraw an exemption request at any point in the process.

***Did the Food Quality Protection Act change the Agency's Section 18 program?***

Under the Food Quality Protection Act (FQPA), enacted on August 3, 1996, EPA must now establish formal tolerances (maximum allowable residue levels) to cover all pesticide residues in food, even residues resulting from emergency uses. Tolerances established for emergency exemption uses are time-limited to correspond to the use season. In establishing a tolerance, EPA must make the finding that there is a "reasonable certainty that no harm" will result to human health from aggregate and cumulative exposure to the pesticide, as required by the new FQPA health-based standard. Establishment of these tolerances, with their expiration dates, are published in the *Federal Register*.

***What if states have more immediate needs?***

If a need is immediate, a state agency may issue a crisis exemption which allows the unregistered use for 15 days. The state notifies EPA of this action prior to issuing the crisis, and EPA performs a cursory review of the use to ensure there are no concerns. If concerns are noted, EPA confers with the state, and under extreme cases may not allow a crisis to be declared. If the state follows up the crisis with, or has already submitted, an emergency exemption request, the use may continue under the crisis until the EPA has made a decision on the request. If the state does not also submit an emergency exemption request, EPA must still establish the appropriate tolerance(s) for the crisis use.

***Is there any information available on section 18 emergency exemptions received by EPA?***

Yes. EPA has a FIFRA Section 18 Emergency Exemption database on our website (at the Internet address: <http://cfpub1.epa.gov/oppref/section18/search.cfm>) which provides information about current and recent actions under Section 18. That database is updated approximately every two weeks. Detailed information about the tolerances associated with a particular action can be found in the *Federal Register* (by searching via the Internet address: <http://www.epa.gov/fedrgstr/EPA-PEST/> for up the tolerance document, by the date it was published, or chemical, etc.).

***How can the Section 18 database be searched?***

The FIFRA Section 18 database includes records for all Section 18 Emergency Exemptions received by EPA and can be searched by commodity (crop/site), chemical or applicant; or any combination of these three search criteria. One or more letters of the site or chemical name can be entered in the appropriate box to search by site or chemical. The more letters entered, the more selective the search. Applicants can be selected from the drop-down list. Chemicals are listed by their common chemical name. The search by site uses the Food and Feed Vocabulary to find a matching search term to the entry and returns a list of all crop/animal terms that correspond to the search term. If the search returns more than one crop/animal term, a term from the list which more closely matches the search term must be selected. The search automatically selects Section 18 Emergency Exemption records for crop groups and subgroups that include the selected crop term. If records about a unique, non-food site (ex. birds, flightless, residential areas) are not found, Alice Harris may be contacted for assistance (via email at: [harris.alice@epa.gov](mailto:harris.alice@epa.gov); or by phone on: 703-308-9361). The database may also be searched by a

specific date or a date range by entering a specific date. That search will identify all Section 18 actions from the date entered to the most recent update of the database. Section 18 actions are recorded in this database starting with those actions received in October, 1997.

***How are the Section 18 database search results displayed?***

The search results display eight fields for each record for Section 18 Emergency Exemption:

Chemical	The pesticides common chemical name
Site	The crop/animal or site for which the pesticide is approved for use under the conditions of the Section 18 Emergency Exemption
Pest	The pests the pesticide is intended to control
Applicant	The state or federal agency that requested the Section 18 emergency exemption
Received Date	Date that EPA received the Section 18 Emergency Exemption
Response Date	Date that EPA responded to the applicant or the date the applicant withdrew the exemption request
Status	Action taken on the application
Tolerance Publication	The date the tolerance was published for this use in the Federal Register
Tolerance Expiration	The date the tolerance expires

***Other than the changes brought about by FQPA, has the Section 18 process ever been evaluated and/or changed?***

Yes. Because of the emergency nature of Section 18 requests, the Agency is always looking for ways to improve the process and expedite emergency exemption decisions. Several years ago

(1995) as part of an effort to streamline regulations, the Agency began a process to evaluate section 18 regulations and to formulate recommended changes to the section 18 operating procedures. EPA also received a letter from the state lead agricultural agencies outlining a “wish list” of desired regulatory changes to the section 18 program/process. In November 1996, the Agency hosted a Section 18 Stakeholders Meeting to discuss possible regulatory changes to the Agency’s Section 18 program/processes and receive stakeholder input. Participants of that meeting included representatives from state lead agencies, chemical companies, and environmental and public interest groups.

### ***What were the reforms proposed in 1996?***

- (1) Defining Economic Loss – recommending that EPA should allow greater flexibility in how economic losses are documented and/or reviewed by the Agency; greater focus on yield loss versus actual revenue.
- (2) Emergency Situation – recommending that EPA should give states guidance on what constitutes an “urgent and non-routine” situation, and allow states to self-certify that the requested exemption is an emergency.
- (3) Implement Performance Audit – recommending that EPA should implement a performance audit program to ensure compliance with guidance, and give states justification to resist pressure to certify an “urgent and non-routine” situation when one does not exist.
- (4) Multi-Year Exemptions – recommending that, if certain circumstances are met, EPA allow states to “recertify” emergency situation for up to two years following initial EPA authorization (i.e., up to 3 years of use per EPA review/authorization).
- (5) Support/Coordinate Regional Requests – recommending that EPA actively support and coordinate regional section 18 requests.
- (6) Wildlife Monitoring – recommending that EPA, in collaboration with states, should establish reasonable monitoring criteria and approaches for wildlife and endangered species.
- (7) Resistance Management – recommending that, if certain criteria are met, EPA should grant use of products which will contribute to the delay or avoidance of resistance development.
- (8) Reduced Risk – recommending that EPA grant use of products even if there are registered alternatives if the requested chemical is safer than the alternative.

### ***What has EPA been doing with the Section 18 program since 1996?***

In August, 1996, just three months prior to the November stakeholder’s meeting, the Food Quality Protection Act (FQPA) was enacted. Half of the stakeholder’s meeting time was spent discussing the impacts of FQPA on the section 18 program leaving less time to discuss reform issues. The major impacts of FQPA on the section 18 program/process were the requirement for specific safety findings for each use and the requirement to establish time-limited tolerances. Therefore, reform issues were “put on the back burner” until FQPA issues could be addressed and FQPA could be fully implemented.

Since 1996, the processes for addressing FQPA and providing timely responses to section 18 requests have been greatly refined, with the turnaround time averaging 34 days in the last fiscal

year (FY 2001). Since the Agency has now tackled the FQPA issues, EPA began to focus on reforms that emerged from the November 1996 stakeholders meeting and/or subsequently recommended. In August 2001, Agency representatives met with the Task Force formed by the Association of American Pesticide Control Officials (AAPCO) to look at Section 18 reforms. As a result of that meeting and subsequent discussions, the Task Force put forth three reforms of utmost importance to them, which have been the focus of EPA's consideration.

***What are the three reforms put forth by the AAPCO Task Force which are under consideration by EPA?***

1. Renewable Exemptions

§ **Current Approach** – EPA authorizes Section 18s for no longer than one year (quarantine exemptions are allowed for 3 years).

§ **Under Consideration** – If certain criteria are met, allow states to “recertify” the emergency situation for up to two years following initial EPA authorization.

§ **How Renewable Exemption Process Could Work** – EPA would conduct a complete review of the section 18 request in the first year. Assuming that the state request was for a renewable exemption, EPA would draw a conclusion at the time of issuance based upon its assessment of: (1) the risk; (2) whether the claim of an emergency situation is valid; and, (3) whether the emergency meets specific criteria for a renewable exemption.

§ **Possible Criteria** – The following factors are offered as examples of criteria which could be applied to section 18 requests when determining the applicability of a renewable exemption:

<b>Renewable Exemption Possible</b>	<b>Explanation</b>
Alternative product unavailable due to cancellation	Would depend on assessment of alternatives
Pest has developed resistance to alternative(s) and resistance has been documented	With acceptable scientific documentation that resistance has developed
New Pest	With acceptable scientific documentation
Documented loss of efficacy of registered alternative(s)	With acceptable scientific documentation
<b>Renewable Exemption Unlikely</b>	<b>Explanation</b>
New Chemical	EPA unlikely to have enough data readily available with which to reach a conclusion of a “reasonable certainty of no harm.”
New Crop	New crops do not normally qualify for emergency exemptions, because it is not an “emergency” if there are no available means of pest control for a newly introduced crop.
Risk-cup close to full	If the risk cup is close to being full, it is unlikely that EPA would be able to reach a conclusion of “reasonable certainty of no harm” for longer than a single season of use.
Weather-related pest outbreak	Unique to one year, would not constitute basis for multi- year exemption.

Poorly documented emergency situation / reliance on expert testimony	It is reasonable for EPA to require adequate justification of an emergency before approving a multiple year use of a chemical under section 18.
Sporadic pest outbreak	If documentation indicates that a pest situation is not expected to recur with predictability, EPA would not authorize a multi-year exemption.
Alternative product unavailable due to supply shortage	It is reasonable to assume that chemical manufacturers can plan to make additional quantities of product available in following years.

§ **How Renewable Exemptions Could Play Out** – If EPA’s assessment of the exemption request reaches the conclusion that a multi-year issuance is practical, i.e., (1) EPA can make the safety finding required under FQPA; (2) there is an emergency and significant economic loss; and, (3) the situation meets the criteria, the Agency could issue the basic exemption to the applicant state.

§ The one-year exemption would be renewable for an additional 2 years, while also establishing a time-limited tolerance for the use for a similar period.

§ States would be required to re-certify the emergency to EPA in each subsequent year after the initial authorization.

§ After each year of use, the state would be required to submit a detailed section 18 pesticide use report, including information on amount of acreage treated, location, efficacy of use, and any problems arising.

§ The re-certification of the emergency situation would prompt the Agency to reevaluate the situation each year, and determine whether any changes had occurred in the status of the chemical’s risk assessment, or the emergency situation (i.e. registration of another alternative).

§ If any such changes had occurred, the Agency would contact the state and inform them of the changes, and that the use no longer met the criteria for a renewable exemption as a result. If the states still want to consider the use, they would need to submit a complete application for the next year.

§ In addition, at any point during the implementation of a renewable exemption, if EPA receives new risk information which negates the safety finding or that the emergency is no longer valid (i.e., registered alternative use), the Agency would inform all the affected states that re-certification for the subject chemical is not an option. If the states still want to consider use, then they would need to submit an application for next year. The assessment process would then be repeated following receipt of the application.

2. Resistance Management Exemptions

§ **Current Approach**– An urgent, non-routine situation exists only when there are no effective pesticides available to control the pest. As stated in the *Section 18*

*Guidance Document* (June, 1992), exemptions may only be authorized for resistance management in cases where documented pest resistance to the registered pesticide has already developed and use of the registered pesticide is expected to result in significant economic losses. Under current procedures, if there is at least one available registered pesticides that is effective enough to prevent significant economic losses, then the situation is generally not found to be an emergency regardless of whether or not the alternative is considered to be vulnerable to the development of resistance by the target pest.

§ **Under Consideration** – An emergency exemption could be issued for an alternative to be used in conjunction with the registered pesticide where there is documented scientific evidence that resistance is developing to the currently registered pesticide even though, at the time, the degree of resistance may not yet result in significant economic loss. Requiring growers to exhaust their existing pest management tools before an EPA ruling that the situation is extreme enough to warrant an emergency exemption for an alternative product is not consistent with best resistance management practices.

§ **How Resistance Management Exemptions Could Work** – An alternative pesticide under an exemption would be allowed, under certain specific criteria, to provide growers with an effective tool to use in cases where scientific evidence indicates that resistance to the currently registered pesticide is beginning to or has developed, even though the degree of resistance may not yet result in significant economic loss.

§ **Possible Criteria** – Criteria such as documented resistance development in a relatively short timeframe, and that the requested material has a different mode of action than the available alternatives, are examples of some possible criteria.

### 3. Defining Significant Economic Loss

EPA is considering changing its methodology for determining significant economic loss (SEL), in the context of FIFRA Section 18 Emergency Exemptions. The current method is based on determining whether the loss from the emergency would result in profit below the historical variation in profits. This method, however, relies on a standard that may be more difficult to meet for growers with volatile profits, and may also require data on costs/expenditures that are difficult to obtain for many crops in many states. At the same time, large yield losses may be associated with revenue declines that lead to significant economic loss under almost all cost/expenditure scenarios. Recognizing these issues, EPA is considering adopting a more flexible, tiered approach intended to streamline the data requirements for determining SEL. A preliminary analysis of past Section 18 requests suggests that there will be no perceptible change in the likelihood of an SEL finding, and will lead to considerable savings to both States and EPA from reduced data and analytical burdens.

#### § **Current Approach – Current Method for Determining SEL**

##### A. **Normal Profit Variation Criterion**

Under this criterion, loss is significant only if it exceeds the normal variation in profits over a

period of time (typically 5 years). If the loss is within the normal variation, then it is defined as normal loss and should not be considered significant. In plain English this criterion means that:

*The loss is significant if average operating profit, in the presence of the emergency condition, is expected to be less than the lowest profit of the last 5 years.*

## **B. Limitations**

### **1. Profits do not fluctuate the same for all crops**

In order to fall outside the normal range (and meet the SEL requirement), profits would need to drop steeply for crops with widely fluctuating profits, such as non-irrigated crops with yields that depend on rainfall during critical periods. On the other hand, a much smaller drop in profits would fall outside the normal range for crops with more stable yields and profits. The current SEL criterion may be biased against farmers growing crops with large fluctuations in yield since such farmers would need to show much larger crop losses to qualify for a significant economic loss than growers of crops with more stable annual yields and profits.

### **2. Historical economic data requirements**

Historical data are supposed to be used to provide a baseline for estimating both normal profits and variation *in the absence of the emergency condition* for the affected area. However:

#### **a. Historical data are often affected by the emergency condition.**

Pest pressure related to the emergency condition in previous years (even if not significant) may reduce profit and distort the estimation of baseline normal profits and variation. For example, historical data may reflect increasing pesticide resistance that may have begun before an emergency exemption was requested, but where the resistance later becomes the basis for requesting the exemption. In the case of repeat emergency exemptions, the historical data are affected by both the profit-decreasing emergency condition and profit-increasing use of the requested pesticide, which will not necessarily equally offset each other.

#### **b. Historical data are often statewide and not limited to the affected area.**

#### **c. Historical data are unavailable in many states for crops such as minor crops.**

## **§ Under Consideration – Proposed Tiered Criteria Approach**

### **A. Summary of New Approach and its Advantages**

The purpose of the **flexible** tiered approach is to apply **uniform criteria** in making a determination on significant economic loss (SEL) with a **minimum amount of data**. Each additional tier requires more data and involves more analysis on how the emergency affects profitability. If the emergency condition does not qualify as resulting in a SEL in one tier, it may qualify in succeeding tiers with more data and analysis. In other words, because one tier may not fit all situations, EPA considers additional relevant information in succeeding tiers. A brief summary of the tiers, in this section, is followed by a more complete description below.

Tier 1 is a yield loss determination. If the projected yield loss is sufficiently large, EPA concludes that a SEL will occur. Therefore, for large yield losses it is not necessary to separately estimate economic loss, which requires detailed economic data. A moderate yield loss, however, could also lead to a SEL, and because yield loss may not capture all losses EPA will estimate revenue loss (Tier 2) if the yield loss is not significant by itself. Moreover, because profit margins vary, EPA will consider impacts on profit (Tier 3) if the economic loss is not significant.

This proposed approach requires less data primarily in those cases where projected yield loss is large enough for EPA to conclude that economic losses will be significant, without analyzing cost/expenditure data in detail. Beyond yield estimates, additional economic data are only collected as needed, if higher level tiers need to be evaluated, and even with the higher tiers certain historical data formerly required would no longer be required under this new approach.

## **B. Tier Thresholds**

For a loss to be considered significant it must exceed a threshold. Each proposed tier has a set of uniform thresholds that apply to all applicants. If a threshold is not met in one tier, it may be met in another tier. In setting these thresholds EPA considers:

### **1. The extent and distribution of the loss**

Not all acreage suffers the same percent yield loss (and economic and profit loss). EPA bases the thresholds on information, if available, on the distribution of the expected yield loss. The greater the percent of the acres affected by the emergency condition that are expected to suffer a minimum of a certain percent loss, the lower the threshold would be, other things being equal.

### **2. National Average Profitability**

By using average profit margins EPA can establish yield loss and economic loss thresholds that would result in a significant profit loss.

### **3. National Average Range of Profit Variation**

EPA considers the **average** of historical variation in profit from many past emergency exemption requests in establishing these thresholds. Since individual requests for emergency exemptions will not be judged by the profit variation of individual crops applicable to that request, such historical economic data will not be needed with individual emergency exemption requests.

## **C. Tier 1: Yield Loss**

### **1. Why consider yield loss first?**

- When yield loss is large, EPA concludes that it will result in a SEL. In such cases, it is not necessary to require additional data or analysis.
- Yield loss is the basis for estimating loss in succeeding tiers. In order to estimate the economic loss or profit loss, an estimate of yield loss is necessary with this new approach, as well as with the old normal profit variation criterion.

#### **a. How is yield loss defined?**

$$\text{Yield Loss} = \text{Baseline yield} - \text{Emergency condition yield}$$

This equation emphasizes that this yield loss is a result of the emergency condition, and not the difference between the expected yield with and without the requested chemical.

- Baseline yield is the yield before or in absence of the emergency condition
- Baseline yield is NOT the expected yield using the requested pesticide.
- Baseline yield could be derived from historical data. Yield before the emergency condition

could be estimated from the average of yields over several past years. However, if these yields were affected by the emergency condition, the baseline yield would be distorted.

- It must be emphasized that emergency condition yield is the yield using the next best feasible alternative to the requested pesticide. Often the emergency yield is estimated to be the yield in the absence of any control, which results in underestimating the emergency yield and overestimating the loss.

#### **D. Tier 2: Economic Loss as a % of Gross Revenue**

##### **1. Why consider economic loss?**

Percent yield loss is a proxy for percent loss in gross revenue; however, if yield loss is insignificant there may be other impacts that affect economic loss, including quality losses, and changes in costs, such as pest control costs, and harvesting costs. When these losses are considered, an insignificant yield loss could become a significant economic loss (SEL).

##### **2. How is economic loss defined?**

**Economic Loss = Baseline Gross Revenue - Emergency Condition Gross Revenue + Costs Changes**

The Tier 2 thresholds are based on economic loss as a percent of gross revenue.

$$\% \text{ Economic Loss} = \frac{\text{Economic Loss}}{\text{Baseline Gross Revenue}}$$

- Baseline Gross Revenue = baseline yield x baseline price
- Emergency Gross Revenue = emergency yield x emergency price

##### **3. What causes price and cost changes?**

###### **a. Change in Price--Quality losses**

Quality losses are expected to cause the price to go down for a given amount of production. Sometimes quality losses may be characterized by States as yield losses. To avoid double counting, quality losses should only be reflected in yield loss, **or** price, **not** both. Also, changes in price resulting from market conditions not related to the emergency condition are not included in the economic loss.

###### **b. Change in Costs**

###### **i. Pest control costs**

Change in pest control costs may differ between what pest control costs were before the emergency and what they are as a result of the emergency condition using the next best alternative to the requested chemical. (Note: this change is **not** the difference in costs between using the requested pesticide and the next best alternative.)

###### **ii. Harvesting costs**

Generally, harvesting costs vary directly with yield; however, a pest condition, such as increased

weed pressure, could increase harvesting costs.

### **E. Tier 3: Economic Loss as a % of Gross Operating Profit**

#### **1. Why consider profit in Tier 3?**

- It is the impact on profits that ultimately matters. Economic loss is necessary in estimating profit loss, and yield loss is necessary in estimating economic loss.
- Profit margins vary. Since profit margins vary, it may be necessary to estimate profit loss. Even if economic loss seems insignificant, it could be significant if the profit margin is narrow.
- Operating cost data are required in order to estimate profits, and reliable cost data may be difficult to obtain. Therefore, profit loss is the highest Tier because it requires more data and analysis than the first two tiers. Moreover, because of uneven reliability in cost data, estimating impacts on profits must be done with much care.

#### **2. How is profit considered?**

In this tier economic loss is compared to gross profit rather than gross revenue (Tier 2)

$$\% \text{ Gross Profit Loss} = \frac{\text{Economic Loss}}{\text{Baseline Gross Profit}}$$

- Economic Loss (Same as Tier 2)
  - Baseline Gross Profit = Baseline Gross Revenue - Baseline Variable Costs
- As stated before, “baseline” in this paper is defined as the situation before or in the absence of the emergency condition. The baseline is **not** what the situation would be using the requested pesticide.
- Variable costs are more objective than many fixed costs, which include implicit rent, wages, and interest. Therefore, the focus of profit loss is on the loss in gross profit (gross revenue - variable costs).

### **Case Study - Comparing SEL Under Current and Proposed Criteria**

#### **A. Overview of Case Study**

EPA began developing a database to track the outcome of SEL determinations for Section 18 requests, and compare these outcomes to those that would result from an application of the proposed tiered criteria. This case study uses yield and economic data from Section 18 requests covers the 1998-1999 growing season (more recent requests are currently being prepared for analysis). A summary of the SEL determinations is provided in Table 1. There was very little difference between yield loss and economic loss as a percentage of gross revenue, suggesting that most States are embedding quality losses into estimates of yield loss.

Table 2 describes the likelihood of making a SEL finding under the current and proposed criteria for determining SEL. EPA economists made the SEL finding in 62% of the cases, and found no SEL in 30% of cases (in 8% of the cases, no definitive finding was made). Based on the findings from Table 1, EPA tested the proposed criteria using thresholds of 20% for yield loss, 20% for

economic loss as a percentage of gross revenue, and 50% for economic loss as a percentage of net operating profits. These thresholds generated findings of SEL in 61% of cases. Moreover, in 34% of cases, the determination would have been made based on yield criteria alone. In approximately 2/3 of cases, the current method and the proposed method would generate the same results.

## **B. Conclusions**

This case study suggests that the proposed method for determining SEL would not change the likelihood of EPA making the SEL finding for Section 18 requests. The data also suggest that a substantial number of cases could be analyzed with a much reduced data burden, freeing up resources for both States and EPA. Although the overall likelihood of making the SEL finding is nearly identical for the two methods, there are a large number of instances where the current method and the proposed method would lead to different conclusions on SEL. In conducting further analyses of the tiered method, EPA plans to expand the size of the sample, and attempt to characterize the cases where the current and proposed methods diverge.

Table 1. Summary of a sample of 89 Section 18 Requests in 1998-99

	<b>Median</b>	<b>Average</b>
Yield Loss and Gross Revenue Loss	18%	20%
Economic Loss as a % of Gross Revenue	18%	21%
Net Revenue	54%	155% <sup>a</sup>
Economic Loss as a % of Gross Revenue that would result in a SEL (outside the historical variation)	16%	19%

a. the average is distorted by several requests for which average net revenue was close to zero.

Table 2. Comparison of Current and Proposed SEL, 1998-99 sample of 89 Section 18 requests

Significant Economic Loss (SEL) concluded by EAB analyst	62%
No SEL concluded by EAB analyst	30%
Yield Loss > 20%	34%
Economic Loss as a % of Gross Revenue > 20%	34%
Net Revenue > 50%	53%
Qualify as SEL under Tiered Approach	61 %
Agreement between: EAB conclusion of SEL and tiered criteria	67%
Tiered and historical variation criteria	65%