

STATE OF IOWA
1968

**IOWA
DEPARTMENTAL
RULES**

**JULY
1968
SUPPLEMENT**

Containing

The permanent rules and regulations of general application promulgated
by the state departments from January 1, 1968 to July 1, 1968



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NOTICE

The statutes provide that the Code Editor may publish cumulative, semi-annual supplements to the Iowa Departmental Rules. Inquiry should be made each six months of the Superintendent of Printing for distribution of these supplements.

PREFACE

This volume is published in compliance with section 14.3 (7) of the Code. The rules of the various boards and departments are arranged in alphabetical order, using the names of the departments in general use.

Not all of the rules and regulations promulgated by the state departments have been included. The Act specifies "permanent" rules of "general application." Where rules have been omitted by the editor there is a notation indicating where such rules may be obtained.

July 1968

THE EDITOR.

PUBLICATION OF DEPARTMENTAL RULES

Section 14.3 of the Code, subsection 7, requires the Code Editor to:

"Prepare the manuscript copy, and cause to be printed by the state superintendent of printing in each year in which a Code is published, a volume which shall contain the permanent rules and regulations of general application, promulgated by each state board, commission, bureau, division or department, other than a court, having statewide jurisdiction and authority to make such rules. The Code Editor may omit from said volume all rules and regulations applying to professional and regulatory examining and licensing provisions and any rules and regulations of limited application. The Code Editor may make reference in the volume as to where said omitted rules and regulations may be procured.

"This volume shall be known as the Iowa departmental rules and any rule printed therein may be cited asI.D.R..... giving the year of publication and the page where the particular rule, by number, may be found.

"The Code Editor may provide cumulative, semiannual supplements for insertion in the latest published volume and a place shall be provided in the binding of such volume for insertion of such supplements."

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IOWA

DEPARTMENTAL RULES

JULY 1968

AGRICULTURE DEPARTMENT

Pursuant to the authority contained in 159.5 (10), 1966 Code, rule 1.32 (163) appearing on page 11, 1966 IDR, is hereby amended by striking all three paragraphs of said rule and adopting in lieu thereof the following new rule.

[Filed May 14, 1968]

[These rules filed on the above date have been rescinded effective July 9, 1968 and the former rules that were rescinded herein have been reinstated.]

1.32(163) Swine vaccination for hog cholera. No person shall sell or administer any hog-cholera vaccine in the state of Iowa, which vaccine is not currently on the approved list as issued by the department. No inactivated hog-cholera vaccines shall be sold or administered for any purpose in the state of Iowa other than for use on breeding swine.

1.32(1) Effective July 1, 1968, the sale or administration of all hog-cholera vaccines, anti-hog-cholera serum, and antibody concentrate shall be prohibited except to a licensed accredited veterinarian in the state of Iowa.

1.32(2) Effective December 1, 1968, the sale or use of all hog-cholera vaccines shall be prohibited and it shall be unlawful to use such products in swine in the state of Iowa. Anti-hog-cholera serum or antibody concentrate may be used on swine when required for interstate shipment. Exception: In case of emergency, a special permit for the use of vaccine or hog-cholera serum or antibody concentrates may be issued by the chief, division of animal industry when approved by the secretary of agriculture.

1.32(3) All feeder swine sold or exchanged intrastate, except direct to slaughter shall be held under quarantine, separate and apart from all other swine for a period of twenty-one days on the purchaser's premises. All such movements

must be completed within forty-eight hours.

1.32(4) All breeding swine sold or otherwise exchanged except those sold or otherwise exchanged for imminent slaughter shall be accompanied by an official health certificate.

1.32(5) Effective December 1, 1968, unvaccinated swine moving interstate from the farm of origin direct to a farm of destination in Iowa may be moved on a permit issued by the department. Such swine shall be quarantined separate and apart from other swine on the purchaser's premises for twenty-one days.

1.32(6) Swine moving interstate from an approved market which is located in a state not classified as Phase IV or free by the U.S.D.A., shall be restricted to swine which have received anti-hog-cholera serum or antibody concentrate as specified in the Code of federal regulations, Title 9, Part 76. Such swine shall be quarantined separate and apart from other swine on the purchaser's premises for twenty-one days.

1.32(7) Swine originating in states classified as Phase IV or free states by the U.S.D.A., may be moved interstate into Iowa when accompanied by a health certificate. Such movement is to be completed within forty-eight hours and all swine shall be quarantined separate and apart from other swine on the purchaser's premises for twenty-one days.

1.32(8) All swine not meeting the requirements as set forth in paragraphs (5), (6), and (7) above, may enter only by special permit issued by the department.

1.32(9) All swine regardless of origin moving interstate, shall be accompanied by an official health certificate showing point of origin, point of destination, individual identification of swine, and when applicable, immunization status and permit number.

AGRICULTURE DEPARTMENT

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1.32(10) Healthy swine not infected with or exposed to hog cholera, other than swine fed raw garbage, may be imported if shipped directly to a slaughtering establishment for immediate slaughter or to a

public stockyard for sale to a slaughtering establishment.

This rule is intended to implement chapter 163, 1966 Code.

[Effective May 14, 1968]

AGRICULTURE DEPARTMENT

(continued)

Pursuant to authority of section 163.1, 1966 Code, the following amendment to chapter 1, division of animal industry, appearing in the July, 1966, Supplement, IDR on page 5, is hereby adopted.

[Filed May 14, 1968]

Amend rule 1.33(163) appearing on page 5 of the July, 1966, Supplement, 1966 IDR, by deleting lines 1 to 5, in-

clusive, and adopting in lieu thereof the following.

1.33(163) **Turkeys.** All turkey hatching eggs or turkey poults must originate from flocks or hatcheries that comply with the following requirements of the Iowa state department of agriculture.

This amendment is intended to implement chapter 163 of the 1966 Code.

[Effective May 14, 1968]

AGRICULTURE DEPARTMENT

(continued)

Pursuant to authority of section 189.2(2), 1966 Code, the following additions to Rule 7.1(194) are adopted. [1966 IDR 29]

[Filed April 22, 1968]

7.1(1) All milk or cream, graded or tested, as provided by chapters 194 and 195, [Code of Iowa] shall be graded and tested by samples which shall be taken in the following manner.

a. Samples may only be taken from vats or tanks which pass the required organoleptic test; the temperature of bulk tanks from which the sample is to be taken must be not higher than 50° F.

b. The temperature of the bulk tank shall then be recorded.

c. The quantity of the milk or cream in the bulk tank shall then be measured and the measurement recorded.

d. The bulk tank shall then be agitated for a period of not less than five minutes.

e. The sample shall then be taken by using a sterile dipper and the liquid shall be placed in an approved sterile container.

f. The sample of milk or cream shall then be immediately stored at a temperature of between 32° F. and 40° F.

This rule is intended to implement chapters 194 and 195 of the Code.

[Effective April 22, 1968]

AGRICULTURE DEPARTMENT

(continued)

Pursuant to authority in 267.6, 1966 Code, the following rules are hereby adopted. [1966 IDR 44]

[Filed March 20, 1968]

12.32(267) **Cereal leaf beetle** (*Oulema melanopa*).

12.32(1) The insect cereal leaf beetle (*Oulema melanopa*) in any living state of its development is hereby declared a dangerously injurious insect pest. A certification of inspection as to freedom from

cereal leaf beetle (*Oulema melanopa*) is hereafter required on all of the following listed commodities coming into Iowa, from or through any area of the United States, which is under cereal leaf beetle (*Oulema melanopa*) quarantine.

a. Barley, oats, wheat and all other small grains which have not been cleaned to meet state seed sales requirements.

b. All hay and straw for use as forage or bedding.

c. Fodder and plant litter of any kind.

d. Sod.

e. Used harvesting machinery.

12.32(2) A certificate of inspection as to freedom from cereal leaf beetle (*Oulema melanopa*) must be executed by the state entomologist or other plant regulatory official of the quarantined state from which the commodity originates or passes through.

12.32(3) Any person bringing any of said commodities into Iowa for fairs, rodeos, or any other public or private exhibition or sale, shall furnish said certificate, at the time of arrival at his destination in Iowa to the fair board or other

public or private official in charge of said exhibition or sale.

12.32(4) Said required certificate shall be in addition to any other health certificate required by Iowa law, rule, or regulation and in addition to any certificate required by any federal law, rule or regulation.

12.32(5) It shall be the duty of all said public or private officials in charge of said exhibition or sale, who receive such a certificate to promptly file the same with the Iowa State Entomologist at the Department of Agriculture, Des Moines, Iowa.

These rules are intended to implement chapter 267 of the 1966 Code.

[Effective March 20, 1968]

AGRICULTURE DEPARTMENT

(continued)

Pursuant to authority of section 192A.28, Code 1966, the following amendment and new rules to chapter 16, Dairy Trade Practices, appearing on pages 50 to 52, inclusive, 1966 IDR are adopted.

[Filed January 11, 1968]

Amend rule 16.6(2) "b" appearing on pages 51 and 52 of the 1966 IDR by striking lines 56 and 57 of said paragraph "b", and by inserting in lieu thereof the following: "More than four promotions per year or more than one item per promotion being offered to any retailer, is a price reduction and a violation of the statute. However, nothing in this rule shall prevent the promotion offered to the retailer from including more than one item per promotion but each item so offered shall be considered a separate promotion. By this rule the department does not restrict the choice of item or items so offered."

Add to rule 16.4(192A) appearing on page 51, 1966 IDR the following new subrule.

16.4(5) *First distributor*. Under [section] 192A.30 of the Code, the word "processor" shall be construed to mean any processor or distributor that sells any

processed dairy product or dairy products in Iowa, in the first instance.

Add to chapter 16, 1966 IDR, new rules as follows.

16.9(192A) Price filing guide.

16.9(1) Under 192A.7 of the 1966 Code, new prices whether lower or higher shall be filed with the secretary of agriculture ten days prior to the effective date. Nothing in this rule shall abrogate the provisions of lines 28 through 40 of section 192A.7, 1966 Code.

16.9(2) Prices to be filed include processor and distributor prices to retailers, retail outlets, wholesalers, jobbers, and distributors.

16.10(192A) Loan guide. Any account where any balance of the purchase price is due the processor, distributor, or broker, as set forth in [sections] 192A.10 and 192A.16 for forty-five days or more shall be interpreted by the department as a loan and a violation per se of the statute.

These rules are intended to implement chapter 192A of the 1966 Code.

[Effective January 11, 1968]

AGRICULTURE DEPARTMENT

(continued)

Pursuant to authority of Section 192A.28, 1966 Code, the following rule, chapter 16, Dairy Trade Practices, is here-

by adopted. [1966 IDR 52 amendment]

[Filed May 14, 1968]

16.11(192A) Additive variant. The words "any additive variant of any dairy product" as used in [section] 192A.1(1) [Code of Iowa] shall be construed to include any product containing caseinate or

sodium caseinate derived from milk.

This rule is intended to implement chapter 192A of the 1966 Code.

[Effective May 14, 1968]

AUDITOR OF STATE

Pursuant to the authority of section 534.31 of the Code as amended by 62nd G.A., chapter 382, section 7, rules appearing in chapter 3, January 1968 Supplement to the I.D.R., pages 9 and 10, relating to the Savings and Loan Division, are hereby amended.

[Filed June 28, 1968]

[Item 1 of the following rules has been rescinded effective July 9, 1968.]

ITEM 1.

Section 3.1(1) is hereby amended by adding the following paragraphs thereto:

d. Upon appropriate action by the association, the association may also issue bonus security certificates of the minimum amounts and maturity above referred to in which the regular and extra earnings provided for in said bonus certificate would be distributable on each date as of which the association regularly distributes earnings, so long as the account meets the qualification requirements, other than the time requirement, provided for said certificate. Such bonus security forms shall be submitted to the supervisor for approval prior to initiation of such bonus plan.

e. Such bonus account may provide that earnings thereunder are compounded, and if such provision is made and compounding at the higher rate is intended, then earnings on amounts earned under such account and credited on the books of the association shall be distributable at the rate applicable to this account. Such bonus accounts may set out on the certificate the anticipated rate of extra earnings. Such certificate shall run for not less than six nor more than twelve months from date of issue, as specified by the association and the certificate, unless canceled by written notice of the association to the holder thirty days or more prior to the expiration date of the qualifying period and shall be automatically renewable. Earnings to be paid to the date of said cancellation.

f. Such a certificate as that immediately above provided for shall further pro-

vide that if withdrawals are made during the original or renewal period of said certificate, earnings on the funds withdrawn shall be adjusted from the beginning of the particular period to date of withdrawal, to the amount of earnings the holder would have received had such funds been evidenced by a regular account during that period, and the association shall reduce the amount paid the holder on withdrawal if such reduction is necessary to effect a proper adjustment of dividends according to the contract.

g. Associations may issue the type of certificate last above provided for and may, in the alternative, provide that the regular and extra earnings thereunder shall be distributed every three months from the date of issuance, so long as the account meets the qualification requirements, other than time requirements, provided for in said certificate. If such a certificate is issued, the same additional specifications and requirements as provided in paragraph "*f*" above shall be applicable.

h. Where bonus certificates of the type provided in paragraphs "*d*" and "*e*" above are used, the association would not be required to maintain a reserve for undistributed earnings.

ITEM 2.

Section 3.1(2) is hereby amended by adding the following paragraphs thereto:

d. Upon appropriate action by the association, the association may also issue certificate security forms for variable rate accounts of the minimum amount and maturity above referred to, in which the earnings at the higher rate provided for said certificate would be distributable on said account every three months from the date thereof so long as the account meets the qualification requirements other than the time requirement set forth for said certificate. Such accounts may provide for the earnings therefrom to be reinvested in the said account under the terms of the same certificate or the earnings may be paid over to the owner as otherwise agreed upon. The anticipated total rate of earn-

ings may be specified on the certificate. The certificates shall run for not less than six nor more than twelve months from date of issuance, as specified by the association and the certificate, unless canceled by written notice of the association to the holder thirty days or more prior to the expiration of a qualifying period and shall be automatically renewable, with earnings to be paid to the date of said cancellation.

e. A certificate such as that immediately above provided shall further provide that if withdrawals are made during the original or renewal period of said certificate, earnings on the funds withdrawn shall be adjusted from the beginning of the particular qualifying period to date of withdrawal, the amount to be paid to be determined by the association's board of directors, but in any event not less than fifty percent of the amount of earnings which would have been paid on said funds under the regular dividend for regular passbook accounts during said period, and the association shall reduce the amount paid the holder on withdrawal if such reduction is necessary to effect a proper adjustment of dividends according to the contract.

f. Associations may issue the type of certificate immediately above referred to and may, in the alternative to the above provisions, provide that earnings at the higher rate provided for said certificate may be distributed on said certificate on each date as of which the association regularly distributes earnings on regular savings accounts so long as the account meets the qualification requirements, other than the time requirement, provided for said certificate. If such a certificate is issued, the same additional options and requirements as provided in paragraph "d" above shall be applicable.

g. Where certificate accounts of the type provided in paragraphs "d" and "e" above are used, the association would not be required to maintain the reserve for undistributed earnings provided for the accounts referred to in paragraphs "a" through "c" above.

These amendments are intended to implement sections 534.10 and 534.42 of the Code.

[Effective June 28, 1968]

BANKING DEPARTMENT

Pursuant to authority of section 536.21 of the Code the rules that appear in 1966 IDR 61 column 2, pages 62, 63 and 64 to "Credit Union Examination Fee Regulation" are rescinded and the following adopted in lieu thereof.

[Filed March 13, 1968]

SMALL LOAN DIVISION

CHAPTER 1

[SMALL LOANS BY BANKS]

1.1(536) Application.

1.1(1) *Form used.* Printed copies of application for license shall be obtained from the Superintendent, Department of Banking, State of Iowa, Des Moines, Iowa. The printed application form shall be used by each applicant when applying for a license. All questions shall be answered in full and whenever space is inadequate a rider may be attached giving in full the information required.

1.1(2) *License and investigation fee.* Separate checks or money orders in payment of investigation fee and annual li-

cense fee must accompany the application. Each check or money order shall be made payable to the superintendent of banking.

1.2(536) Suspension, revocation or surrender of license.

1.2(1) *Refund.* No refund of license fee shall be made wherein a license is revoked or surrendered.

1.2(2) *Responsibility of license.* In order to preclude violation of any provision of the Small Loan Act or any general rule or regulation thereunder, it shall be the responsibility of each licensee to assure that each person in charge of or employed in its place of business shall be familiar with the laws and regulations relating to the business of making, servicing and collecting loans under the provisions of the Small Loan Act.

1.3(536) Records.

1.3(1) *Loan register.* A "Loan Register" or its equivalent record which shall be the book of original entry and a permanent record, shall show for every loan: Account number, date of loan, name of borrower, and nature of security. The

register shall be kept numerically by loan number in the order made.

1.3(2) Ledger card.

a. Such account card shall show: Name and address of borrower; loan number; date of loan; terms of repayment including maturity date; nature of security; cost of credit life and credit health and accident insurance (such premium to be stated separately); name of any endorsers, comakers or sureties; amount and date of receipt of recording and releasing fees and amount and dates of payment of recording and releasing fees as paid out for filing a financing statement or termination statement, including the fee required for securing a lien on a motor vehicle title.

b. The card for an interest bearing loan shall show the amount of the loan, the amount and date of each payment of principal and of interest and the balance due on principal. If a portion of the interest earned is not paid at the time payment is made, the card for an interest bearing loan must show either the date to which interest is paid or the amount of interest then due but unpaid.

c. The card for a precomputed loan shall show the actual amount of the loan excluding the precomputed interest, the amount of the precomputed interest, and the face amount of the note including interest, the amount and date of each payment applied to the note, the unpaid balance of the note after applying such payment, and the date and amount of any additional interest collected as default or deferment charges. If deferment interest is collected in whole or in part, the card shall indicate the particular installment deferred and the number of times deferred plus the date of the final installment and any uncollected portion of the deferment interest.

d. When a precomputed loan is prepaid in full, the card must show the date of prepayment, the amount paid to discharge the loan, the amount of the interest rebate, and any deduction from the rebate for previously earned but uncollected default or deferment interest.

e. When any loan is prepaid in full, either by cash or renewal, refunds of the unearned premiums of credit life and accident and health insurance shall be recorded on the card.

f. If payment is made in any other way than in the ordinary course of business, it shall be so designated; for example, payment by sale of security, insurance claim, or endorser.

g. No erasures whatsoever may be made in the payment section of any account card. In case of error a line should be drawn in ink through the improper entry and the correct entry made on the following line. The entries on the card shall correspond with the receipts given to the borrower.

h. Paid-in-full and renewed ledger cards which no longer reflect an active loan are to be accumulated in a separate section of the files of the licensee and retained from one banking department examination to the next. After the examination, these cards may be filed in a permanent file.

1.3(3) Loan file. A separate file shall be maintained for each borrower in the office where the loan is outstanding. Such file shall contain the note, security agreement, wage assignment and all other evidence of indebtedness or security pertaining to the loan except when the note is kept in a separate promissory note file or when said papers are in custody of a court or an agent for collection or are hypothecated. When a borrower is also a comaker, guarantor or endorser on another loan, the file of such borrower shall be cross-referenced to the other, unless such cross-referencing is included on the alphabetical record required by subrule 1.3(5) or on the individual account card required by subrule 1.3(2). All instruments taken in connection with a loan and signed by a borrower must bear the loan number.

1.3(4) Payments. All receipts and disbursements of any amount shall be entered on the records of the licensee as of the day they occur. Separate headings shall be provided for payments on principal and interest. In the case of precomputed loans, payments applied to the note may be shown as a lump sum and need not be itemized between principal and precomputed interest, but additional interest collected for default or deferment shall be itemized or otherwise separately indicated.

1.3(5) Index. An alphabetical record shall be maintained and show the name of each borrower, endorser, comaker or surety who is currently indebted to the

licensee, together with sufficient information to locate the account card.

1.3(6) Payments.

a. All payments shall be credited on the account card as of the day of receipt. Interest shall be charged only from the date the proceeds of the loan are delivered to the borrower even though the note shall bear a prior date.

b. When payment is received on an interest bearing loan, the receipt for each payment shall show the amount applied to interest and the amount applied to principal.

1.3(7) Examination of records. The records previously mentioned and any additional records as may be used by a licensee shall be made available for examination upon request by the superintendent of banking or his designated representatives.

1.3(8) Disbursement voucher. Licensees shall use a disbursement voucher in conjunction with each loan showing a detailed itemization of the distribution of the loan proceeds. Such voucher is to be signed by the borrower except when a loan is made by mail.

1.3(9) Date of death. When a death claim is filed with an insurance company, the exact date of death is to be recorded on the loan ledger card.

1.3(10) Annual report. An annual report shall be prepared and submitted to the superintendent of banking for each licensed place of business located within the state of Iowa. If a company owns and operates more than one licensed office in the state, then separate reports for each licensed office and a composite statement for all licensed offices owned and operated within the state shall be prepared and submitted to the superintendent of banking. Annual reports shall be completed as prescribed by the superintendent of banking.

1.4(536) Miscellaneous restrictions.

1.4(1) Advertising.

a. The words "advertisement" and "advertising" as used in these regulations shall include all material printed, published, displayed, distributed, broadcast or televised for the purpose of obtaining applications for loans.

b. No licensee shall advertise, display or distribute mailing pieces which have a similarity or resemblance to a bank counter check, postal or express money order, U. S. currency, cash exchange certificate, cash reserve certificate, or any negotiable instrument whatsoever (except a promissory note payable to the licensee) or any city, county, state or federal warrant and shall not use an envelope employing the words "Treasurer's Office" for return name and address, or which is in any manner similar to U. S. government, state, county or city envelopes used in any area.

c. No licensee shall advertise, display, distribute, broadcast, televise, or cause or permit to be advertised, displayed, distributed, broadcast, or televised, any matter whatsoever concerned with the business authorized by chapter 536, Code of Iowa, which indicates that loans may be obtained in amounts greater than permitted by law.

d. Licensees shall not feature in any advertisement such terms as "reduced rates" or "reduced payments" or similar phrases which apply only to a specific type of loan, unless such advertisement shall clearly state the type of loan to which such advertisement shall apply.

e. Licensee shall not employ unqualified superlatives in advertising, such as "lowest rates", "lowest costs", "lowest payment plan", or "cheapest loans".

f. Licensees shall not offer any monetary inducement, premiums, commissions or anything of value to present or prospective borrowers to encourage them to borrow money.

g. Licensees shall not use blind loan advertisements such as displaying only telephone numbers or box addresses which do not clearly indicate the identity of the licensee.

1.4(2) Closing loans.

a. No lender shall accept applications for loans or close loans at any place other than that named in the license. However, under unusual or peculiar circumstances or when the loan is made by mail, the signature of one or more of the borrowers may be obtained outside of the loan office, provided that such signatures are obtained by an actual and bona fide employee of the lender, or by the spouse of the borrower.

b. A licensee shall have authority to make and complete loans by mail from the lender's licensed office. In making such loans, the lender shall mail all necessary papers to the borrower and upon completion of such papers by the borrower, the check or money order representing proceeds of the loan shall be mailed from the licensee's office.

c. No licensee shall permit any person other than a bona fide employee to complete its notes, security instruments or any other form used in small loan transactions, nor shall any person other than a bona fide employee be permitted to accept payments on such loans except delinquent loans referred to other parties for collection purposes.

d. The licensee shall explain to the borrower in general terms the contents of the note, security agreement and any and all other papers taken in connection with the completion of a small loan. No instrument shall have blanks left to be completed after being signed.

1.4(3) *Splitting loans.* An individual, copartnership, association or corporation holding more than one license shall not induce or permit any borrower or any husband and wife, individually or jointly, to be indebted to him under more than one contract of loan at the same time at any one or more of his licensed offices.

1.4(4) *Recording and releasing fees.*

a. When a loan is made or any time thereafter, a licensee may charge the borrower such fees as are required for filing, recording and releasing a financing statement or mortgage if such instrument has been filed with a county recorder or the secretary of state. No fee in excess of that which is actually to be charged by the county recorder or secretary of state shall be collected from the borrower. A licensee may charge the borrower such fee as is required for recording an automobile certificate of title lien with the county treasurer's office. No fee shall be collected from the borrower exceeding that actually charged by the county treasurer.

b. Any releasing fee collected is to be carried forward on all future ledger cards until the amount is disbursed.

1.4(5) *Deferments.*

a. Deferments may be granted with or without the consent or request of the

borrower. No installment which has been partially paid, or for which a default charge has been collected, shall be deferred or included in the computation of the deferment charge unless such partial payment or default charge is refunded to the borrower or credited to the deferment charge.

(1) If the deferment is granted at the request or with the consent of the borrower, the deferment may be granted at any time, and for such number of full months as may be agreed upon between the parties.

(2) If the deferment is made at the option of the lender alone, the lender shall give the borrower appropriate written notice that the deferment has been granted disclosing the date of the deferment, the amount of the deferment charge, the date on which the next installment is scheduled to be paid and the deferred maturity date of the loan. The number of months of any deferment shall not exceed one month plus the number of full installments in default.

(3) Any provision in any promissory note or other document which is not in conformity with the foregoing provisions shall not be deemed objectionable so long as the foregoing provisions are complied with in all respects.

1.4(6) *Default charge.* Default charges are not to be collected if payment is made by accident and health insurance claim.

1.5(536) *Release of security.* Upon repayment of the loan in full by cash, a new loan, or otherwise, the licensee must within thirty days mark indelibly every obligation and security other than a mortgage or security agreement signed by the borrower with the word "paid" or "canceled", and release any mortgage or security interest which no longer secures a loan to the licensee, restore any collateral, return any note and any assignment given by the borrower.

1.6(536) *Sales finance contracts.*

1.6(1) *Written permission to purchase.* If the superintendent of banking shall grant in writing permission to a licensee to purchase sales contracts from third parties, the total indebtedness of a borrower due to the licensee together with

that due on contracts purchased may exceed the amount prescribed by statute provided that:

a. The small loan and sales contracts are not knowingly made simultaneously.

b. No licensee shall make a loan simultaneously with the purchase of a time sales contract by it or by an associate or affiliate if the debtor under both the loan and sales contracts is the same and the loan and sales contracts together exceed one thousand dollars. Any loan made within fifteen days either before or after the purchase of a time sales contract to the same debtor shall be deemed to constitute a simultaneous transaction.

c. An adequate index system shall be established and maintained by licensees for each type of business permitted in writing by the superintendent of banking in order that the examiner or examiners duly appointed by the superintendent of banking may determine that no violations of the statute exist. Such index system shall contain all current evidence of indebtedness or security which have been signed by the borrower, endorser, guarantor, or surety, except spouse as listed on the record of the borrower.

1.6(2) *Usury*. It shall be considered usurious and an evasion of the small loan law to permit any person as a borrower or as an endorser, guarantor or surety to be indebted to a licensee directly or contingently or both at any one time for a sum exceeding one thousand dollars for principal, except that an endorser, guarantor or surety for any borrower shall also be permitted to borrow as long as the total of the guaranteed and direct loan does not exceed one thousand dollars and if the legal instruments which the endorser, guarantor or surety signed as such are noted to read that such person "appears on this note as endorser, guarantor or surety and is responsible for the principle balance only."

1.7(536) Insurance.

1.7(1) *Kind permitted*. No licensee under chapter 536 or any person or corporation affiliated with the licensee shall solicit insurance, take any application, requisition or request for insurance, or receive profits from insurance in connection with any loans made under chapter 536

except credit life and credit health and accident insurance. The term of such credit insurance shall not extend beyond the final maturity date of the loan contract, and only one obligor on any one loan contract may be insured.

1.7(2) *Amount of insurance*. The initial amount of life insurance cannot exceed the total amount repayable (principal and interest). Thereafter, the amount of life insurance in force during the term of insurance shall not exceed the scheduled monthly loan payment multiplied by the number of unexpired due dates or the amount required to discharge the loan contract, whichever is greater.

1.7(3) *Monthly benefit*. The amount of each periodic benefit payment provided by credit accident and health insurance shall not exceed the scheduled periodic loan payment.

1.7(4) *Computation of insurance proceeds*. The date of death of any obligor who is covered by credit life insurance shall be considered as the date of final payment on both interest bearing and precomputed loans. Compute refund of unearned interest as of the date of death. In computing such refund the number of months elapsed is equal to the number of expired due dates plus the next due date if death occurs sixteen days or more after a scheduled due date. The difference between the amount of insurance in force and the balance due the licensee, after deducting interest refund, must be paid to the second beneficiary or estate of the deceased.

1.7(5) *Insurance premium refunds*. Whenever a loan is paid in full or renewed before maturity (except by insurance), existing life insurance and accident and health insurance must be canceled, and unearned premiums refunded.

a. When a loan is paid in full or renewed prior to the first scheduled due date, the insurance shall be deemed to have been in force for one full month.

b. In computing the unearned premiums on or after the first scheduled due date, the number of months elapsed is the number of expired due dates plus the next date if prepayment in full or renewal occurs sixteen days or more after a scheduled due date.

c. A premium refund or credit need not be made if the total amount thereof

for both credit life and credit health and accident insurance is less than one dollar total.

1.7(6) *Credit insurance premium refund upon settlement by life or health and accident claim.* When the loan balance is paid by claim under the insurance provisions of credit life insurance, the date of death shall be considered as the date of payment of the account and the unearned premium on the credit health and accident insurance shall be refunded. Such refund is to be added to the death benefit proceeds and used first to liquidate the loan

balance with any excess to be paid to the second beneficiary or the estate of the insured member. Similarly, should the insurer of the health and accident coverage elect to liquidate the contract balance in one sum, the date of such payment shall be the date used to compute the amount of the unearned premium on the credit life insurance and such amount of refund shall be paid to the insured. In the case of a precomputed loan, both the unearned interest and refund of unearned credit life premium are to be paid to the insured.

[Effective April 12, 1968]

COMMERCE COMMISSION

Pursuant to authority of chapter 490A of the Code, the following rules are adopted.

[Filed June 11, 1968]

UTILITIES DIVISION

CHAPTER 21

SERVICE SUPPLIED BY WATER UTILITIES

21.1(490A) General information.

21.1(1) *Authorization of rules.* Chapter 490A, Code of Iowa, provides that the Iowa state commerce commission shall establish all needful, just and reasonable rules and regulations, not inconsistent with law, to govern the exercise of its powers and duties, the practice and procedure before it, and to govern the form, contents and filing of reports, documents and other papers necessary to carry out the provisions of this law.

21.1(2) *Application of rules.* The rules shall apply to any water utility operating within the state of Iowa under the jurisdiction of the Iowa state commerce commission and are made pursuant to chapter 490A, Code of Iowa.

These rules are intended to promote safe and adequate service to the public, to provide standards for uniform and reasonable practices by utilities, and to establish a basis for determining the reasonableness of such demands as may be made by the public upon the utilities.

If unreasonable hardship to a utility or to a customer results from the application of any rule herein prescribed, application may be made to the commission for the modification of the rule or for temporary

or permanent exemption from its requirements.

The adoption of these rules shall in no way preclude the commission from altering or amending them, or from making such modifications with respect to their application as may be found necessary to meet exceptional conditions.

These regulations shall in no way relieve any utility from any of its duties under the laws of this state.

21.1(3) *Definitions.*

a. "Acquisition" as used herein refers only to the acquisition of a unit of plant in place and ready for operation and does not include the purchase of materials or equipment for later installation.

b. "Commission" as used in these rules shall be construed to mean the Iowa state commerce commission, and sometimes hereinafter referred to as I.S.C.C.

c. "Customer" as used in these rules shall be construed to mean any person, copartnership, firm, association, corporation, their lessees, trustees, or receivers appointed by any court, or agency of the federal, state or local government, being supplied with water service by a water utility.

d. "Gross property additions" means the sum total of construction cost and appropriate overhead costs as defined in Instruction 3, Components of Construction Cost, and Instruction 4, Overhead Construction Costs of the Utility Plant Instructions of the Uniform System of Accounts for Water Utilities as adopted by this commission.

e. "Distribution main" means water pipe owned, operated, or maintained

by a utility which is used for the purpose of distribution of water from which service connections with customers are taken.

f. "Main" or "mains" shall mean any pipe, conduit or other conveyance through which water for public use may be transmitted or distributed. It shall include trenches or other structures in or upon which such pipe, conduit or other conveyance is carried, and also land, easements or other rights of occupancy or use requisite for the construction and operation of such pipe, conduit or other conveyance.

g. "Meter", without other qualifications, shall mean any device or instrument used for the purpose of measuring a quantity of water by a water utility.

h. "Municipality" refers to any town, village or city.

i. "Service connection" shall be construed to mean the line from the main to the customer's property line, and shall include all of the pipe fittings and valves necessary to make the connection.

j. "Service pipe" or "service line" shall mean the pipe that runs between the distribution main and the customer's place of consumption.

(1) "Company service pipe" shall mean that portion of the service pipe installed at the cost and expense of the utility.

(2) "Customer's service pipe" shall be that portion of the service pipe installed at the cost and expense of the customer.

k. "Transmission main" is used for conveying water to the distribution system, reservoirs, tanks or stand pipes, and has generally no service connections with customers.

l. "Utility" as used in these rules shall be construed to mean any person, partnership, business association or corporation, domestic or foreign, owning or operating any facilities for furnishing water to the public for compensation, when subject to the jurisdiction of this commission, their lessees, trustees, or receivers, appointed by any court whatsoever, that may now or hereafter be engaged as a public utility in the business of furnishing water to domestic, commercial, industrial or municipal customers in the state of Iowa.

m. "Premises" as used herein shall be restricted to the following:

(1) A building under one roof owned or leased by one customer and occupied as one residence or one place of business.

(2) A combination of buildings owned or leased by one customer, in one common enclosure occupied by one family as a residence or one corporation or firm as a place of business.

(3) Each unit of a multiple house or building separated by a solid vertical partition wall occupied by one family as a residence or one firm as a place of business.

(4) A building owned or leased by one customer and having a number of apartments, offices, or lofts which are rented to tenants using in common one hall and one or more means of entrance.

(5) A building two or more stories high under one roof owned or leased by one customer and having an individual entrance for the ground floor occupants and one for the occupants of the upper floors.

(6) A combination of buildings, such as a garden-type apartment, owned by one customer, in one common enclosure, none of the individual buildings of which is adapted to separate ownership.

(7) A public building.

(8) A single plot, used as a park or recreational area.

n. "Property" shall mean all facilities owned and operated by a water utility.

21.2(490A) Records and reports.

21.2(1) *Location of records.* All records required by these rules, or necessary for the administration thereof, shall be kept within the state at an office or offices of the utility unless otherwise authorized by the commission and shall be reasonably accessible and available for examination by the commission or its authorized representatives at all reasonable hours.

21.2(2) *Retention of records.* Unless otherwise specified by the commission, all records required by these rules shall be preserved for the period of time specified

in the revised 1963 edition of the National Association of Regulatory Utility Commissioners' publication "Regulations to Govern the Preservation of Records of Electric, Gas and Water Utilities", as provided in chapter 18 of the rules of the utilities division, Iowa state commerce commission, as presently constituted or revised in the future.

Where machine billing is used and meter readings recorded on tabulating cards, the register sheets may be considered the "meter reading sheets" and the "billing records." "Meter reading sheets" and "billing records" or the "register sheets" shall be kept six years or until they are no longer needed to adjust bills. This means that the records must be kept six years or from the date of one meter test to the next, whichever is longer.

21.2(3) Tariffs to be filed with the commission. The utility shall file its tariff with the commission, and shall maintain such tariff filing in a current status. The schedules of rates and rules of all rate regulated utilities shall be filed with the commission and shall be classified, designated, arranged and submitted so as to conform to the requirements of current tariff or rate schedule circulars and special instructions which have been or may from time to time be issued by the commission. Provisions of the schedules shall be definite and so stated as to minimize ambiguity or the possibility of misinterpretation. The form, identification and content of tariffs shall be in accordance with these rules.

21.2(4) Form and identification. All tariffs shall conform to the following regulations.

a. The tariff shall be printed, typewritten or otherwise reproduced on 8½ x 11 inch sheets of white paper equal in durability to twenty-pound bond paper with twenty-five per cent cotton or rag content so as to result in a clear and permanent record. The sheets of the tariff should be ruled or spaced to set off a border on the left side suitable for binding. In the case of utilities subject to regulation by any federal agency, the format of sheets of tariff as filed with the commission may be the same format as is required by the federal agency provided that the rules of the commission as to title page, identity of superseding, replacing or revision sheets, identity of amending

sheets, identity of the filing utility, issuing official, date of issued, effective date, and the words "Filed with the iscc" shall apply in the modification of the federal agency format for the purposes of filing with this commission.

b. The title page of every tariff and supplement shall show in the order named:

(1) The first page shall be the title page which shall show:

_____ WATER TARIFF
(Name of Public Utility)

Filed with Iowa State Commerce Commission _____ (Date).

(2) When a tariff is to be superseded or replaced in its entirety, the replacing tariff shall show on its title page that it is a revision of a tariff on file.

(3) When a revision or amendment is made to a filed tariff, the revision or amendment shall show on each sheet the designation of the original tariff or number of the immediate preceding revision or amendment which it replaces.

(See Exhibit A)

(4) When a new part of a tariff eliminates an existing part of a tariff, it shall so state and identify the part eliminated. (See Exhibit A)

(5) Any tariff modifications as defined in (2), (3) or (4) above replacing tariff sheets shall be marked in the right margin with symbols as herein described to indicate the place, nature and extent of the change in text.

Symbol Meaning

- (C) A change in regulation.
- (D) A discontinued rate, treatment or regulation.
- (I) An increased rate or new treatment resulting in increased rate.
- (N) A new rate, treatment or regulation.
- (R) A reduced rate or new treatment resulting in a reduced rate.
- (T) A change in text but no change in rate, treatment or regulation.

c. All sheets except the title page shall have, in addition to the above-stated requirements, the following further information:

(1) Name of utility tariff under which shall be set forth the words "Filed with the iscc". (See Exhibit A)

If the utility is not a corporation, and a trade name is used, the name of the individual or partners must precede the trade name.

(2) Issuing official and issue date.

(3) Effective date.

21.2(5) *Content of tariffs.* A tariff filed with the commission shall contain:

a. Table of contents. A table of contents containing a list of rate schedules and other sections in which they appear showing the sheet number of the first page of each section.

b. Rates. All rates of utilities subject to rate regulation for service with indication for each rate of the type of water service and the class of customers to which each rate applies. There shall also be shown the prices per unit of service, and the number of units per billing period to which the prices apply, the period of billing, the minimum bill method of measuring demands and consumptions, including method of calculating or estimating loads or minimums, and any special terms and conditions applicable. The discount for prompt payment or penalty for late payment, if any, and the period during which the net amount may be paid shall be specified.

c. Utility's rules. A copy of the utility's rules, or terms and conditions, describing the utility's policies and practices in rendering service, shall include:

(1) The list of the items which the utility furnishes, owns, and maintains on the customer's premises, such as water services, meters, and shut-off valves.

(2) General statement of the utility's policy in making adjustments for wastage of water when such wastage occurs without the knowledge of the customer.

(3) A statement indicating the minimum number of days allowed for payment of a customer's bill before service will be discontinued for nonpayment.

(4) A copy of each standard and special type of contract for service.

(5) A copy of each type of customer bill form.

(6) The name, title, address, and telephone number of the person who is authorized to receive, act upon and respond to matters in connection with general management duties, customer relations (complaints), engineering operations, meter tests and repairs and emergencies during nonoffice hours.

(7) The location at which the utility keeps the various classes of records required by these rules.

(8) List of towns, cities, and unincorporated communities where urban rates are applicable, and towns in which service is furnished.

(9) Definitions of classes of customers.

(10) Extension rules for extending service to new customers indicating what portion of the extension or cost thereof will be furnished by the utility; and if the rule is based on cost, the items of cost included as required in section 21.3 (12).

(11) Rules with which prospective customers must comply as a condition of receiving service, and the terms of contracts required.

(12) Rules governing the establishment of credit by customers for payment of service bills.

(13) Rules governing disconnecting and reconnecting service.

(14) Notice required from customer for having service discontinued.

(15) Rules governing temporary, emergency, auxiliary, and standby service.

(16) Rules shall show any limitations on loads and covering the type of equipment which may or may not be connected.

(17) A notification to the commission shall be made of any planned change in rate of service by a utility even though the change in rate of service is provided for in its tariff filing with the commission. This information shall reflect the amount of increase or decrease and the effective date of application.

d. Changes in tariffs. Changes in tariffs or rate schedules, rules or regula-

tions which are included in a tariff, may be made by filing an entire new tariff or by filing additional original sheets or revised sheets, which shall be numbered and identified as provided in section 21.2(4). The proposed change shall be indicated on the additional original sheet or on the revised sheet by an asterisk immediately preceding the item or by some other method of symbols with an explanation in the schedule of the symbols used. Where a new ruling eliminates a rate schedule, rule or regulation, it shall so state.

21.2(6) System maps verification. A utility shall file annually with the commission a verification that it has a currently correct set of utility system maps or other records for each operating or distribution area. The maps or other records shall show:

- a. Location of all principal pumping stations, filter plants, sources of supply, storage facilities and size, character and location of all mains, including valves, pressure gauges, and fire hydrants.
- b. Location, size, and kind of each service pipe, where practicable. In lieu of showing service locations on maps, a card record or other suitable means may be used.
- c. Layout of all principal pumping stations, filter plants to show size, location and character of all major equipment, pipe lines (composition), connections, valves, and other equipment used.
- d. The date of construction of all principal items of plant and extensions of main.
- e. State boundary crossings.
- f. Franchise area.
- g. Names of all communities (post offices) served.

21.2(7) Accident reports. Prompt notice, by telephone or telegraph, shall be given to the engineering section of the commission during office hours by the utility of any accident which has resulted in a fatality. Any utility under the jurisdiction of this commission shall report in writing to the commission, all accidents to employees or other persons resulting in fatalities or fractures, dislocations, or internal or other injuries, which either incapacitates the person injured for two days thereafter, or may prevent him from re-

turning to work for two days thereafter, which are directly traceable to the transmission and distribution of water and accidents resulting in property loss in excess of \$10,000; such written report shall indicate the following information:

- a. The name, address and age of the person or persons involved in the accident.
- b. The time and place where the accident occurred.
- c. Description of injuries including extent, severity and location on injured person(s).
- d. The cause of the accident in detail.
- e. The name of the individual, company, corporation, operating the water system.

21.2(8) Construction programs. A utility shall file a report of major construction programs as follows:

- a. A notification of all proposed important additions to plant, the construction of which was started by the utility during the preceding month. For the purpose of this rule, an important addition to plant shall mean a single project involving the expenditure of at least \$100,000 or an amount equivalent to at least ten per cent of the total water plant in service, whichever is less.
- b. A notification of all important additions to plant previously reported under "a" above, the construction of which was completed to the extent that the facility was placed in operation during the preceding month.

21.2(9) Records of water service.

Each utility shall compile a monthly record of the following operations within thirty days after the end of the month covered and such record shall upon and after compilation be kept available for inspection by the commission or its staff at the utility's principal office within the state of Iowa and a summary of the twelve monthly water service records for each calendar year shall be attached to and submitted with the utility's annual fiscal plant and statistical report to the commission. Such records shall contain:

- a. The monthly intake of run water and the disposition of water.

b. Unscheduled or unplanned interruptions of service, [Rules 21.2(13) and 21.7(3)], occurring during the month. If there were no such interruptions, then it should be so stated.

c. The number of customer meters tested and test results tabulated.

d. Description of unusual types of operating difficulties.

e. Customer complaints as set out in rule 21.4(10).

21.2(10) Informing the commission. The utility shall keep the commission informed currently by written notice as to the location at which the utility keeps the various classes of records required in these rules.

21.2(11) Filing rules. A copy of the utility's current rules, if any, published or furnished by the utility for the use of engineers, architects, plumbing contractors, etc., covering meter and service installation shall be filed with the commission.

21.2(12) Filing bill forms. A copy of each type of customer bill form in current use shall be filed with the commission.

21.2(13) Prompt notice. Prompt notice by telephone or telegram shall be given the water engineering section of the commission by a utility in the event of unscheduled or unplanned interruption of service involving one hundred or more customers for a period of two hours or more duration.

21.2(14) Filing monthly, periodic and annual reports. Each utility shall file such other monthly, periodic and annual reports as are requested by the commission. Monthly and periodic reports shall be due in the commission's office within thirty days after the end of the reporting period. All annual reports shall be filed with this commission by April 1 of each year for the preceding calendar year.

21.3(490A) General service requirements.

21.3(1) Disposition of water. All water sold by a utility shall be upon the basis of metered volume sales except that the utility may at its option provide flat rate or estimated service for the following:

a. Temporary service where the water use can be readily estimated.

b. Public and private fire protection service.

c. Water used for street sprinkling and sewer flushing, when provided for in contract between the utility and the municipality or other local government authority.

21.3(2) Register and multiplier. All meters used for metered sales shall have registration devices indicating the volume of water in either cubic feet or United States gallons. Where a constant or multiplier is necessary to determine the meter reading in cubic feet or gallons, the constant or multiplier shall be indicated upon the face of the meter.

21.3(3) Special charges. No utility shall make special charges for its installation or use of any devices for metering service to a customer, except for temporary service where the utility may charge its actual cost of installation and removal of its metering devices.

21.3(4) Utility use. Wherever practicable, consumption of water within the utility itself, or by administrative units associated with it, shall be metered.

21.3(5) Separate metering. Separate premises shall be separately metered and billed. Combined billing or submetering shall not be permitted.

21.3(6) Meter reading sheets and cards. The meter reading sheets or cards shall show:

a. Customer's name, address and rate schedule or identification of rate schedule.

b. Identifying number or description of the meter(s).

c. Meter readings and dates.

d. If the reading has been estimated.

e. Any applicable multiplier or constant, or reference thereto.

21.3(7) Meter reading interval. Reading of all meters used for determining charges to customers shall be scheduled monthly, bimonthly, quarterly, or semi-annually. An effort shall be made to read meters on corresponding days of each meter-reading period. The meter-reading date may be advanced or postponed not more than ten days without adjustment of the billing for the period. The utility may permit the customer to supply the meter

readings on a form supplied by the utility, provided a utility representative reads the meter at least once each six months and when there is a change of customer.

21.3(8) *In and out. Readings and estimates.* When a customer is connected or disconnected or the regular meter-reading date is substantially revised causing a given billing period to be longer or shorter than usual, such bills shall be prorated on a daily basis unless other provisions are made in the utility's filed rules.

The utility may leave a meter-reading form with the customer when access to meters cannot be gained. If the form is not returned in time for the billing operation, an estimated bill may be rendered. If an actual meter reading cannot be obtained, the utility may render an estimated bill without reading the meter or supplying a meter-reading form to the customer. Only in unusual cases or when approval is obtained from the customer shall more than three consecutive estimated bills be rendered.

21.3(9) *Meter test records.* Each utility shall maintain records of at least the last two tests made of any meter. The record of the meter test made at the time of the meter's retirement shall be maintained for a minimum of three years. Test records shall include the following:

- a. The date and reason for the test.
- b. The reading of the meter before making any test.
- c. The accuracy "as found" at each rate of flow.
- d. The accuracy "as left" at each rate of flow.
- e. In the event test of the meter is made by using a standard meter, the utility shall retain all data taken at the time of the test in sufficiently complete form to permit the convenient checking of the test methods and the calculations.

21.3(10) *Records of meters and associated metering devices.* Each utility shall maintain records of the following data, where applicable, for each meter and associated metering device until retirement:

- a. The complete identification—manufacturer, number, type, capacity, multiplier, constants, and pressure rating.

- b. The dates of installation and removal from service, together with the location.

21.3(11) *Temporary service.* When the utility renders temporary service to a customer, it may require that the customer bear all the costs of installing and removing the service in excess of any salvage realized.

21.3(12) *Extension plan.* The utility shall develop, with the approval of the commission, a uniform policy governing the amount of main extension that will be made free to connect a new customer. This policy shall be based generally on the investment that can prudently be made for the probable revenue. In the event that a customer is required to make a contribution to the cost of the utility's facilities required to serve him, the utility shall account for this contribution in such manner that it will not be included in the rate base used to determine the reasonableness of the utility's rates. No utility shall make any extension except as permitted by their rules or refuse to make extension in accordance with these rules.

21.3(13) *Service connections.* In urban areas with well-defined streets, the utility shall control (supervise the installation and maintenance of) that portion of the service pipe from its main to and including the customer's meter. A curb stop shall be installed at a convenient place between the property line and the curb. All services shall include a curb stop and curb box or meter vault. In installations where meters are installed in meter vaults incorporating a built-in valve, and are installed between property line and curb, no separate curb stop and curb box is required.

21.3(14) *Location of meters.* Meters may be installed outside or inside as mutually agreed upon by the customer and utility.

a. *Outside.* Meters installed out-of-doors shall be readily accessible for maintenance and reading and so far as practicable the location should be mutually acceptable to the customer and the utility. The meter shall be installed so as to be unaffected by climatic conditions and reasonably secure from injury.

b. *Inside.* Meters installed inside the customer's building shall be located as near as possible to the point where the service pipe enters the building and at a

point reasonably secure from injury and readily accessible for reading and testing. In cases of multiple buildings, such as two-family dwellings or apartment buildings, the meter(s) shall be located within the premises served or in a common location accessible to the customers and the utility.

21.4(490A) Customer relations.

21.4(1) *Customer information.* Each utility shall:

a. Post a notice in a conspicuous place in each office of the utility where applications for service are received, informing the public that copies of the rate schedules and rules relating to the service of the utility, as filed with the commission, are available for inspection.

b. Upon request, inform its customers as to the method of reading meters, computing the charges billed and assist in choosing the appropriate rate.

c. Provide notification of changes in rates or rate classifications as set out in Rules of Practice and Procedure Before the Iowa State Commerce Commission on Public Utility Matters.

d. Furnish such additional information as the customer may reasonably request.

e. Maintain up-to-date maps, plans, or records of its entire transmission and distribution systems, with such other information as may be necessary to enable the utility to advise prospective customers, and others entitled to the information, as to the facilities available for serving any locality.

f. Make certain that employees responsible for the receiving of customer telephone calls and customer office visits shall be properly qualified and instructed in the screening and prompt handling of complaints to assure prompt reference of the complaint to the person or department capable of effective handling of the matter complained of and to obviate the necessity of the customer's preliminary repetition of the entire complaint to employees lacking in ability and authority to take appropriate action.

g. Each utility shall at any time, on request, give its customers such information and assistance as is reasonably possible in order that customers may secure safe and efficient service. Each utility

shall inform each customer of any change made or proposed to be made in any condition as to its service as would affect the efficiency of the service or the operation of the appliances or equipment which may be in use by said customer.

21.4(2) *Customer deposits.* Each utility may require from any customer or prospective customer a deposit intended to guarantee payment of bills for service.

a. *Amount of deposit.* Such deposit shall not be less than five dollars nor more in amount than the maximum estimated charge for service for two consecutive billing periods or ninety days, whichever is less, or, in the case of a customer whose bills are payable in advance, it shall not exceed an estimated sixty days bill for such customer, or as may reasonably be required by the utility in cases involving service for short periods or special occasions.

b. *Interest on deposit.* Simple interest on deposits at the rate of at least five per cent per annum shall be paid by the utility to each customer required to make such a deposit for the time held by the utility. Interest shall be paid from the date of deposit to the date of refund or the date upon which the customer's account becomes delinquent, whichever is earlier, unless such period be less than six months. Payment of the interest to the customer may be made annually or at the time the deposit is returned. The deposit shall cease to draw interest on the date it is returned, on the date upon which the customer's account becomes delinquent, or on the date notice is sent to the customer's last known address that the deposit is no longer required.

c. *Deposit record.* Each utility shall keep records to show: (1) The name and address of each depositor. (2) The amount and date of the deposit. (3) Each transaction concerning the deposit.

d. *Deposit receipt.* Each utility shall issue a receipt of deposit to each customer from whom a deposit is received, and shall provide means whereby a depositor may establish his claim if his receipt is lost.

e. *Deposit refund.* The deposit may be refunded upon request of the customer after twelve consecutive months of prompt payment, and, without such request, shall be refunded by the utility af-

ter thirty-six months of prompt payment unless the utility has evidence to indicate that the deposit is necessary to insure payment of bills for service. The deposit shall be refunded when the customer has paid the final billing upon termination of his service.

f. Unclaimed deposits. A record of each unclaimed deposit must be maintained for at least three years, during which time the utility shall make a reasonable effort to return the deposit. After three years, the unclaimed deposits, together with accrued interest, shall be credited to an appropriate account as established by the commission's accounting rules.

g. New or additional deposit. A new or additional deposit may be required upon reasonable written notice of the need for such a requirement in any case where a deposit has been refunded or is found to be inadequate to cover two months bills as above provided for, or where a customer's credit standing is not satisfactory to the utility. The service of any customer who fails to comply with these requirements may be disconnected upon five days written notice.

21.4(3) Customer bill forms. The utility shall bill each customer as promptly as possible following the reading of his meter. Each bill, including the customer's receipt, shall show:

a. The reading of the meter at the beginning and at the end of the period for which the bill is rendered.

b. The dates on which the meter was read at the beginning and end of the billing period.

c. The number and kind of units metered.

d. The applicable rate schedule, or identification of the applicable rate schedule.

e. The gross and net amount of the bill.

f. The discount for prompt payment or penalty for delayed payment and the latest date on which it may be paid without loss of discount or incurring of penalty.

g. A distinct marking to identify an estimated bill.

h. Prorating of bills for a billing period which is longer or shorter than usually allowed on a daily basis unless other provisions are filed by the utility in its filed rules.

i. Credits due a customer because of meter inaccuracies, errors in billing, or misapplication of rates each shown separately and identified. The original billing rendered because of meter inaccuracy, or errors in billing, shall be separated from the regular bill and the charges explained in detail. Subsequent to the first billing, the amount can be shown as a separate item on the regular bill.

21.4(4) Customer records. The utility shall retain customer billing records for the length of time necessary to permit the utility to comply with section 21.4(5), but not less than three years.

21.4(5) Adjustment of bills. Bills which are incorrect due to meter or billing errors are to be adjusted as follows:

a. Fast meters. Whenever a meter in service is tested and found to have over-registered more than two per cent, the utility shall adjust the customer's bill for the excess amount paid. If the time at which the error first developed or occurred can be definitely determined, the estimated amount of overcharge is to be based thereon. If the time at which the error first developed or occurred cannot be definitely determined, it shall be assumed that the overregistration existed for a period equal to one-half of the time since the meter was last tested, or July 4, 1963, whichever is later, and the bills for service shall be recalculated for that period. If the recalculated bills indicate that more than three dollars is due an existing customer or five dollars is due a person no longer a customer of the utility, the full amount of the calculated difference between the amount paid and the recalculated amount shall be refunded to the customer. The refund to an existing customer may be in lump sum cash or as lump sum credit on a bill. If a refund is due a person no longer a customer of the utility, a notice shall be mailed to the last known address, and the utility shall upon request made within three months thereafter refund the amount due.

b. Nonregistering meters. Whenever a meter in service is found not to register, the utility may render an estimated bill. The utility shall estimate the charge for

the water used by averaging the amount registered over a similar period preceding or subsequent to the period of nonregistration or for corresponding period in previous years, adjusting for any changes in the customer's usage. When it is found that the error in a meter is due to some cause, the date of which can be fixed, the overcharge or the undercharge shall be computed back to but not beyond such date.

c. Slow meters. Whenever a meter is found to be more than two per cent slow, the utility may bill the customer for the amount the test indicates he has been undercharged for the period of inaccuracy, which period shall not exceed the last six months the meter was in service unless otherwise ordered by the commission. No back billing will be allowed if the customer has called to the company's attention his doubts as to the meter's accuracy and the company has failed within a reasonable time to check it.

d. Calculation of billing adjustments. Billing adjustments due to fast and slow meters shall be calculated on the basis that the meter should be 100 per cent accurate. For the purpose of billing adjustment, the meter error shall be one-half of the algebraic sum of the error at maximum test flow plus the error at intermediate test flow.

e. Overcharge adjustment. When a customer has been overcharged as a result of incorrect reading of the meter, incorrect application of the rate schedule, incorrect connection of the meter, or other similar reasons, the amount of the overcharge shall be adjusted, refunded, or credited to the customer.

f. Undercharge adjustment. When a customer has been undercharged as a result of incorrect reading of the meter, incorrect application of the rate schedule, incorrect connection of the meter, or other similar reasons, the amount of the undercharge may be billed to the customer.

g. Credits and explanations. Credits due a customer because of meter inaccuracies, errors in billing, or misapplication of rates shall be separately identified as set out in section 21.4(3) "i".

21.4(6) Reasons for denying and disconnecting service. Service may be refused or discontinued only for the reasons listed below. Unless otherwise stated, the cus-

tomers shall be permitted at least five days, excluding Sundays and legal holidays, following mailing in which to take necessary action before service is discontinued.

a. Without notice in the event of a condition determined by the utility to be unreasonably hazardous.

b. Without notice in the event of customer use of equipment in such a manner as to adversely affect the utility's equipment or the utility's service to others.

c. Without notice when the utility has discovered clear and convincing evidence that by fraudulent means a customer has obtained unauthorized water service or has diverted the water service for unauthorized use or has obtained water service without same being properly registered upon the utility's meters.

d. In the event of tampering with the equipment furnished and owned by the utility.

e. For violation of or noncompliance with the rules which the utility has filed with the commission.

f. For failure of the customer to fulfill his contractual obligations for service or facilities subject to regulation by the commission.

g. For failure of the customer to permit the utility reasonable access to its equipment.

h. For nonpayment of bill provided that the utility has made a reasonable attempt to effect collection and has given the customer written notice that he has at least five days, excluding Sundays and legal holidays, in which to make settlement on his account or make a deposit in accordance with section 21.4(2) or have his service disconnected.

i. For failure of the customer to furnish such service equipment, permits, certificates, or rights of way, as shall have been specified by the utility as a condition to obtaining service, or in the event such equipment or permissions are withdrawn or terminated.

j. No service shall be disconnected on the day prior to a weekend or holiday except as provided in paragraphs "a," "b" and "c" of this section.

k. When a prospective customer is refused service under the provisions of this section, the utility shall notify him prompt-

ly of the reason for the refusal to serve and of his right to appeal the utility's decision to the commission.

21.4(7) Reconnection. In all cases of discontinuance of service as herein defined, where the cause for discontinuance has been corrected, and all rules of the utility on file with the commission have been complied with, the utility shall promptly restore service to the customer.

21.4(8) Reconnection charge. Where service has been discontinued in accordance with this section, the utility may make a reasonable charge for reconnection of service. This charge, however, shall be applied uniformly and shall be incorporated in the rules of the utility.

21.4(9) Insufficient reasons for denying service. The following shall not constitute sufficient cause for refusal of service to a present or prospective customer:

a. Nonpayment for service by a previous occupant of the premises to be served.

b. Failure to pay for merchandise or special services purchased from the utility.

c. Failure to pay the bill of another customer as guarantor thereof.

d. Failure to pay for a different type or class of public utility service.

e. Failure to pay a back bill rendered in accordance with rule 21.4.(5) "c". (Slow meters).

f. Failure to pay adjusted bills based on the undercharges set forth in section 21.4(5) "f".

21.4(10) Customer complaints. For the purpose of this section, the word "complaint" shall mean objection to the charge, facilities, or quality of service of a utility concerning which an investigation is necessary.

a. Each utility shall investigate promptly and thoroughly and keep a record of written complaints and all other reasonable complaints received by it from its customers in regard to safety, service, or rates, and the operation of its system as will enable it to review and analyze its procedures and actions. The record shall show the name and address of the complainant, the date and nature of the complaint, and its disposition and the date thereof.

b. All complaints caused by a major service interruption shall be summarized in a single report.

c. A record of the original complaint shall be kept for a period of three years subsequent to the final settlement of the complaint.

21.4(11) Access to property. The utility shall have access at all reasonable hours to meters, service connections, and other property owned by it which may be located on customer's premises for purposes of installation, maintenance, operation, or removal of its property at the time service is to be terminated. Any employee of the utility whose duties require him to enter the customer's premises shall wear a distinguishing uniform or other insignia, identifying him as an employee of the utility, or carry on his person a badge or other identification which will identify him as an employee of the utility, the same to be shown by him upon request.

21.5(490A) Engineering practice.

21.5(1) Requirement of good engineering practice. The design and construction of the utility's water plant shall conform to good standard engineering practice. It shall be designed and operated so as to provide reasonably adequate and safe service to its consumers and shall conform to the requirements of the state department of health, and local boards of health, with reference to sanitation and potability of water.

21.5(2) Construction standards. Standards for construction and maintenance of mains and services are as follows:

a. *Depth of mains.* Water mains shall be placed at such a depth below ground level, or otherwise protected, as will prevent freezing during the coldest weather experienced in the community in which laid, and to prevent damage by traffic.

b. *Dead ends.* Insofar as practicable, the utility shall design its distribution system so as to avoid dead ends in its mains. Where dead ends are necessary, the utility shall provide hydrants or valves for the purpose of flushing the mains. Mains with dead ends shall be flushed as often as necessary to maintain the quality of the water but in any event they shall be flushed at least once each six months.

c. Segmentation of system. Valves or stopcocks shall be provided at reasonable intervals in the mains so that repairs may be effected by the utility with interruptions to the service of a minimum number of customers.

d. Disinfection of water mains. All new mains shall be thoroughly disinfected before being connected to the system. The method of disinfecting shall be in compliance with state department of health acceptable practice standards.

e. Grid systems. Wherever feasible, the distribution system shall be laid out in a grid so that in case of breaks or repairs the interruptions of service to the customers shall be at a minimum.

f. Size of service pipe. The size, design, and material and installation of the service pipe shall conform to such reasonable requirements of the utility as may be incorporated in its rules and regulations, provided, however, that the minimum size of the pipe shall not be less than three-fourths inch nominal size except under unusual circumstances which shall be clearly defined.

g. Depth of service pipe. All service pipes shall be laid at such a depth as will prevent freezing, except where services are not intended for use during freezing weather, and are actually drained during such periods.

h. Inspection of service pipe. In the installation of a service pipe the customer shall leave the trench open and pipe uncovered until it is inspected by the utility or other duly authorized agency and shown to be at proper depth, free from any tee, branch connection, irregularity or defect. The utility or other duly authorized agency shall expedite the inspection so that the trench may be closed as soon as practical.

i. Unsatisfactory foundation. Whenever normal excavation discloses unsatisfactory foundation one or more of the following corrective measures shall be adopted:

(1) Excavate to good bearing soil and backfill to pipe grade with suitable material well tamped to provide adequate support.

(2) Support with a concrete slab.

(3) Support with piling.

j. Pipe on bridges. Pipe on a highway bridge shall be located so as to reduce hazard to a minimum and be protected from freezing.

k. Pipes laid in trench with other facilities. To secure compliance with the requirements of these rules by others doing underground construction work, the utility should arrange with the other agencies having highway subsurface rights for adequate notification and inspection procedure.

(1) Water services may be laid in the same trench with other underground utilities with the exception of sewer pipes, provided such service pipes are laid at least twelve inches in a horizontal plane from other subsurface facilities. Where water service pipes must be run or laid in the same trench with building sewer or drainage piping, the provisions of the Iowa state plumbing Code shall apply.

(2) All water mains shall be laid clear of all other underground structures and should not be laid in the same trench with other underground utilities in order to minimize the possibility of water leakage by reason of any movement of such structures or of the mains.

(3) At crossings of mains and services with other underground structures, clearances shall be not less than twelve inches.

l. Pressure testing. Pipe laid shall be tested and made tight before being placed in service.

m. Backfill. The ditch underneath, around and over the pipe shall be backfilled with good material thoroughly compacted to secure a firm support. To disclose any settlement of the backfill which may need correcting, newly filled ditches shall be reinspected at intervals for sufficient period of time subsequent to completion of backfilling operations.

n. Service connection. Service connections may be tapped into cast iron mains if the diameter of the corporation stop does not exceed one-sixth of the diameter of the main. Service connections may be tapped into asbestos cement pipe if the diameter of the corporation stop does not exceed the permissible sizes listed in the following table:

Pipe Size	Pipe Class	Corporation Stop
3" thru 6"	100 and 150	3/4"
3" and 4"	200	3/4"
6"	200	1"
8" thru 16"	100, 150 and 200	1"

Otherwise, and in mains other than cast iron or asbestos cement, a saddle, sleeve, or welded connection may be used or a tee cut into the line. The service connection at the main or the run of service pipe shall allow for a reasonable amount of flexibility to prevent fracture or leaks at the connection with the main.

21.5(3) Inspection of water plant. The utility's water transmission and distribution facilities shall be designed, constructed and maintained as required to perform the water delivery burden placed upon them. Each utility shall be capable of emergency repair work on a scale consistent with its scope of operation and with the physical conditions of its transmission and distribution facilities.

In appraising the reliability of the utility's transmission and distribution system, the commission will consider the condition of the physical property and the size, training, supervision, availability, equipment and mobility of the maintenance forces all as principal factors.

Each utility must adopt a program of inspection of its water plant in order to determine the necessity for replacement and repair. The frequency of the various inspections shall be based on the utility's experience and accepted good practice. Each utility shall keep sufficient records to give evidence of compliance with its inspection program.

21.6(490A) Meter testing.

21.6(1) Meter test facilities and equipment. Each utility furnishing metered water service shall provide the necessary standard facilities, instruments and other equipment for testing its meters in compliance with these rules and regulations. Any utility may be exempted from this requirement by the commission provided that satisfactory arrangements are made for test of its meters by another utility or approved agency equipped to test meters in compliance with these rules and regulations.

a. Meter shop. The utility's meter test shop shall insofar as practicable simulate the actual service conditions of tem-

perature, inlet pressure, and outlet pressure. It shall be provided with the necessary fittings, including a quick acting valve for controlling the starting and stopping of the test and a device for regulating the flow of water through the meter under test within the requirement of these rules and regulations.

b. Test equipment and procedures. The overall accuracy of the test equipment and test procedures shall be sufficient to enable test of service meters within the requirements of these rules and regulations. In any event, the inherent overall accuracy of the equipment shall permit test with an overall error of not to exceed three tenths of one per cent.

21.6(2) Test measurement standards. Measuring devices for test of meter may consist of a calibrated tank for volumetric measurement or tank mounted upon scales for weight measurement. If a volumetric standard is used, it shall be accompanied by a certificate of accuracy from any standard laboratory as may be approved by the commission. If a weight standard is used, the scales shall be tested and calibrated periodically by such approved laboratory and a record maintained of the results of the test.

a. Basic standards. When basic standards are used for meter test, they shall be of a capacity sufficient to insure accurate determination of accuracy and shall be subject to the approval of the commission.

b. Transfer provers. By special permission of the commission, a standard meter may be provided and used by a utility for the purpose of testing meters in place. This standard meter shall be tested and calibrated periodically to insure its accuracy within the limits required by these rules and regulations. In any event, such test shall be made at least once every sixty days while the standard meter is in use and a record of such tests shall be kept by the utility.

21.6(3) Accuracy requirements. All meters used for measuring quantity of water delivered to a customer shall be in good mechanical condition and shall be adequate in size and design for the type of service which they measure and shall be accurate to the following standards.

a. Test flow limits. For determination of minimum test flow and normal

test flow limits, the commission will use as a guide the appropriate standard specifications of the American Water Works Association for the various types of meters. These test flows for positive displacement type cold water meters are as follows:

Nominal Meter Size	FLOW IN G. P. M.		
	Mini- mum	Inter- mediate	Maxi- mum
5/8	0.25	2	15
3/4	0.50	3	25
1	0.75	4	40
1-1/2	1.50	8	80
2	2.00	15	120
3	4.00	20	250
4	7.00	40	350
6	12.00	60	700

Displacement meters shall be tested at each of the rates of flow stated above for the various size meters.

b. Accuracy limits. A meter shall not be placed in service if it registers less than ninety-five per cent of the water passed through it at the minimum test flow or overregisters or underregisters more than one and one-half per cent at the intermediate or maximum limit except that a repaired meter shall not overregister or underregister more than one and one-half per cent of the intermediate and maximum flows and shall register not less than the following appropriate percentage of the water passed through it at the minimum test flow:

If manufactured on or after
January 1, 1947 90%

If manufactured prior to Jan-
uary 1, 1947 85%

21.6(4) As found tests. All meters tested in accordance with these rules for periodic or complaint tests shall be tested in the condition as found in the customer's service prior to any alteration or adjustment in order to determine the average meter error. Tests shall be made at intermediate and maximum rates of flow and the meter error shall be the algebraic average of the errors of the two tests.

21.6(5) Sealing of meters. Upon completion of adjustment and test of any water meter under the provisions of these rules, the utility shall affix thereto a suitable register seal in such a manner that adjustment or registration of the meter cannot be changed without breaking the seal.

21.6(6) Record of test. A complete record of all meter tests and adjustments

and data sufficient to allow checking of test calculations shall be recorded. Such record shall include:

- a. Identifying number of the meter.
- b. Type and capacity of the meter.
- c. Constant of the meter.
- d. Date and kind of tests made.
- e. Reading of the meter before making any test.
- f. The error as found at each test.
- g. If readjusted, the percentage of registration as left after each test.

The complete record of tests of each meter shall be maintained for at least two continuous periodic tests and in no case for less than two years.

21.6(7) Report of meter tests. Each utility shall furnish to the commission at intervals not exceeding one year a report of the summary of all meter tests made. This report shall be in such detail as may be prescribed by the commission from time to time.

21.6(8) Initial test and storage of meters. Every water meter shall be tested as required by these rules prior to its installation either by the manufacturer, the utility, or any approved organization equipped for meter testing. Meters in storage shall be stored in accordance with the manufacturers' recommendations, and unless so stored, shall be tested immediately before installation.

21.6(9) Repaired or tested meters. All water meters removed from service for repair or testing in accordance with these rules shall be restored to the prescribed limits of accuracy as required by these rules before again being placed in service.

21.6(10) Periodic and routine tests. Each utility shall adopt schedules for periodic and routine tests and repair of its meters as approved by the commission.

21.6(11) Request tests. Each utility shall make a test of any water meter upon written request of any customer provided such request is not made more frequently than once each eighteen months. The customer shall be given the opportunity of being present at such request tests.

21.6(12) Referee tests. The commission will make or cause to be made tests of meters as follows:

a. Application. Upon written application to the commission by a customer or a utility, a test will be made of the customer's meter as soon as practicable under the observation of a representative of the commission.

b. Guarantee. The application transmitted by certified or registered mail shall be accompanied by a certified check or money order made payable to the utility in the amount indicated below:

- (1) Capacity of 80 gallons per minute or less \$ 4.00
- (2) Capacity over 80 gallons, up to 120 gallons per minute \$ 6.00
- (3) Capacity of over 120 gallons per minute \$10.00

c. Conduct of test. On receipt of such request from a customer, the commission will forward the deposit to the utility and will notify the utility of the requirement for the test and the utility shall not knowingly remove or adjust the meter until instructed by the commission. The utility shall furnish all instruments, load devices and other facilities necessary for the test and shall perform the test in the presence and under the observation of the commission's representative and shall furnish verification of the accuracy of test instruments used.

d. Test results. If upon test the meter is found to overregister to an extent requiring a refund under the provisions of rule 21.4(5) "a", the amount paid to the utility for the test shall be returned to the customer by the utility.

e. Notification. The utility shall notify the customer in advance of the date and time of the referee test so the customer, or his representative, may be present when his meter is tested.

f. Commission report. The commission will make a written report of the results of the test to the customer and to the utility.

21.6(13) Installation of meters. Each water utility shall adopt a standard method of meter installation. Such methods shall be set out with a written description or drawing to the extent necessary to a clear understanding of the requirements. Copies of approved standard methods shall be made available upon request to prospective customers, contractors or others

engaged in the business of placing pipe for water utilization. All meters shall be set in place by the utility.

21.6(14) Registration of meters. All meters used for metered sales shall have registration devices indicating the volume of water in either cubic feet or United States gallons. Where a constant or multiplier is necessary to determine the meter reading in cubic feet or gallons, the constant or multiplier shall be indicated upon the face of the meter, and on the meter reading sheet or card.

21.7(490A) Standards of quality of service.

21.7(1) Quality of water. Any utility furnishing water service for human consumption or for domestic uses shall provide water that is wholesome, potable, free from objectionable odors and taste, and in no way harmful or dangerous to health and shall conform to all legal requirements of the state department of health for construction and operation of its water system as pertains to sanitation and potability of the water.

a. In absence of comparable requirements of the state department of health the following rules shall apply and the water supplied by any utility shall be:

- (1) Obtained from a source free from pollution and adequately protected from pollution, or
- (2) Adequately protected by artificial treatment.
- (3) Reasonably free from objectionable color, turbidity, taste, and odor.
- (4) From a source reasonably adequate to provide a continuous supply of water.

(5) Of such quality at all times as to meet the standards of purity for drinking water as set out in Public Health Service Drinking Water Standards, Revised 1962, PHS Publication No. 956 as modified by Iowa state department of health regulations governing drinking water in Iowa.

b. Operation of supply system. The utility shall operate and maintain its supply system in such manner as will guarantee that:

- (1) The water supply system, including wells, reservoirs, pumping equip-

ment, treatment works, mains, and service pipes shall be free from sanitary defects.

(2) No physical connection between the distribution system of a public potable water supply and that of any other water supply is permitted, unless such other water supply maintains a safe sanitary quality in accordance with these rules and regulations and the interconnections of both supplies is approved by the state department of health.

(3) The growth of algae in the water at the source of supply, in reservoirs or other basins, and in the water mains, is controlled by proper treatment.

(4) Where water supplies are obtained from driven or drilled wells, the tightness of well casings and protection at the surface of the ground will prevent the infiltration of water other than that from the strata tapped by such wells.

c. Laboratory testing. The quality of water being furnished by the utility shall be determined by laboratory tests.

(1) Each utility shall have representative samples of the water supplied by it examined by the state or local department of health or, by a state department of health approved laboratory employing a competent chemist and bacteriologist, skilled in the sanitary examination of water, at intervals sufficient to insure a safe water supply.

(2) In the event that the above-prescribed test shows that the water furnished by the utility is contaminated or otherwise unsafe for human consumption, the utility shall forward a report of such test to the commission or other state agency having correctional jurisdiction without delay, and shall take immediate steps to correct the condition.

21.7(2) Pressures. Under normal condition of use of water the pressure (pound per square inch guage) at a customer's service connection shall be not less than twenty-five PSIG and not more than one hundred twenty-five PSIG.

a. Pressure outside the limits specified will not be considered a violation when the variations:

(1) Arise from the action of the elements.

(2) Are infrequent fluctuations not exceeding five minutes duration.

(3) Arise from service interruptions.

(4) Are from causes beyond the control of the utility.

b. Each utility shall adopt and maintain a standard pressure in its distribution system at locations to be designated as the point or points of "standard pressure".

c. At regular intervals, each utility shall make a survey of pressures in its distribution system of sufficient magnitude to indicate the quality of service being rendered at representative points on its system. Such surveys should be made during periods of high usage at or near the maximum usage during the year. The pressure charts for these surveys shall show the date and time of beginning and end of the test and the location at which the test was made. Records of these pressure surveys shall be maintained at the utility's principal office in the state and shall be made available to the commission upon request.

21.7(3) Interruption of supply. Prompt notice by telephone or telegraph shall be given to the commission by each utility of all interruptions to or major impairment of the supply for periods of a duration of one hour or more occurring on production works, storage works, transmission mains, or distribution mains except those occurring in the course of routine operations. The same notice shall be given in case of accident or damage to portions of the plant which might lead to interruptions of service.

a. Each utility shall make all reasonable efforts to prevent interruptions of service and when such emergency interruptions occur shall endeavor to re-establish service with the shortest possible delay consistent with the safety to its customers and the general public. Where an emergency interruption affects fire protection service, the utility shall immediately notify the fire chief or other responsible local official.

b. Whenever any utility finds it necessary to schedule an interruption to its service, it shall make all reasonable efforts to notify all customers to be affected by the interruption, stating the time and anticipated duration of the interruption. Whenever possible, scheduled interruptions shall be at such hours as will provide least inconvenience to the customer.

c. Every utility shall maintain records of interruptions for a period of at least five years.

21.7(4) Shortage of supply. The utility shall exercise reasonable diligence to furnish a continuous and adequate supply of water to its customers and to avoid any shortage or interruption of delivery thereof.

a. If a utility finds that it is necessary to restrict the use of water it shall notify its customers, and give the commission written notice, before such restriction becomes effective. Such notifications shall specify:

- (1) The reason for the restriction.
- (2) The nature and extent of the restriction.
- (3) The date such restriction is to go into effect.
- (4) The probable date of termination of such restriction.

b. During times of threatened or actual water shortage the utility shall

equitably apportion its available water supply among its customers with due regard to public health and safety.

_____ Tariffs
(Name of Company) (type)

Filed with I.S.C.C.

_____ Sheet No. _____

Canceling _____ Sheet No. _____

RATE DESIGNATION _____

CLASS OF SERVICE _____

EXHIBIT "A"

Authorized _____ By _____
(Date)

Effective _____
(Date)

Supersedes Rate No. _____

These rules are intended to implement sections 490A.2, and 490A.8, Code of Iowa, 1966.

[Effective July 1, 1968]

HEALTH DEPARTMENT

Pursuant to authority of sections 135.11, 140.3 and 596.3, Code 1966, rule XIV, to include the list of approved laboratories, of the rules and regulations for the control of Communicable Diseases found in 1966 I.D.R. 182 and 183 is rescinded and the following adopted in lieu thereof.

[Filed January 22, 1968]

CHAPTER 2

[BLOOD TESTING LABORATORIES]

2.1(140;596) Approved premarital and prenatal blood testing laboratories. The state department of health approves the following laboratories for the purpose of performing serologic tests for syphilis in accordance with premarital and prenatal requirements:

2.1(1) The State Hygienic Laboratory at Iowa City, Iowa.

2.1(2) Laboratories of all state and territorial health departments.

2.1(3) Laboratories of the United States Public Health Service, and Army, Navy, and Air Force.

2.1(4) The health department laboratories of New York City and the District of Columbia.

2.1(5) The official laboratories of the provincial health departments in Canada.

2.1(6) Those private and other governmental laboratories approved for this purpose by the state department of health. A list of the approved private and other governmental laboratories is available upon request to the State Department of Health, Robert Lucas Office Building, Des Moines, Iowa 50319.

This rule is intended to implement sections 140.3 and 596.3, Code 1966.

[Effective February 21, 1968]

HEALTH DEPARTMENT

(continued)

Pursuant to the authority of section 135.11(17), Code of Iowa, 1966, and section 11 of Chapter 163, Acts of the 62nd General Assembly, the following additions to chapter 5, "Local Boards of Health", are adopted.

[Filed January 22, 1968]

5.3 (Ch. 163, 62 GA) Expenses of board of health members.

5.3(1) The following may be considered necessary expenses of board of health members:

a. Reimbursement for travel in private car on board of health business at a rate not to exceed ten cents per mile.

b. Actual lodging and meal expenses including sales tax on lodging and meals.

c. Actual expense of public transportation when traveling on board of health business.

d. Miscellaneous expenses related to performance of duties as approved by the board of health.

5.3(2) This section shall not be construed as requiring the payment of reimbursement to any person or as prohibiting local boards from imposing additional restrictions or administrative requirements on expenses of their members.

These rules are intended to implement section 11 of chapter 163, Acts of the Sixty-second General Assembly.

[Effective February 21, 1968]

HEALTH DEPARTMENT

(continued)

DRUG STORAGE AND HANDLING IN NURSING HOMES

Pursuant to authority of sections 135.11(17) and 135C.14, Code 1966, the rules and regulations relating to drug storage and handling in nursing homes that appear in 1966 I.D.R. 200 are hereby amended as follows.

[Filed February 13, 1968]

By striking from subsection 9.3, lines 2 and 3, the word "dispensing" and inserting in lieu thereof the word "issuing".

By adding to subsection 9.3 the following:

"Poisons and prescription medications for external use shall be kept in a locked cabinet and separate from other medications."

By striking subsection 9.7 and inserting in lieu thereof the following:

"9.7(135C) Drug labeling.

"1. All medications prescribed by a physician shall be labeled. The label of each patient's individual medication container shall clearly indicate the patient's full name, physician's name, prescription number, name and strength of drug, dosage, directions for use, and date of issue, name, address and telephone number of pharmacy or physician issuing the drug.

"2. Medication containers having soiled, damaged, illegible, or makeshift labels shall be returned to the issuing pharmacist or pharmacy or physician for relabeling or disposal. Medications in unlabeled containers shall be destroyed.

"3. The medications of each patient shall be kept or stored in the originally received containers."

By adding to subsection 9.8 the following:

"Unused prescription drugs prescribed for patients who have deceased shall be destroyed by the responsible nurse or returned to the dispensing pharmacist for destruction. The State Board of Pharmacy Examiners, State Capitol Building, Des Moines, Iowa, shall be notified for instruction concerning disposal of unused narcotics prescribed for patients who have deceased."

By adding to subsection 9.9 the following:

"Bulk supplies of prescription drugs shall not be kept in a nursing home unless a licensed pharmacy is established in the nursing home under the direct supervision and control of a pharmacist."

By striking from subsection 9.10, line 2, the words "dispense and".

By adding to subsection 9.10 the following:

"The person assigned the responsibility of medication administration must complete the procedure by personally preparing a unit dose, administering, and recording the medication given. Where the unit dose is prepared by a pharmacist or under the direct supervision of a pharmacist, the medication may be administered and recorded by another person. A written record of medications administered shall be made by the person administering the medication. Said recording of medications may be transferred to the patient's permanent record by another individual, but the original shall be kept on file for no less than thirty days. The actual act of swallowing oral medications shall be observed personally by the individual responsible for administering medications. Any unusual patient reaction shall be reported to the physician at once."

By striking from subsection 9.12, line 2, the word "dispensed" and inserting in lieu thereof the word "administered".

By adding to subsection 9.12 the following:

"Medications not specifically limited as to time or number of doses when ordered shall be automatically stopped in accordance with a written policy developed by the nursing home and the attending physician."

By striking from subsection 9.13, line 4, the words "drug stores and".

By adding to section 9 the following new subsection:

"9.14(135C) *Emergency medication tray.* A nursing home may provide an emergency medication tray containing prescription drugs. If such emergency medication tray is provided, there shall be compliance with the following requirements:

"1. The prescription drugs must be prescribed by the physicians who provide emergency service to the nursing home and the nonprescription contents must be approved by them.

"2. The tray shall contain a list of its contents, including quantities, on the outside cover and within the box.

"3. The tray shall be sealed with a seal which may be opened when the drugs are required in an emergency or for inspection.

"4. A permanent record shall be kept of each time the tray is utilized.

"5. The tray shall be inspected by a pharmacist at least every three months to determine the stability of items in the tray and to replace any items removed and not replaced and immediately after each time the tray is used. A permanent record shall be kept of inspections by a pharmacist."

These rules are intended to implement sections 135.11 (17) and 135C.14, Code of Iowa, 1966.

[Effective March 14, 1968]

LABOR BUREAU

Pursuant to authority of section 88A.11 of the Code, the following rules are adopted.

EMPLOYMENT SAFETY RULES

GENERAL DIVISION TITLE IV

CHAPTER 2

THRESHOLD LIMIT VALUES

[Air Pollution]

[Filed May 16, 1968]

2.1(88A) T. IV Definitions. For the purpose of this chapter, the following terms shall have the following meanings:

2.1(1) "The committee" shall mean the "American Conference of Governmental and Industrial Hygienists".

2.1(2) "The chairman of the committee" shall mean the chairman of the "American Conference of Governmental and Industrial Hygienists".

2.2(88A) T. IV ["Threshold Limit Values" defined.] The threshold limit values refer to air-borne concentrations of substances and represent conditions under which it is believed that nearly all workers may be repeatedly exposed, day after day, without adverse effect. Because of wide variation in individual susceptibility, exposure of an occasional individual at or even below the threshold limit may not prevent

discomfort, aggravation of a pre-existing condition, or occupational illness.

2.2(1) Clinical tests are becoming available that permit detection of those individuals who will hyperreact upon exposure to certain industrial substances. Being predictive in character, they may be applied as screening tests in the preplacement job examination. Requests for further details of these tests should be directed to the chairman of the committee.

2.2(2) Threshold limits should be used as guides in the control of health hazards and should not be regarded as fine lines between safe and dangerous concentrations. Exceptions are the substances given in Appendix "A" and certain of the substances given a "C" listing. The values not given a "C" listing refer to time-weighted average concentrations for a conventional seven- or eight-hour workday.

2.2(3) Time-weighted average concentrations permit excursions above the limit, provided they are compensated by equivalent excursions below the limit during the workday. The degree of permissible excursion is pegged to the threshold limit value of the particular substance as given in table in Appendix "C" under "Test TLV Factor." Hence, it is not considered appropriate to interpret air concentration values as exceeding time-weighted average limits, if such values lie within the permissible excursions.

2.2(4) The amount by which these concentrations may be exceeded for short periods without injury to health depends upon a number of factors such as the nature of the contaminant, whether very high concentrations even for short periods produce acute poisoning, whether the effects are cumulative, the frequency with which high concentrations occur, and the duration of such periods. All must be taken into consideration in arriving at a decision as to whether a hazardous situation exists. Enlightened industrial hygiene practice inclines toward controlling exposures below the limit rather than maintenance at the limit.

2.2(5) Threshold limits are based on the best available information from industrial experience, from experimental human and animal studies, and when possible, from a combination of the three. The basis on which the values are established may differ from substance to substance; protection against impairment of health

may be the guiding factor for some, whereas reasonable freedom from irritation, narcosis, nuisance or other forms of stress may dominate the basis for others. The committee holds to the opinion that limits based on physical irritation should be considered no less binding than those based on physical impairment; growing bodies of evidence indicate that physical irritation may promote and accelerate physical impairment.

2.2(6) These limits are intended for use in the field of industrial hygiene and shall be interpreted and applied only by persons trained in this field. They are not intended for use, or for modification for use, (a) as a relative index of toxicity, by making a ratio of two limits, (b) in the evaluation or control of community air pollution or air pollution nuisances, (c) in estimating the toxic potential of continuous uninterrupted exposures, (d) as proof or disproof of an existing disease or physical condition, or (e) for adoption by countries whose working conditions differ from those in the United States of America and where substances and processes differ.

2.3(88A) T. IV Documentation of threshold limit values. A separate companion piece to the TLV's is issued by ACGIH under this title. This publication gives the pertinent scientific information and data with reference to literature sources that were used to base each limit. Each documentation also contains a statement defining the type of response against which the limit is safeguarding the worker. For a better understanding of the TLV's it is essential that the documentation be consulted when the TLV's are being used.

2.4(88A) T. IV Ceiling vs. time-weighted average limits. Although the time-weighted average concentration provides the most satisfactory, practical way of monitoring air-borne agents for compliance with the limits, there are certain substances for which it is inappropriate. In the latter group are substances which are predominately fast acting and whose threshold limit is more appropriately based on this particular response. Substances with this type of response are best controlled by a ceiling "C" limit that should not be exceeded. It is implicit in these definitions that the manner of sampling to determine compliance with the limits for each group must differ; a single brief sample, that is applicable to a "C" limit, is not appropriate to the time-weighted limit: Here, a sufficient

number of samples are needed to permit a time-weighted average concentration throughout a complete cycle of operations or throughout the work shift.

2.4(1) Whereas the ceiling limit places a definite boundary which concentrations should not be permitted to exceed, the time-weighted average limit requires an explicit limit to the excursions that are permissible above the listed values. The magnitude of these excursions may be pegged to the magnitude of the threshold limit by an appropriate factor shown in Appendix "C". It should be noted that the same factors are used by the committee in making a judgment whether to include or exclude a substance for a "C" listing.

2.5(88A) T. IV "Skin" notation. Listed substances followed by the designation "Skin" refer to the potential contribution to the overall exposure by the cutaneous route including mucous membranes and eye, either by air-borne, or more particularly, by direct contact with the substance. Vehicles can alter skin absorption. This attention-calling designation is intended to suggest appropriate measures for the prevention of cutaneous absorption so that the threshold limit is not invalidated.

2.5(1) The commission shall revise the threshold limit values according to legal procedures outlined in the law upon the publication of each revision promulgated by the American Conference of Governmental Industrial Hygienists. The current TLV shall remain in effect until the new one becomes effective.

2.6(88A) T. IV Mixtures. Special consideration should be given also to the application of these values in assessing the health hazards which may be associated with exposure to mixtures of two or more substances. A brief discussion of basic considerations involved in developing threshold limit values for mixtures, and methods for their development, amplified by specific examples are given in Appendix "B".

2.7(88A) T. IV "Inert" or nuisance particulates. A number of dusts or particulates that occur in working environment ordinarily produce no specific effects upon prolonged inhalation. Some insoluble substances are classed as inert (e.g. iron and steel dusts, cement, silicon carbide, titanium dioxide, cellulose); others may be soluble (starch, soluble oils, calcium carbonate) but are of such a low order of activi-

ty that in concentrations ordinarily encountered do not cause physiologic impairment; still others may be rapidly eliminated or destroyed by the body (vegetable oils, glycerine, sucrose). In the case of the insoluble substances, there may be some accumulation in the respiratory passages. In the case of the soluble substances, this accumulation will ordinarily be temporary but may interfere to some extent with respiratory processes. Hence, it is desirable to control the concentrations of such particulates in the air breathed by any individual, in keeping with good industrial hygiene practice.

2.7(1) A threshold limit of $15\text{mg}/\text{m}^3$, or 50 mppcf, whichever is less, is recommended for substances in these categories and for which no specific threshold limits have been assigned. This limit, for a normal workday, does not apply to brief exposures at higher concentrations. Neither does it apply to those substances which may cause physiologic impairment at lower concentrations but for which a threshold limit has not yet been adopted. Some "inert" particulates are given in Appendix "D".

2.8(88A) T. IV Simple asphyxiants—"inert" gases or vapors. A number of gases and vapors, when present in high concentrations in air, act primarily as simple asphyxiants without other significant physiologic effects. A TLV may not be recommended for each simple asphyxiant because the limiting factor is the available oxygen. The minimal oxygen content should be eighteen percent by volume under normal atmospheric pressure (equivalent to a partial pressure, p_{O_2} , of 135 mm Hg). Atmospheres deficient in O_2 do not provide adequate warning and most simple asphyxiants are odorless. Several simple asphyxiants are listed in Appendix "E". Some asphyxiants present an explosion hazard. Account should be taken of this factor in limiting the concentration of the asphyxiant.

2.9(88A) T. IV Physical factors. It is recognized that such physical factors as heat, ultraviolet and ionizing radiation, humidity, abnormal pressure and the like may place added stress on the body so that the effects from exposure at a threshold limit may be altered. Most of these stresses act adversely to increase the toxic response of a substance. Although most threshold limits have built-in safety factors to guard against adverse effects of moderate deviations from normal environments,

the safety factors of most substances are not of such a magnitude as to take care of gross deviations. For example, continuous work at temperatures above 90° F. or overtime, extending the work week more than fifty per cent, might be considered gross deviations. In such instances judgment must be exercised in the proper adjustments of the threshold limit values.

2.10(88A) T. IV "Notice of intent". At the beginning of each year, proposed actions of the committee for the forthcoming year are issued in the form of a "Notice of Intent." This notice provides not only an opportunity for comment, but solicits suggestions of substances to be added to the list. The suggestions should be accompanied by substantiating evidence.

TABLE I
RECOMMENDED VALUES
(In Alphabetical Order)

Substance	ppm*	Mg M ^{1**}
Acetaldehyde	200	360
Acetic acid	10	25
Acetic anhydride	5	20
Acetone	1,000	2,400
Acetonitrile	40	70
Acetylene dichloride, see 1,2 Dichloro-ethylene		
Acetylene tetrabromide	1	14
Acrolein	0.1	0.25
Acrylamide-Skin	-	0.3
Acrylonitrile-Skin	20	45
Aldrin-Skin	-	0.25
Allyl alcohol-Skin	2	5
Allyl chloride	1	3
C Allyl glycidyl ether (AGE)	10	45
Allyl propyl disulfide	2	12
2-Aminoethanol, see Ethanolamine		
2-Aminopyridine	0.5	2
Ammonia	50	35
Ammonium sulfamate (Ammate)	-	15
n-Amyl acetate	100	525
sec-Amyl acetate	125	650
Aniline-Skin	5	19
Anisidine (o, p- isomers)-Skin	-	0.5
Antimony & compounds (as Sb)	-	0.5
ANTU (alpha naphthyl thiourea)	-	0.3
Arsenic & Compounds (as As)	-	0.5
Arsine	0.05	0.2
Azinphos-methyl-Skin	-	0.2
Barium (soluble compounds)	-	0.5
C Benzene (benzol)-Skin	25	80
Benzidine-Skin	-	A1
p-Benzoquinone, see Quinone		
Benzoyl peroxide	-	5
Benzyl chloride	1	5
Beryllium	-	0.002
† Biphenyl, see Diphenyl		
Boron oxide	-	15
C Boron trifluoride	1	3
Bromine	0.1	0.7
Bromoform-Skin	0.5	5
Butadiene (1,3-butadiene)	1,000	2,200

* Parts of vapor or gas per million parts of contaminated air by volume at 25° C and 760 mm. Hg pressure.

** Approximate milligrams of particulate per cubic meter of air.

A Numbers, See Appendix A

† See Intended Values

Substance	ppm*	Mg M ¹ **
Butanethiol, see Butyl mercaptan		
2-Butanone	200	590
2-Butoxy ethanol (Butyl Cellosolve)-Skin ..	50	240
Butyl acetate (n-butyl acetate)	150	710
n-Butyl acetate	150.	710.
sec-Butyl acetate	200	950
tert-Butyl acetate	200.	950.
Butyl alcohol	100	300
tert. Butyl alcohol	100	300
C Butylamine-Skin	5	15
C tert. Butyl chromate (as CrO ₃)-Skin	—	0.1
n-Butyl glycidyl ether (BGE)	50	270
Butyl mercaptan	10	35
p-tert. Butyltoluene	10	60
Cadmium (Metal dust and soluble salts)	—	0.2
Cadmium oxide fume	—	0.1
Calcium arsenate	—	1
Calcium oxide	—	5
† Camphor	—	2
Carbaryl (Sevin) (R)	—	5
Carbon black	—	3.5
Carbon dioxide	5,000	9,000
Carbon disulfide-Skin	20	60
Carbon monoxide	50.	55.
Carbon tetrachloride-Skin	10.	65
Chlordane-Skin	—	0.5
Chlorinated camphene, -Skin	—	0.5.
Chlorinated diphenyl oxide	—	0.5
C Chlorine	1.	3.
Chlorine dioxide	0.1	0.3
C Chlorine trifluoride	0.1	0.4.
C Chloroacetaldehyde	1	3
Chlorobenzene (monochlorobenzene)	75	350
o-Chlorobenzylidene malononitrile (OCBM)	0.05	0.4
Chlorobromomethane	200	1,050
2-Chloro-1,3 butadiene, see Chloroprene ..		
Chlorodiphenyl (42% chlorine)-Skin	—	1
Chlorodiphenyl (54% chlorine)-Skin	—	0.5
1, Chloro, 2,3 epoxypropane, see Epichlorhydrin		
2, Chloroethanol, see Ethylene chlorohydrin		
Chloroethylene, see Vinyl chloride		
C Chloroform (trichloromethane)	50	240
1-Chloro-1-nitropropane	20	100
Chloropicrin	0.1	0.7
Chloroprene (2-chloro-1,3-butadiene)-Skin ..	25	90
Chromic acid and chromates (as CrO ₃)	—	0.1
Coal tar pitch volatiles (benzene soluble fraction) (anthracene, BaP, phenanthrene, acridine, chrysene, pyrene) ..	—	0.2.
† Cobalt	—	—

† See Intended Values

Substance	ppm*	Mg/M ³ **
Copper fume	—	0.1
Dusts and Mists	—	1.0
Cotton dust (raw).....	—	1
Crag (R) herbicide	—	15
Cresol (all isomers)-Skin	5	22
Crotonaldehyde.....	2.	6.
Cumene -Skin	50.	245.
Cyanide (as CN)-Skin	—	5
Cyclohexane	300	1,050
Cyclohexanol	50	200
Cyclohexanone	50	200
Cyclohexene.....	300	1,015
Cyclopentadiene.....	75	200
2, 4-D	—	10
DDT-Skin	—	1
DDVP-Skin	—	1
Decaborane-Skin	0.05	0.3
Demeton (R)-Skin	—	0.1
Diacetone alcohol (4-hydroxy-4-methyl-2-pentanone)	50	240
1, 2 Diaminoethane, see Ethylenediamine		
Diazomethane	0.2	0.4
Diborane	0.1	0.1
1, 2-Dibromoethane (ethylene dibromide)-Skin	25	190
C o-Dichlorobenzene	50	300
p-Dichlorobenzene.....	75	450
Dichlorodifluoromethane	1,000	4,950
1, 3-Dichloro-5, 5-dimethyl hydantoin.....	—	0.2
1, 1, -Dichloroethane	100	400
1, 2-Dichloroethane	50	200
1, 2-Dichloroethylene	200	790
C Dichloroethyl ether-Skin	15	90
Dichloromethane, see Methylenechloride ..		
Dichloromonofluoromethane.....	1,000	4,200
C 1, 1-Dichloro-1-nitroethane	10	60
1, 2-Dichloropropane, see Propylenedichloride		
Dichlorotetrafluoroethane	1,000	7,000
Dieldrin-Skin	—	0.25
Diethylamine	25	75
Diethylamino ethanol-Skin	10.	50.
Diethylether, see Ethyl ether		
Difluorodibromomethane	100	860
C Diglycidyl ether (DGE)	0.5	2.8
Dihydroxybenzene, see Hydroquinone		
Diisobutyl ketone	50	290
Dimethoxymethane, see Methylal		
Dimethyl acetamide-Skin	10	35
Dimethylamine	10	18
Dimethylaminobenzene, see Xylidene		
Dimethylaniline (N-dimethylaniline)-Skin ..	5	25
Dimethylbenzene, see Xylene.....		

Substance	ppm*	Mg/M ³ **
Dimethyl 1, 2-dibromo-2, 2-dichloroethyl phosphate, (Dibrom) (R)	—	3
Dimethylformamide-Skin	10	30
2, 6 Dimethylheptanone, see Diisobutyl ketone		
1, 1-Dimethylhydrazine-Skin	0.5	1
Dimethylsulfate - Skin	1	5
Dinitrobenzene (all isomers)-Skin	—	1
Dinitro-o-cresol-Skin	—	0.2
Dinitrotoluene-Skin	—	1.5
Dioxane (Diethylene dioxide)-Skin	100	360
Diphenylmethane diisocyanate (See Methylene bisphenyl isocyanate (MDI)		
Dipropylene glycol methyl ether-Skin	100	600
Di-sec, octyl phthalate (Di-2-ethylhexyl-phthalate)	—	5
Endrin-Skin	—	0.1
Epichlorhydrin-Skin	5	19
EPN-Skin	—	0.5
1, 2-Epoxypropane, see Propyleneoxide		
2, 3-Epoxy-1-propanol see Glycidol		
Ethanolamine, see Ethylmercaptan		
Ethanolamine	3	6
2 Ethoxyethanol-Skin	200	740
2 Ethoxyethylacetate (Cellosolve acetate) -Skin	100	540
Ethyl acetate	400	1,400
Ethyl acrylate-Skin	25	100
Ethyl alcohol (ethanol)	1,000	1,900
Ethylamine	10.	18.
Ethyl sec-amyl ketone (5-methyl-3-heptanone)	25.	130.
Ethyl benzene	100.	435.
Ethyl bromide	200	890
Ethyl butyl ketone (3-Heptanone)	50.	230.
Ethyl chloride	1,000	2,600
Ethyl ether	400	1,200
Ethyl formate	100	300
C Ethyl mercaptan	10.	25.
Ethyl silicate	100	850
Ethylene chlorohydrin-Skin	5	16
Ethylenediamine	10	25
Ethylene dibromide, see 1, 2-Dibromoethane		
Ethylene dichloride, see 1, 2-Dichloroethane		
C Ethylene glycol dinitrate-Skin	0.2	1.2
Ethylene glycol monomethyl ether acetate, see Methyl cellosolve acetate		
Ethylene imine-Skin	0.5	1.
Ethylene oxide	50	90
Ethylidene chloride, see 1, 1-Dichloroethane		
N-Ethylmorpholine-Skin	20.	94.

† See Intended Values

Substance	ppm*	Mg/M ³ **
Ferbam	—	15
Ferrovandium dust	—	1
Fluoride (as F)	—	2.5
Fluorine	0.1	0.2
Fluorotrichloromethane	1,000	5,600
C Formaldehyde	5	6
Formic acid	5.	9.
Furfural-Skin	5	20
Furfuryl alcohol	50	200
Gasoline	—	A6
Glycidol (2,3-Epoxy-1-propanol)	50	150
Glycer monoethyl ether, see 2-Ethoxy-ethanol		
Guthion, see Azinphosmethyl		
Hafnium	—	0.5
Heptachlor-Skin	—	0.5
† Heptane (n-heptane)	500	2,000
Hexachloroethane-Skin	1	10
Hexane (n-hexane)	500	1,800
2-Hexanone	100	410
Hexone	100	410
sec-Hexyl acetate	50.	300.
Hydrazine-Skin	1	1.3
Hydrogen bromide	3	10
C Hydrogen chloride	5	7
Hydrogen cyanide-Skin	10	11
Hydrogen fluoride	3	2
Hydrogen peroxide, 90%	1	1.4
Hydrogen selenide	0.05	0.2
Hydrogen sulfide	10	15
Hydroquinone	—	2
C Iodine	0.1	1
Iron oxide fume	—	10.
Isoamyl alcohol	100	360
Isoamyl acetate	100.	525.
Isobutyl acetate	150.	700.
Isophorone	25	140
Isopropyl acetate	250.	950.
Isopropyl alcohol	400	980
Isopropylamine	5	12
Isopropylether	500	2,100
Isopropyl glycidyl ether (IGE)	50	240
Ketene	0.5	0.9
Lead	—	0.2
Lead arsenate	—	0.15
Lindane-Skin	—	0.5
Lithium hydride	—	0.025
L. P. G. (Liquified petroleum gas)	1,000	1,300
Magnesium oxide fume	—	15
Malathion-Skin	—	15
C Manganese	—	5
Mercury-Skin	—	0.1
Mercury (organic compounds)-Skin	—	0.01
Mesityl oxide	25	100

Substance	ppm*	Mg M ^{1**}
Methanethiol, see Methyl mercaptan		
Methoxychlor	—	15
2-Methoxyethanol, see Methyl cellosolve ..		
Methyl acetate	200	610
Methyl acetylene (propyne)	1,000	1,650
Methyl acetylene-propadiene mixture (MAPP)	1,000	1,800
Methyl acrylate-Skin	10	35
Methylal (dimethoxymethane)	1,000	3,100
Methyl alcohol (methanol)	200	260
Methylamine	10.	12.
Methyl amyl alcohol, see Methyl iso- butyl carbinol		
Methyl (n-amy) ketone (2-Heptanone)	100.	465.
C Methyl bromide-Skin	20	80
Methyl butyl ketone, see 2-Hexanone		
Methyl cellosolve-Skin	25	80
Methyl cellosolve acetate-Skin	25	120
C Methyl chloride	100	210
Methyl chloroform	350	1,900
Methylcyclohexane	500	2,000
Methylcyclohexanol	100	470
o-Methylcyclohexanone-Skin	100	460
Methyl ethyl ketone (MEK), see 2-Butan- one		
Methyl formate	100	250
Methyl iodide - Skin	5.	28.
Methyl isobutyl carbinol-Skin	25	100
Methyl isobutyl ketone, see Hexone		
Methyl isocyanate - Skin	0.02	0.05
C Methyl mercaptan	10	20
Methyl methacrylate	100	410
Methyl propyl ketone, see 2-Pentanone		
C αMethyl styrene	100	480
C Methylene bisphenyl isocyanate (MDI)	0.02	0.2
Methylene chloride (dichloromethane)	500	1,740
Molybdenum (soluble compounds)	—	5
(insoluble compounds)	—	15
Monomethyl aniline-Skin	2	9
C Monomethyl hydrazine-Skin	0.2	0.35
Morpholine-Skin	20	70
† Naphtha (coal tar)	200	800
Napthalene	10	50
β-Naphthylamine	—	A ²
Nickel carbonyl	0.001	0.007
Nickel, metal and soluble compounds	—	1
Nicotine-Skin	—	0.5
Nitric acid	2	5
p-Nitroaniline-Skin	1	6
Nitrobenzene-Skin	1	5
p-Nitrochloro-benzene-Skin	—	1
Nitroethane	100	310
C Nitrogen dioxide	5	9
Nitrogen trifluoride	10	29

† See Intended Values

Substance	ppm*	Mg/M ³ **
C Nitroglycerin-Skin	0.2	2.
Nitromethane	100	250
1-Nitropropane	25	90
2-Nitropropane	25	90
N-Nitrosodimethyl-amine (Di-methyl-nitrosoamine)-Skin	—	A ³
Nitrotoluene-Skin	5	30
Nitrotrichloromethane, see Chloropicrin		
† Octane	500	2,350
Oil mist (mineral)	—	5
Osmium tetroxide	—	0.002
Oxalic acid	—	1.
Oxygen difluoride	0.05	0.1
Ozone	0.1	0.2
Parathion-Skin	—	0.1
Pentaborane	0.005	0.01
Pentachloronaphthalene-Skin	—	0.5
Pentachlorophenol-Skin	—	0.5
Pentane	1,000	2,950
2-Pentanone	200	700
Perchloroethylene	100	670
Perchloromethyl mercaptan	0.1	0.8
Perchloryl fluoride	3	13.5
Petroleum Distillates (naphtha).....	500	2,000
Phenol-Skin	5	19
p-Phenylene diamine-Skin.....	—	0.1
Phenyl ether (vapor)	1.	7.
Phenyl ether-Biphenyl mixture (vapor)	1.	7.
Phenylethylene, see Styrene		
Phenyl glycidyl ether (PGE)	50	310
Phenyldiazine-Skin	5	22
Phosdrin (Mevinphos) (R)-Skin	—	0.1
Phosgene (carbonyl chloride)	0.1	0.4
Phosphine	0.3	0.4
Phosphoric acid	—	1
Phosphorus (yellow)	—	0.1
Phosphorus pentachloride	—	1
Phosphorus pentasulfide	—	1
Phosphorus trichloride	0.5	3
Phthalic anhydride.....	2	12
Picric acid-Skin	—	0.1
Pival (2-Pivalyl-1,3-indandione)	—	0.1
Platinum (Soluble Salts)	—	0.002
Polytetrafluoroethylene decomposition products	—	A ⁴
Propane	1,000	1,800
β-Propiolactone.....	—	A ⁵
n-Propyl acetate	200	340
n-Propyl nitrate	25	110
Propylene dichloride.....	75	350
Propylene imine - Skin	2.	5.
Propylene oxide.....	100	240
Propyne, see Methylacetylene		
Pyrethrum	—	5

Substance	ppm*	Mg M ¹⁰⁰
Pyridine	5	15
Quinone	0.1	0.4
Rhodium, Metal fume and dusts	—	0.1
Soluble salts	—	0.001
Rotenone (commercial)	—	5
Selenium compounds (as Se).....	—	0.2
Selenium hexafluoride.....	0.05	0.4
Silver, metal and soluble compounds.....	—	0.01
Sodium fluoroacetate (1080) - Skin	—	0.05
Sodium hydroxide.....	—	2
Stibine	0.1	0.5
† Stoddard solvent	500	2,900
Strychnine.....	—	0.15
† C Styrene monomer (phenylethylene).....	100	420
Sulfur dioxide.....	5	13
Sulfur hexafluoride	1,000	6,000
Sulfuric acid.....	—	1
Sulfur monochloride.....	1	6
Sulfur pentafluoride.....	0.025	0.25
Sulfuryl fluoride.....	5	20
Systox, see Demeton	—	—
2, 4, 5 T	—	10
Tantalum	—	5
TEDP - Skin.....	—	0.2
Teflon (R) decomposition products.....	—	A ⁴
Tellurium	—	0.1
Tellurium hexafluoride	0.02	0.2
TEPP - Skin.....	—	0.05
1, 1, 1, 2-Tetrachloro-2, 2-difluoroethane.....	500	4,170
1, 1, 2, 2-Tetrachloro-1, 2-difluoroethane	500	4,170
1, 1, 2, 2-Tetrachloroethane-Skin	5	35
Tetrachloroethylene, see Perchloroethy- lene	—	—
Tetrachloromethane, see Carbon tetra- chloride.....	—	—
Tetraethyl lead (as Pb) - Skin	—	0.075
Tetrahydrofuran	200	590
Tetramethyl lead (TML) (as lead) - Skin	—	0.075
Tetramethyl succinonitrile - Skin	0.5	3.
Tetranitromethane	1.	8
Tetryl (2, 4, 6-trinitrophenylmethylnitra- mine) - Skin	—	1.5
Thallium (soluble compounds) - Skin	—	0.1
Thiram.....	—	5
Tin (inorganic cmpds, except oxide)	—	2
Tin (organic cmpds)	—	0.1
Titanium dioxide	—	15
Toluene (toluol)	200	750
C Toluene-2, 4-diisocyanate	0.02	0.14
o-Toluidine - Skin	5	22
Toxaphene, see Chlorinated camphene	—	—
1, 1, 1-Trichloroethane, see Methyl chloro- form	—	—

† See Intended Values

Substance	ppm*	Mg/M ³ **
+ 1, 1, 2-Trichloroethane - Skin	10.	45.
Trichloroethylene	100	535
Trichloromethane, see Chloroform		
Trichloronaphthalene - Skin	—	5
1, 2, 3-Trichloropropane	50	300
1, 1, 2-Trichloro 1, 2, 2-trifluoroethane	1, 000	7, 600
Triethylamine	25	100
Trifluoromonobromomethane	1, 000	6, 100
2, 4, 6-Trinitrophenol see Picric acid		
2, 4, 6-Trinitrophenylmethylnitramine, see Tetryl'		
Trinitrotoluene - Skin	—	1. 5
Triorthocresyl phosphate	—	0. 1
Triphenyl phosphate	—	3
Turpentine	100	560
† Uranium (soluble compounds)	—	0. 05
(insoluble compounds)	—	0. 25
C Vanadium (V ₂ O ₅ dust)	—	0. 5
(V ₂ O ₅ fume)	—	0. 1
Vinyl benzene, see Styrene		
C Vinyl chloride	500	1, 300
Vinylcyanide, see Acrylonitrile		
Vinyl toluene	100	480
Warfarin	—	0. 1
Xylene (xylol)	100.	435.
Xylidine - Skin	5	25
Yttrium	—	1
Zinc oxide fume	—	5
Zirconium compounds (as Zr)	—	5

Radioactivity: For permissible concentrations of radioisotopes in air, see U. S. Department of Commerce, National Bureau of Standards, Handbook 69, "Maximum Permissible Body Burdens and Maximum Permissible Concentrations of Radionuclides in Air and in Water for Occupational Exposure," June 5, 1959. Also, see U. S. Department of Commerce National Bureau of Standards, Handbook 59, "Permissible Dose from External Sources of Ionizing Radiation," September 24, 1954, and addendum of April 15, 1958.

TABLE II

RESPIRABLE DUSTS EVALUATED
BY COUNT

Substance	m. p. p. c. f. *
SILICA	
Crystalline	
Quartz, Threshold Limit calculated from the formula	$\frac{250^{**}}{\%SiO_2 + 5}$
Cristobalite " " "	
Amorphous, including natural diatomaceous earth.....	20
Tremolite.....	5
SILICATES (less than 1% crystalline silica)	
Asbestos	5
Mica	20
Soapstone	20
Talc	20
Portland Cement.....	50
GRAPHITE (natural).....	15
"Inert" or Nuisance Particulates	50 (or 15 mg/m ³ whichever is the smaller)
see Appendix D	
Conversion factors	
mppcf x 35.3 = million particles per cubic meter	
= particles per c. c.	

* Millions of particles per cubic foot of air, based on impinger samples counted by light-field technics.

** The percentage of crystalline silica in the formula is the amount determined from air-borne samples, except in those instances in which other methods have been shown to be applicable.

Appendix A

- A¹ **Benzidine** Because of high incidence of bladder tumors in man, any exposure, including skin, is extremely hazardous.
- A² **β -Naphthylamine**. Because of the extremely high incidence of bladder tumors in workers handling this compound and the inability to control exposures β -naphthylamine has been prohibited by the State of Pennsylvania from manufacture, use and other activities that involve human contact.
- A³ **N-Nitrosodimethylamine** Because of extremely high toxicity and presumed carcinogenic potential of this compound, contact by any route should not be permitted.
- A⁴ **Polytetrafluoroethylene* decomposition products**.
Thermal decomposition of the fluorocarbon chain in air leads to the formation of oxidized products containing carbon, fluorine and oxygen. Because these products decompose in part by hydrolysis in alkaline solution, they can be quantitatively determined in air as fluoride to provide an index of exposure. No TLV is recommended pending determination of the toxicity of the products, but air concentrations should be minimal.
- A⁵ **β Propiolactone** Because of high acute toxicity and demonstrated skin tumor production in animals, contact by any route should be avoided.
- A⁶ **Gasoline**. The composition of gasoline varies greatly and thus a single TLV for all types of gasoline is no longer applicable. In general, the aromatic hydrocarbon content will determine what TLV applies. Consequently the content of benzene, other aromatics and additives should be determined to arrive at the appropriate TLV (Elkins, et al. A.I.H.A.J. 24, 99, 1963).

* Trade Names: Algoflon, Fluon, Halon, Teflon, Tetran

Appendix B

B.1 THRESHOLD LIMIT VALUES FOR MIXTURES

When two or more hazardous substances are present, their combined effect, rather than that of either individually, should be given primary consideration. In the absence of information to the contrary, the effects of the different hazards should

be considered as additive. That is, if the sum of the following fractions.

$$\frac{C_1}{T_1} + \frac{C_2}{T_2} + \dots + \frac{C_n}{T_n}$$

exceeds unity, then the threshold limit of the mixture should be considered as being exceeded. C_1 indicates the observed atmospheric concentration, and T_1 the corresponding threshold limit, (See Example 1A.a.).

Exceptions to the above rule may be made when there is good reason to believe that the chief effects of the different harmful substances are not in fact additive, but independent as when purely local effects on different organs of the body are produced by the various components of the mixture. In such cases the threshold limit ordinarily is exceeded only when at least one member of the series ($\frac{C_1}{T_1}$ or $\frac{C_2}{T_2}$ etc.) itself has a value exceeding unity, (See Example 1A.b.)

Antagonistic action or potentiation may occur with some combinations of atmospheric contaminants. Such cases at present must be determined individually. Potentiating or antagonistic agents are not necessarily harmful by themselves. Potentiating effects of exposure to such agents by routes other than that of inhalation is also possible, e.g. imbibed alcohol and inhaled narcotic (trichloroethylene). Potentiation is characteristically exhibited at high concentrations, less probably at low.

When a given operation or process characteristically emits a number of harmful dusts, fumes, vapors or gases, it will frequently be only feasible to attempt to evaluate the hazard by measurement of a single substance. In such cases, the threshold limit used for this substance should be reduced by a suitable factor, the magnitude of which will depend on the number, toxicity and relative quantity of the other contaminants ordinarily present.

Examples of processes which are typically associated with two or more harmful atmospheric contaminants are welding, automobile repair, blasting, painting, lacquering, certain foundry operations, diesel exhausts, etc. (Example 2.)

TABLE III

THRESHOLD LIMIT VALUES FOR MIXTURES EXAMPLES

1A. General case, where air is analyzed for each component.

a. ADDITIVE EFFECTS

$$\frac{C_1}{T_1} + \frac{C_2}{T_2} + \frac{C_3}{T_3} + \dots + \frac{C_N}{T_N} = 1$$

Air contains 5 ppm of carbon tetrachloride (TLV, 10), 20 ppm of ethylene dichloride (TLV, 50) and 10 ppm of ethylene-dibromide, (TLV, 25).

$$\frac{5}{10} + \frac{20}{50} + \frac{10}{25} = \frac{65}{50} = 1.3$$

Threshold limit is exceeded.

b. INDEPENDENT EFFECTS

Air contains 0.15 mg/m³ of lead (TLV, 0.2) and 0.7 mg/m³ of sulfuric acid (TLV, 1).

$$\frac{0.15}{0.20} = 0.75; \quad \frac{0.7}{1} = 0.7$$

Threshold limit is not exceeded.

1B. Special case when source of contaminant is a mixture and atmospheric composition is assumed similar to that of original material, i. e. vapor pressure of each component is the same at the observed temperature.

a. ADDITIVE EFFECTS, approximate solution.

1. A mixture of equal parts (1) trichloroethylene (TLV, 100), and (2) methyl chloroform (TLV, 350).

$$\frac{C_1}{100} + \frac{C_2}{350} = \frac{C_m}{T_m}$$

Solution applicable to "spot" solvent mixture usage, where all or nearly all, solvent evaporates.

$$C_1 = C_2 = \frac{1}{2} C_m$$

$$\frac{C_1}{100} + \frac{C_1}{350} = \frac{2C_1}{T_m}$$

$$\frac{7C_1}{700} + \frac{2C_1}{700} = \frac{2C_1}{T_m}$$

$$T_m = 700 \times \frac{2}{9} = 155 \text{ ppm}$$

1B. b. General Exact Solution for Mixtures of N Components With Additive Effects and Different Vapor Pressures.

$$(1) \frac{C_1}{T_1} + \frac{C_2}{T_2} + \dots + \frac{C_N}{T_N} = 1;$$

$$(2) C_1 + C_2 + \dots + C_N = T;$$

$$(2.1) \frac{C_1}{T} + \frac{C_2}{T} + \dots + \frac{C_N}{T} = 1.$$

By the Law of Partial Pressures,

$$(3) C_1 = ap_1.$$

And by Raoult's Law,

$$(4) p_1 = F_1 p_1^\circ.$$

Combine (3) and (4) to obtain

$$(5) C_1 = aF_1 p_1^\circ.$$

Combining (1), (2, 1) and (5), we obtain

$$(6) \frac{F_1 p_1^\circ}{T} + \frac{F_2 p_2^\circ}{T} + \dots + \frac{F_N p_N^\circ}{T} =$$

$$\frac{F_1 p_1^\circ}{T_1} + \frac{F_2 p_2^\circ}{T_2} + \dots + \frac{F_N p_N^\circ}{T_N}$$

and solving for T,

$$(6.1) T = \frac{F_1 p_1^\circ + F_2 p_2^\circ + \dots + F_N p_N^\circ}{\frac{F_1 p_1^\circ}{T_1} + \frac{F_2 p_2^\circ}{T_2} + \dots + \frac{F_N p_N^\circ}{T_N}}$$

$$\text{or } \sum_{i=1}^n F_i p_i^\circ$$

$$(6.2) T = \frac{i=1}{i=n} \frac{1}{\sum_{i=1}^n \frac{F_i p_i^\circ}{T_i}}$$

T = Threshold Limit Value in ppm.

C = Vapor concentration in ppm.

p = Vapor pressure of component in solution.

p° = Vapor pressure of pure component.
 F = Mol fraction of component in solution.
 a = A constant of proportionality.
 Subscripts 1, 2, . . . n relate the above quantities to components 1, 2, . . . n, respectively.
 Subscript i refers to an arbitrary component from 1 to n.
 Absence of subscript relates the quantity to the mixture.

Solution to be applied when there is a reservoir of the solvent mixture whose composition does not change appreciably by evaporation.

Exact Arithmetic Solution of Specific Mixture

Mol. wt.	Density	T	p° at 25°C	Mol fraction in half-and half solution by volume
Trichloroethylene (1) 131.4	1.46 g/ml	100	73mm Hg	0.527
Methylchloroform (2) 133.42	1.33 g/ml	350	125mm Hg	0.473

$$F_1 p_1^\circ = (0.527) (73) = 38.2$$

$$F_2 p_2^\circ = (0.473) (125) = 59.2$$

$$T = \frac{38.2 + 59.2}{\frac{38.2}{100} + \frac{59.2}{350}} = \frac{(97.4) (350)}{133.8 + 59.2} = \frac{(97.4) (350)}{193.0} = 177$$

$T = 177$ ppm . (Note difference in T. L. V. when account is taken of vapor pressure and mol fraction in comparison with above example where such account is not taken).

- A mixture of one part of (1) parathion (TLV, 0.1) and two parts of (2) EPN (TLV, 0.5).

$$\frac{C_1}{0.1} + \frac{C_2}{0.5} = \frac{C_m}{T_m} \quad C_2 = 2C_1$$

$$C_m = 3C_1$$

$$\frac{C_1}{0.1} + \frac{2C_1}{0.5} = \frac{3C_1}{T_m}$$

$$\frac{7C_1}{0.5} = \frac{3C_1}{T_m}$$

$$T_m = \frac{1.5}{7} = 0.21 \text{ mg/m}^3$$

1C. T. L. V. for Mixtures of Mineral Dusts.

For mixtures of biologically active mineral dusts the general formula for mixtures may be used. With the exception of asbestos, pure minerals are assigned TLV of 2.5, 20 or 50.

For a mixture containing 80% talc and 20% quartz, the TLV for 100% of the mixture "C" is given by:

$$TLV = \frac{1}{\frac{0.8}{20} + \frac{0.2}{2.5}} = 8.4 \text{ mppcf}$$

Essentially the same result will be obtained if the limit of the more (most) toxic component is used provided the effects are additive. In the above example the limit for 20% quartz is 10 mppcf.

For another mixture of 25% quartz 25% amorphous silica and 50% talc:

$$TLV = \frac{1}{\frac{0.25}{2.5} + \frac{0.25}{20} + \frac{0.5}{20}} = 7.3 \text{ mppcf}$$

The limit for 25% quartz approximates 8 mppcf.

Appendix C

BASES FOR ASSIGNING LIMITING "C" VALUES

By definition in the Preface, a listed value bearing a "C" designation refers to 'ceiling' value that should not be exceeded; all values should fluctuate below the listed value. In general the bases for assigning or not assigning a "C" value rest on whether excursions of concentration above a proposed limit for periods up to 15 minutes may result in a) intolerable irritation, b) chronic, or irreversible tissue change, or c) narcosis of sufficient degree to increase accident proneness, impair self rescue or materially reduce work efficiency.

In order for the Committee to decide whether a substance is a candidate for a "C" listing, some guidelines must be formulated on the permissive fluctuation above the limit in terms of the seriousness of the response in the categories a, b, c, given above. For this the factors given in the table below have been used by the Committee. For both technical and practical reasons, the factors have been pegged to the concentration in an inverse manner. It will be noted that as the magnitude of the T. L. V. increases a correspondingly decreased range of fluctuation is permitted; not to decrease the factor for T. L. V. s of increasing magnitude would permit exposures to large absolute quantities, an undesirable condition, a condition that is minimized at low T. L. V. s. Moreover, larger factors at the lower T. L. V. s are consistent with the difficulties in analyzing and controlling trace quantities.

T.L.V. RANGE ppm* or mg/m ³	Test T.L.V. Factor	Examples
0 to 1	3	Toluene diisocyanate-T. L. V., 0.02 ppm, if permitted to rise above 0.06 ppm may result in sensitization in a single subsequent exposure. "C" listing recommended on category b.
1 + to 10	2	Manganese -T.L.V., 5mg/m ³ , contains little or no safety factor. All values should fluctuate below 5mg/m ³ . "C" listing recommended on category b.

T.L.V. RANGE ppm* or mg/m ³	Test T.L.V. Factor	Examples
10 + to 100	1.5	Methyl styrene-T. L. V. 100 if encountered at levels of 150 ppm will prove intensely irritating, "C" listing recommended on category a.
100 + to 1000	1.25	Methyl chloroform-T. L. V. 350ppm, at 438 ppm for periods not exceeding 15 minutes is not expected to result in untoward effects relating to category c. No "C" listing recommended.

* Whichever unit is applicable

PERMISSIBLE EXCURSIONS FOR TIME-WEIGHTED AVERAGE (TWA) LIMITS

As stated in the preface, the same factors may be used as guides for reasonable excursions above the limit for substances to which the time-weighted average applies. The time-weighted average implies that each excursion above the limit is compensated by a comparable excursion below the limit. Thus, a value of 6 -ppm HF is permissible for periods not exceeding 15 minutes, provided an equivalent decrease below the limit of 3 -ppm obtains.

Appendix D

Some "Inert" or Nuisance Particulates*

Alundum (Al ₂ O ₃)	Limestone
Calcium carbonate	Magnesite
Cellulose	Marble
Portland Cement	Plaster of Paris
Corundum (Al ₂ O ₃)	Rouge
Emery	Silicon Carbide
Glycerine Mist	Starch
Graphite (synthetic)	Sucrose
Gypsum	Tin Oxide
Vegetable oil mists (except castor, cashew nut, or similar irritant oils)	Titanium Dioxide

*When toxic impurities are not present.

Appendix E

Some Simple Asphyxiants — "Inert" Gases and Vapors.

Acetylene	Hydrogen
Argon	Methane
Ethane	Neon
Ethylene	Nitrogen
Helium	Nitrous Oxide

This rule is intended to implement chapter 88A of the Code of Iowa (as provided above).

[Effective May 16, 1968]

PHARMACY EXAMINERS

Pursuant to the authority of sections 147.53 and 155.19, Code of Iowa, 1966, the rules which appear in 1966 IDR 383, denominated "PHARMACY EXAMINATIONS" and enumerated 1 through 11 are rescinded and the following adopted in lieu thereof.

[Filed April 11, 1968]

CHAPTER 1 LICENSURE

1.1(147) Licensure examination dates. The board of pharmacy examiners shall fix the dates for the examination both in Des Moines and Iowa City and applications must be presented to the board at least ten days before the dates set for the examination.

1.2(147) Examination fee. The fee for examination shall be twenty-five dollars and is to accompany the application.

1.3(147) Unmounted photograph. The application for examination shall be accompanied by an unmounted photograph of a size approved by the board.

1.4(147) Notarized statement. The application for examination shall be made as a sworn statement.

1.5(147) Re-examination applications. Each applicant for re-examination shall make request for such re-examination on proper forms, to be provided by the board, and the request for such re-examination shall become a part of the official files.

1.6(147) Records preserved. All applications, with necessary statements or requests for re-examination, together with the actual written examination, shall be preserved in the files of the board of pharmacy examiners.

1.7(147) Grading examinations.

1.7(1) A passing grade shall be considered a general average of not less than seventy-five percent and no grade in any subject shall be less than sixty percent, except that a grade of seventy-five percent is required on the practical examination.

1.7(2) Failure in one or more subjects shall require the applicant to take another examination in all subjects.

1.7(3) Any applicant for a license who fails in his examination shall be entitled to a second examination without further fee at any time within a period of

fourteen months after the first examination.

1.8(147) Date of notice. Grades and certificates shall be mailed to each new registrant as soon after the examination as possible.

1.9(155) Internship requirements. Each applicant must furnish to the board an employing pharmacist's affidavit giving complete information covering internship experience in a pharmacy. Said experience must comply with the "Minimum Standards for Evaluating Practical Experience", as set forth in chapter 3 of these rules. Practical experience must be acquired after successfully completing not less than one year of prepharmacy training and no experience will be allowed while in actual attendance at college.

1.10(155) Internship after graduation. Any person making application to the pharmacy board to be licensed by examination after January 1, 1963, must have completed one year of internship, as defined in chapter 3 of these rules, at least three months of which must be acquired after graduation from an approved college of pharmacy. Any internship on file in the office of the pharmacy examiners prior to January 1, 1963, will be required to meet the administrative rules relative to internship requirements in force on that date.

1.11(155) College graduate certification. Each applicant shall furnish a certificate from a recognized college of pharmacy stating that he has successfully graduated from a school or college of pharmacy offering a minimum five-year course graduating with a bachelor of science degree in pharmacy.

1.12(155) Application for examination—requirements. On each application for examination, the applicant must state his correct age; place of birth; name and location of high school and date of graduation; citizenship, and pharmaceutical experience under a registered pharmacist.

1.13(155) Examination subjects.

1.13(1) Written examinations shall be given in the following subjects: Pharmacy, pharmacology and toxicology, chemistry, pharmaceutical and chemistry calculations.

1.13(2) Practical examination shall consist of an examination of prescription laboratory techniques.

1.13(3) An oral examination shall be given to each applicant before the issuance of any license to practice pharmacy.

These rules are intended to implement chapters 147 and 155, Code of Iowa, 1966.

[Effective May 11, 1968]

PHARMACY EXAMINERS

(continued)

Pursuant to the authority of sections 147.53 and 155.19, Code of Iowa, 1966, the rules which appear in 1966 IDR 384, denominated "FEES" and enumerated 1, 2 and 3, are rescinded and the following adopted in lieu thereof.

[Filed April 11, 1968]

CHAPTER 4

FEES FOR DUPLICATE LICENSES AND CERTIFICATION OF GRADES

4.1(147) Fees. Duplicate certificates for registered pharmacists may be issued for a fee of one dollar each.

4.2(147) Duplicate annual renewals. Duplicate annual renewals may be issued

by the board of pharmacy examiners without charge.

4.3(147) Fee—certification of grades. Certification of grades shall be made upon payment of a ten dollar fee.

4.4(155) Duplicate wholesale narcotic license. Upon a showing of loss or destruction of the original, a duplicate wholesale narcotic license may be issued by the board of pharmacy examiners without a fee.

These rules are intended to implement chapters 147 and 155, Code of Iowa, 1966.

[Effective May 11, 1968]

PHARMACY EXAMINERS

(continued)

Pursuant to the authority of section 147.53, Code of Iowa, 1966, the rules which appear in 1966 IDR 384-385, denominated "RECIPROCAL REGISTRATION" and enumerated 1 through 10, are rescinded and the following adopted in lieu thereof.

[Filed April 11, 1968]

CHAPTER 5

RECIPROCAL REGISTRATION

5.1(147) Originates from state of registration by examinations. The applicant must be a registered pharmacist by examination in some state of the United States with which Iowa has a reciprocal agreement, and must be in good standing at the time he makes application.

5.2(147) Educational requirements. If the applicant was licensed prior to July 1, 1917, the applicant must make affidavit to at least four years of experience under the supervision of a registered pharmacist before registration. After July 1, 1917, affidavit must be made to at least two years experience and two years completed work in a recognized college of

pharmacy or three years of college work and one year experience. No experience that was gained while attending a school or college of pharmacy will be accepted. A certified copy of college work from the dean of a college or, a certified copy of an affidavit from the secretary of the board of the state from which the applicant applies relating to experience as an apprentice or assistant, must be furnished to the Iowa board of pharmacy examiners. Any pharmacist registered as an apprentice or assistant prior to October 1, 1917, and licensed before July 1, 1924, may be exempted from the college requirement.

5.3(147) Examination eligibility. Applicant must have been eligible to take the examination for a pharmacist in the state from which reciprocal licensure is sought. If he was not qualified to take the Iowa examination at that time, he would not be eligible for reciprocal registration.

5.4(147) Minimum grade requirement and practice after licensure. He must have passed the board in the state from which reciprocal licensure is sought with a general average of seventy-five percent and

not have been below sixty percent in any one subject. He must have practiced pharmacy in the state from which reciprocal licensure is sought for at least one year subsequent to his registration there, or pass an oral and practical examination prescribed by the Iowa board of pharmacy examiners.

5.5(147) Examination failure. An application for reciprocal registration will not be considered if the applicant has at one time taken the Iowa examination for pharmacists and has failed to pass the same.

5.6(147) Reciprocity fee. The fee for reciprocal registration is fifty dollars, which must accompany the application. The fee is returned if the application is denied.

5.7(147) Oral examination. Reciprocal registration will not be granted until the application is approved by all members of the pharmacy board in regular session and after the applicant has made a personal appearance before the entire board, showing proof of qualifications, and has passed a satisfactory oral examination on the Iowa pharmacy laws.

5.8(147) Character vouchers. Applicant must file an unmounted photograph bearing his signature as well as the signatures of the two registered pharmacists who sign the character vouchers included in the official application obtained from the National Association of Boards of Pharmacy.

5.9(147) Necessary credentials. The application blank together with the photo and all other necessary credentials must be filed with the secretary of the Iowa Pharmacy Examiners, Statehouse, Des Moines, Iowa.

5.10(147) Fiscal registration. No additional collection of registration fees shall be made for the balance of the fiscal year in which the applicant has been declared fully registered by reciprocity by the pharmacy examiners.

These rules are intended to implement chapters 147 and 155, Code of Iowa, 1966.

[Effective May 11, 1968]

PHARMACY EXAMINERS

(continued)

Pursuant to the authority of section 155.19, Code of Iowa, 1966, the rules which appear in 1966 IDR 385, denominated "MINIMUM STANDARDS FOR THE PRACTICE OF PHARMACY" and enumerated 1.1 and 1.2, are rescinded and the following adopted in lieu thereof.

[Filed April 11, 1968]

CHAPTER 6

MINIMUM STANDARDS FOR THE PRACTICE OF PHARMACY

6.1(155) Authorized person. For the purpose of section 155.6 of the Code, the phrase "fill the prescriptions" shall be deemed to include the following:

6.1(1) Read and interpret the prescription of a duly licensed medical practitioner, whether transmitted to the pharmacist by writing or orally.

6.1(2) Accurately measure, or compound, ingredients specified by the medical practitioner.

6.1(3) Read and interpret, and write, adequate label directions as are necessary to assure the patient's understanding of the prescriber's intentions.

6.1(4) Affix label in, or to the container containing the medication, prescribed for the patient.

6.2(155) Mechanical devices. Except for printed or typewritten instructions on labels and simple counting and weighing tools, no mechanical device shall be used to perform the functions contained in rule 6.1(1), 6.1(2), 6.1(3) and 6.1(4).

These rules are intended to implement chapter 155, Code of Iowa, 1966.

[Effective May 11, 1968]

PHARMACY EXAMINERS

(continued)

Pursuant to the authority of section 155.19, Code of Iowa, 1966, the rules which appear in 1966 IDR 385, denominated "ITINERANT VENDORS" and enumerated 1

through 5, are rescinded and the following adopted in lieu thereof.

[Filed April 11, 1968]

CHAPTER 7

ITINERANT VENDORS

7.1(203) Upon a showing of loss or destruction of the original, a duplicate vendor's license may be issued by the board of pharmacy examiners for a fee of one dollar each.

7.2(203) Itinerant vendor's licenses shall be issued for a period of no less than one year.

These rules are intended to implement chapter 203, Code of Iowa, 1966.

[Effective May 11, 1968]

PHARMACY EXAMINERS

(continued)

Pursuant to the authority of section 204.19(2), Code of Iowa, 1966, the rules which appear in 1966 IDR 385, denominated "NARCOTIC DIVISION" and enumerated 1 through 7, are rescinded and the following adopted in lieu thereof.

[Filed April 11, 1968]

CHAPTER 8

NARCOTIC DIVISION

8.1(204) Record keeping requirement. Medical practioners shall keep daily records of all narcotic drugs dispensed or administered by said medical practitioner or under the medical practitioners supervision, except for hospital records maintained in compliance with section 151.413 of the federal regulation.

8.1(1) Said daily record shall show the date the narcotic drug was received by the medical practitioner, the name and address of the person from whom received, and the kind and quantity of drugs received.

8.1(2) Said daily record shall also show the date of dispensing or administering, the name and address of the person to whom dispensed or administered, the kind of drug or drugs dispensed or administered and the quantity of the drug or drugs dispensed or administered.

8.2(204) Class "X" and "M" prescription drug refilling. Class "X" and class "M" narcotic prescription drugs being exempt from the limitation of "shall not be renewed" under federal law, are hereby declared to be exempt from the same limitation for purposes of Iowa law.

8.2(1) Class "X" and class "M" narcotic prescription drugs being exempted from the prescription filling limitation of chapter 204, Code of Iowa, 1966, are hereby made subject to the same prescription drug refill provisions as other prescription drugs under chapter 155, Code of Iowa, 1966, as amended by chapter 167, Acts of the 62nd General Assembly. If refills are authorized by the medical practitioner pharmacists may refill class "X" and class "M" prescriptions up to one year after the date on which the prescription was issued, and may refill said class "X" and "M" prescriptions up to eleven times during the year from date of issuance of said prescription, except when otherwise ordered by the medical practitioner issuing the prescription.

These rules are intended to implement chapter 155 and chapter 204, Code of Iowa, 1966, as amended by chapter 167, Act of the 62nd General Assembly.

[Effective May 11, 1968]

PHARMACY DEPARTMENT

Pursuant to the authority of sections 147.53 and 155.19 of the Code the rule "Registrations" which appears in 1966 IDR page 384 is rescinded.

[Filed April 11, 1968]

[Effective May 11, 1968]

PHARMACY DEPARTMENT

(continued)

Pursuant to the authority of sections 147.53 and 155.19 of the Code the rule which appears in the second column in

1966 IDR page 386 is rescinded. The rule to be rescinded is herein set out:

PUBLIC INSTRUCTION BOARD

"The following regulation filed by the Iowa pharmacy examiners on August 20, 1962, is hereby amended as follows:

"Any person making application to the pharmacy board to be licensed by examination after July 1, 1963, must have completed one year of internship under the Iowa program and at least three months of which must be acquired after graduation from an approved college of pharmacy. Any internship on file in the office of the pharmacy examiners prior to July 1, 1963, will be credited toward the one year of internship."

[Filed April 11, 1968]

[Effective May 11, 1968]

PUBLIC INSTRUCTION BOARD

Pursuant to authority conferred by chapter 356 (H.F. 686), section 20, Acts of the 62nd General Assembly, and for the purpose of implementing chapter 356 (H.F. 686), Acts of the 62nd General Assembly, the following rules, regulations and definitions of terms, relating to tax equalization and aid to school districts are hereby approved.

[Filed February 13, 1968]

ITEM 1.

Chapter 1, rules of the department of public instruction, 1966 I.D.R. 387, is amended by adding the following new section:

1.3(442) Tax equalization and state aid—definition of terms. For purposes of the administration of chapter 356 (H.F. 686), Acts of the 62nd General Assembly, the following terms shall have the following meaning:

1.3(1) Adjusted gross income shall mean net income as defined in section 422.7, Code of Iowa.

1.3(2) Reserved for future use.

1.3(3) Reserved for future use.

1.3(4) Percent of allowable change is defined as the percent of allowable growth per pupil as provided for in section 2(4), chapter 356 (H.F. 686), 62nd General Assembly.

1.3(5) Proposed growth, for purposes of section 34, chapter 356 (H.F. 686), 62nd General Assembly, means the school district proposed reimbursable expenditures per pupil in average daily membership, for the current year.

1.3(6) Tax askings, for purposes of section 34, chapter 356 (H.F. 686), 62nd General Assembly, means proposed general fund expenditures, reduced by estimated receipts (other than basic school tax equalization funds and state equalization funds) and further reduced by the estimated unencumbered balance to apply on the budget.

[Effective February 13, 1968]

PUBLIC INSTRUCTION DEPARTMENT

Pursuant to authority conferred by section 285.8, Code 1966, and for the purpose of implementing same, chapter 23, rules of the department of public instruction, 1966, I.D.R. 437, is amended as follows:

[Filed February 13, 1968]

ITEM 1.

Section 23.2(285), rules of the department of public instruction, 1966, I.D.R. 437, is hereby rescinded and the following adopted in lieu thereof:

23.2(285) The school bus chassis. Minimum standards for the school bus chassis

shall be those recommended at pages 13 to 28, inclusive, of *Minimum Standards for School Buses*, 1964 Revised Edition, by the National Conference on School Transportation, administered by the National Commission on Safety Education, and published by the National Education Association, 1201 Sixteenth Street N.W., Washington, D.C., 20036, except as may be otherwise provided by statute and except as follows:

23.2(1) Air cleaner. In addition to meeting the nationally recommended minimum standards hereinabove adopted, the air cleaner shall be so designed and located

as to prevent intake of water from cowl drainage or runoff.

23.2(2) Battery.

a. The storage battery as established by the manufacturer's rating shall be of sufficient capacity to efficiently care for the starting, lighting, signal devices, heating, defrosting, and other electrical equipment. The battery shall be mounted on a sliding battery tray in a special compartment located in the body skirt, or in the engine compartment under the hood in an accessible place.

b. When the battery is mounted in a special compartment located in the body skirt it shall have a rating of not less than one hundred fifty ampere hours at twelve volts measured at twenty-hour rate.

c. The battery, when it is mounted in the engine compartment under the hood, shall have a minimum ampere-hour rating of eighty-five amperes. The battery rack shall be of such size that it will accommodate a ninety-ampere hour battery of maximum size. The use of two six-volt batteries is permissible, but when used, they shall be rated at a minimum of one hundred fifty ampere hours.

d. When the battery is to be mounted outside of the engine compartment, it may be temporarily mounted to the chassis. The body company will permanently mount the battery on a sliding tray located so that the center line of the battery is fifty-two inches back of the cowl. One-piece battery cables shall be provided by the chassis manufacturer: such cables are to be at least thirty-six inches longer than normally required, to accommodate the battery when it is located fifty-two inches to the rear of the cowl. The battery cable, if passed through holes in the metal, shall be protected by nonmetallic grommets. All retaining clips or fastening devices for the battery cables must be insulated.

e. No small vehicle shall be equipped with a battery of less than seventy ampere hours at twelve volts, measured at twenty-hour rate.

23.2(3) Bumper, front. In addition to meeting the nationally recommended minimum standards hereinabove adopted, the front bumper shall be "heavy-duty" type and be curved or beveled at each end so as to prevent snagging or hooking.

23.2(4) Color. The chassis including front bumper, fenders and wheels shall be black. The hood and cowl shall be national school bus chrome. The grille shall be either black or national school bus chrome.

23.2(5) Alternator. In addition to meeting the nationally recommended minimum standards hereinabove adopted, the alternator, except in the case of small vehicles, shall have a minimum output of one hundred amperes with a minimum charging rate of twenty amperes at manufacturer's recommended idle speed.

For small vehicles the generator or alternator with rectifier shall have a minimum output of forty amperes with twelve-volt system and shall be ventilated and voltage controlled and, if necessary, current controlled.

23.2(6) Horn. In addition to meeting the nationally recommended minimum standards hereinabove adopted, the bus shall be equipped with dual horns with each having a sound level of one hundred twenty decibels.

23.2(7) Instruments. The bus shall be equipped with instruments, as provided in the nationally recommended minimum standards hereinabove adopted, except that a voltmeter shall be substituted in place of an ammeter.

23.2(8) Tires and rims. In addition to meeting the nationally recommended minimum standards hereinabove adopted, on equipment now in operation, recapped tires may be used as replacements for use on rear wheels only providing the tires are guaranteed by the seller.

23.2(9) Tow hooks. The bus shall be equipped with one front heavy duty center mounted tow hook, adequately secured to the frame rails with braces, or two tow hooks fastened securely to the front end of the frame. Tow hooks on the rear are optional. If provided, however, they shall not protrude beyond outer edge of rear bumper.

23.2(10) Voltage regulator. The bus electrical system shall include a voltage regulator of a repairable type. Such regulator shall be of the full-transistor variety except for the field relay which may be either a solid state or controlled contact unit. The regulator shall have readily-accessible external adjustment.

ITEM 2.

Section 23.3 (285), rules of the department of public instruction, 1966 I.D.R. 441, is hereby rescinded and the following adopted in lieu thereof:

23.3(285) The school bus body. Minimum standards for the school bus body shall be those recommended at pages 29 to 53, inclusive, of *Minimum Standards for School Buses*, 1964 Revised Edition, by the National Conference on School Transportation, administered by the National Commission on Safety Education, and published by the National Education Association, 1201 Sixteenth Street N.W., Washington, D.C., except as may be otherwise provided by statute and except as follows:

23.3(1) Ax. The bus shall be equipped with a short hand ax with approximately a two-pound head and an eighteen-inch shank, mounted in a position accessible to the driver.

23.3(2) Body sizes. The bus shall meet the specifications as provided in the nationally recommended minimum standards hereinabove adopted, except that small vehicles may vary in capacity up to twenty pupils.

23.3(3) Color. The school bus body, including roof, shall be uniformly painted in the color, national school bus chrome, in accordance with specifications disseminated by the general services administration of the United States government. The rear bumper, all lettering, and body trim if used, shall be black.

23.3(4) Defrosters and heaters shall be required.

a. The defrosters shall be of sufficient capacity to keep the windshield, window to left of driver, and glass in entrance door clear of fog, frost, and snow.

b. The defrosters shall have separate all metal fans which secure air directly from the heater core and the air mixture shall be at least sixty percent fresh air.

c. The defroster units shall be driver controlled and regulated, operating independently through its own duct system.

d. In addition, two adjustable six-inch all-metal or polycarbonate resin defroster fans shall be installed. The fans shall have a minimum of four blades and be equipped with adequate guards. Each unit shall be independently adjustable

and operated by the driver. These fans shall be on a separate circuit, with a switch for each fan, and be capable of two-speed operation.

23.3(5) Service door. In addition to meeting the nationally recommended minimum standards, hereinabove adopted, as the same relate to service doors, a header pad of approximately eighteen inches in width shall be installed directly within and above the service door opening and shall extend horizontally between the vertical sides of the service door opening to within three inches of each such vertical side. A power operated door must provide for manual operation in case of power failure. If understep type door control is used, it must be completely enclosed. There shall be no security type of lock, or locking device, installed on the service door.

23.3(6) Emergency door. In addition to meeting the nationally recommended minimum standards, hereinabove adopted, as the same relate to emergency doors, the lower portion of the emergency door shall be equipped with approved safety glass, exposed area of which shall not be less than three hundred square inches. There shall be no security type of lock, or locking device, installed on the emergency door. The emergency door shall be equipped with a heavy duty metal door stop and hold bracket or two heavy duty straps to prevent the door from striking lamps when it is open.

23.3(7) Fire extinguisher.

a. The bus shall be equipped with one dry chemical type fire extinguisher of five-pound capacity or two dry chemical type fire extinguishers of at least two and one-half pound capacity each, mounted in extinguisher manufacturer's bracket of automotive type, and located in the driver's compartment in full view of and readily accessible to the driver.

b. Each fire extinguisher shall have a minimum rating of 8-B:C and shall have a pressure gauge or indicator installed on it.

c. Each extinguisher shall meet the applicable standards prescribed by a testing organization of national reputation which undertakes to test and provide standards for extinguisher equipment. The testing laboratory must be one that is recognized by the Iowa state fire marshal.

Each extinguisher shall bear the label of the testing laboratory.

23.3(8) First-aid kit.

a. The bus shall carry a grade "A" metal first-aid kit and shall either be mounted in full view or the location of the kit labeled so any driver will know where to find it. The kit shall be accessible to the driver and mounted in such manner that it can be removed from the bus if necessary.

b. First-aid kits must be approved by the state department of public instruction.

c. Sizes required for buses:

Ten unit kit required in all vehicles carrying less than twenty passengers.

Sixteen unit kit required in all buses carrying twenty to thirty passengers.

Twenty-four unit kit required in all buses carrying thirty-one to forty-eight passengers.

Thirty-six unit kit required in all buses carrying forty-nine or more passengers.

ITEM	10-unit	16-unit	24-unit	36-unit
1" Adhesive Compress	-	1	1	2
2" Bandage Compress	1	1	2	2
3" Bandage Compress	-	1	2	2
4" Bandage Compress	1	1	2	2
3" x 3" Plain Gauze Pads (Dressings)	1	1	1	4
Gauze Roller Bandage	1	1	2	4
Plain Absorbent Gauze 2 pieces; (18" x 36")	1	2	4	6
Plain Absorbent Gauze (24" x 72")	1	2	3	5
Triangular Bandages	1	3	4	6
Tourniquet	1	1	1	1
Band Aids (Packet)	1	1	1	1
Wire Splint	1	1	1	1

23.3(9) Flags. Three sixteen-inch red flags and means for roadside mounting shall be located in an accessible place near driver.

23.3(10) Flares. Each bus shall be equipped with three red reflector type flares. (Oil type flares are not acceptable.) Flares must be mounted in an accessible place near driver.

23.3(11) Fusees. Each bus shall be equipped with three thirty-minute stand-up fusees stored in a canister with a lid.

The canister is to be mounted in an accessible place near the driver.

23.3(12) Floor covering. In addition to meeting the nationally recommended minimum standards, hereinabove adopted, as the same relate to floor covering, cove molding shall be used along the side walls and rear corners, and all floor seam separations shall be covered with durable metal stripping.

23.3(13) Gasoline fill cap cover. The gasoline fill cap opening in the body skirt shall be equipped with a hinged cover held closed by a spring or other conveniently operated device.

23.3(14) Identification. In addition to meeting the nationally recommended minimum standards, except minimum standard 3, hereinabove adopted, identification shall conform to the following requirements:

a. The bus, whether school owned or privately owned, shall bear the official name of the school on each side in black standard unshaded letters, at least five inches but not more than seven inches high.

- Examples:
1. Blank Community School District
 2. Blank Independent School District
 3. Blank Consolidated School District
 4. Blank Township School District

If there is insufficient space due to the length of the name of the school district, the words Community, Independent, Consolidated, Township and District may be abbreviated.

b. The rated pupil seating capacity of the bus shall be printed to the left of the entrance door, approximately six inches below the name of the school district, in two-inch characters. The word "capacity" may be abbreviated. For example; Rated Cap. 48.

c. The number of the bus shall be printed in not less than five-inch nor more than eight-inch characters. The location of the number is at the discretion of the local district except that the number of the bus shall not be on the same line as the name of the school district.

d. Privately owned buses shall also bear the name of the owner, followed by the word "OWNER" in one and one-half inch characters printed approximately six inches below the bus capacity on the right side of the bus.

e. The rated seating capacity of the bus shall also be printed above the right windshield on the inside of the bus.

f. Decals for any lettering on the bus in lieu of painting are not acceptable with the exception that the label on the inside of the emergency door to indicate how it operates may be a decal.

23.3(15) Insulation. In addition to meeting the nationally recommended minimum standards, hereinabove adopted, as the same relate to insulation, all insulation shall be so firmly installed that it will retain its original position. Plywood may be used for floor insulation.

23.3(16) Lamps and signals.

a. *General.* All lamps and their installation shall conform to the current standards and recommendations of the Society of Automotive Engineers. All lamps and reflectors must be approved by the Iowa commissioner of public safety.

b. *Head lamps.*

(1) The bus shall be equipped with a minimum of two sealed-beam head lamps of proper intensity and fuses or circuit breakers.

(2) There shall be a manually operated foot switch for selection of high or low beam distribution of these headlights.

c. *Clearance lights.* The body shall be equipped with two red clearance lamps at the rear and two amber clearance lights at the front mounted at the highest and widest portion of the body.

d. *Identification lights.* The bus shall be equipped with three amber identification lights on the front and three identification lights on the rear. Each such group shall be evenly spaced not less than six nor more than twelve inches apart along a horizontal line near the top of the vehicle.

e. *Reflectors.*

(1) The bus shall be equipped with two amber reflectors, one on each side at the lower front and corner of the

body approximately at floor level and back of the door on the right side, and at a similar location on the left side.

(2) The bus shall be equipped with four red reflectors; one at each side at or near the rear; and two on the rear, one at each side.

(3) The reflectors are to be mounted at a height not to exceed forty-two inches nor less than twenty inches above the ground on which the vehicle stands.

f. *Tail and stop (brake) lamps.*

(1) Bus shall be equipped with two tail lamps and two stop (brake) lamps not in combination, emitting red light plainly visible for distance of five hundred feet to rear. Signal area of stop (brake) lamps shall be at least six inches in diameter and shall have light intensity at least equal to Class "A", Type "I" turn-signal units as established by Society of Automotive Engineers.

(2) Tail lamps shall be mounted not less than forty inches from surface on which vehicle stands. Stop (brake) lamps shall be as high as practicable but below window line, and spaced as far apart laterally as practicable but not less than three feet. Measurements shall be taken from lamp centers.

(3) The lens on these lamps shall be free of lettering except for manufacturer's markings.

g. *Interior lights.* Interior lights shall be provided which adequately illuminate the interior aisles and step-well.

h. *Registration plate lamp.* The bus shall be equipped with a rear registration plate illuminator. This lamp may be combined with one of the tail lamps.

i. *Warning signal lights.* School bus warning signal lamps are alternately flashing lamps at the same horizontal level, intended to identify the vehicle as a school bus, and to inform other users of the highway that such vehicle is about to stop, or is stopped, to take on or discharge school children. Requirements for such lights, as used on school buses, shall be as follows:

(1) All school buses shall be equipped with two alternately flashing red lights at the rear of the vehicle and two double lamp assemblies at the front of the

vehicle; two of these front lamps shall display an amber light and the remaining two shall display a red light. These shall be sealed-beam units.

(2) Right and left lights shall flash alternately. Each light shall flash not less than sixty nor more than one hundred twenty flashes per minute.

(3) The flashing stop warning lights are to have a signal area of not less than twenty-eight square inches per lens. There shall be no lettering, except manufacturer's markings, on the lens. The lamps shall give a distinct warning illumination of entire lens area when lighted for a distance of five hundred feet when the bus is in bright sunlight.

(4) The lens color and wiring must conform to SAE specifications.

(5) The entire lamp assembly must meet SAE specifications and successfully pass vibration and shock, moisture, dust, corrosion and photometric tests.

(6) The flashing warning signal lights shall be actuated manually with a switch mounted on the steering column. The switch shall have three positions: Position one—when switch lever is horizontal, all lamps shall be off; Position two—when switch lever is down, front amber and rear red lamps shall flash; Position three—when switch lever is up, front red and rear red lamps shall flash.

(7) The switch shall have two telltale or indicator lights; one shall show amber light when the switch is in position two, and the other shall show red light when the switch is in position three.

(8) The red lamps shall be mounted on the outer side of the amber lamps in the front assembly. Each signal lamp shall be mounted with its axis substantially parallel to the longitudinal axis of the vehicle. The front and rear signal lamps shall be spaced as far apart laterally as practicable, but in no case shall the spacing between lamp centers be less than forty inches. The signal lamps shall be mounted at the front on the same horizontal center line and above the windshield, and at the rear on the same horizontal center line so that the lower edge of the lens is not lower than the top line of the side window opening. The vision of the front signal lamps to the rear shall be unobstructed by any part of the vehicle from five degrees above to ten degrees below

horizontal and from thirty degrees to the right and thirty degrees to the left of the center line of the vehicle. The area around the lens of each alternately flashing signal lamp and extending outward approximately three inches shall be painted black. In installations where there is no flat vertical portion of the body immediately surrounding entire lens of lamp, a circular or square band of black approximately three inches wide, immediately below and to both sides of the lens, shall be painted on the body or roof area against which signal lamp is seen from distance of five hundred feet along the axis of vehicle. Each lamp shall be mounted with its aiming plane vertical and normal to the vehicle axis.

j. Turn signal units. An electric direction signal lamp for school buses is a device for giving a flashing warning light to the front and to the rear of a school bus to indicate to approaching and overtaking motor vehicles the intention of the bus operator to change direction. Requirements for such devices, as used on school buses, shall be as follows:

(1) The bus shall be equipped with four class "A" amber flashing turn signal lamps that meet the specifications of the Society of Automotive Engineers. These signals must be independent units and may be equipped with a four-way hazard warning switch to cause simultaneous flashing of the turn signal lamps when needed as a vehicular traffic hazard warning. Telltale or indicator lights plainly visible to operator shall be provided to indicate that each signal is functioning properly.

(2) The illuminated signal area of the lamp shall be in the form of an amber arrow with head and shaft or arrow-head only. The luminous area shall be not less than twelve square inches. The area of the lamp face surrounding the luminous area shall be black. This may be a metal shield painted dull black or a vitreous black enamel applied to the lens itself.

(3) The lens coloring and wiring must conform to SAE specifications.

(4) The flashing rate for turn signal lamps shall be no slower than sixty and no faster than one hundred twenty times per minute under normal operating conditions. The "on" period of flasher shall be long enough to permit bulb filament to come to full brightness.

(5) The entire lamp assembly must meet SAE specifications and successfully pass vibration and shock, moisture, dust, corrosion and photometric tests.

(6) Each turn signal lamp shall be mounted with its axis substantially parallel to longitudinal axis of vehicle. Rear lamps shall be mounted as near to the right and left side of bus as possible but in no case shall outer edge of lamps be more than ten inches from outer body width line. They shall be mounted below rear windows but in no case shall distance from top edge of lamp to lower edge of window exceed five inches. Front lamps shall be mounted either on top of each front fender or on cowl. If mounted on cowl, distance from top edge of lamp to lower windshield line shall not exceed five inches. Mounting brackets or hoods for both front and rear lamps shall be of sufficient strength to withstand normal vibration. Those for rear lamps shall be streamlined to body to prevent hitching of rides.

k. Supervisor's light. The rearmost ceiling light or a separate light may be used as a supervisor's light. This light shall have a separate switch controlled by the driver so he may have this light on when traveling after sunset.

23.3(17) Mirrors. In addition to meeting the nationally recommended minimum standards hereinabove adopted, as the same relate to mirrors, a cross-view mirror of at least four inches in diameter shall be installed on the bus in such a manner that the seated driver may observe the area in front of the bus which could not otherwise be viewed from his position.

23.3(18) Seat belt for driver. A seat belt for the driver shall be provided, and shall be fastened to the bus floor immediately behind the driver's seat when adjusted to its rear-most position. Both the right and left half of this seat belt shall be equipped with a retractor and shall be held by a metal strap or loop of substantial material securely fastened to the seat frame in a manner that will keep the belt off the floor. All seat belts require special approval of the Iowa state commissioner of public safety.

23.3(19) Seats. In addition to meeting the nationally recommended minimum standards hereinabove adopted, seats shall meet the following requirements:

a. The backs of all seats of similar size shall be of the same width at the top and of the same height from the floor and shall slant at same angle with the floor. Backs of seats shall be free of coat rails.

b. The tops of back rests shall be not less than thirty-three and not more than forty-five inches above the floor level except that tops of back rests on rear seats shall not be above bottom edge of rear windows.

c. The seat cushions shall be securely attached to the seat frames with a positive type retainer to keep the cushion from being completely dislodged from the seat frame if the bus overturns. The retainer should be secured to the front rail of the seat frame so the cushion can be raised for cleaning purposes. Spring clips do not meet this requirement.

d. Where beading is used it shall be double sewn in all seams to assure less splitting from flexing.

e. All seats shall be securely fastened with bolts and nuts with lock washers on that part or parts of the bus which support them.

f. The spacing of fiber-glass seats shall be on a "knee space" basis with a minimum requirement of twenty-five inches between seats.

23.3(20) Seats in small vehicles. For small vehicles the following standards for seats apply in lieu of those in 23.3(19):

a. All seats shall be securely fastened to the body of the vehicle.

b. The seats shall be covered with fire-resistant padding material and comfortably upholstered with adequate padding. (Not applicable to fiber-glass seats.)

c. Jump seats or portable seats shall not be used.

d. The seat beside the driver, if regular equipment or installed by vehicle manufacturer, may be used for pupil seating. It shall be securely fastened to the body and shall be so constructed as not to interfere with pupils entering or leaving the vehicle.

e. The allowable average rump width in determining the rated seating capacity of the bus shall be thirteen inches.

f. All seats shall be at least fourteen inches in over-all depth.

g. All seats shall be forward facing.

23.3(21) Seat rail padding.

a. The top seat rail of all school bus seats (except the two rear seats on either side), the crossbar back of the driver's seat on the left-hand side, and the top modesty panel crossbar on the right-hand side shall be covered with padding sufficient to minimize facial injury in case of impact.

b. The seat rail and crossbar padding shall be semidense sponge rubber or other shock absorbing material with similar resilient characteristics. The padding shall have a minimum nondepressed thickness of one inch.

c. The seat rail padding shall cover all of that part of the top seat rail likely to be struck by the heads or faces of pupils sitting back of it if they are thrown forward by impact.

d. The seat rail padding shall be covered with and held in place by a covering made of the same material used to cover the padding of the seat cushion. The seat rail padding cover shall be securely attached to the seat back.

23.3(22) Steps. In addition to meeting the nationally recommended minimum standards, hereinabove adopted, as the same relate to steps, the surface of the steps shall be of nonskid rubber with ribbed tread and contrasting colored nosing. A full length assist rail shall be provided in an unobstructed location inside doorway.

23.3(23) Stop signal arm.

a. The stop signal arm shall be a flat eighteen-inch octagon, exclusive of brackets for mounting.

b. The arm shall be constructed of aluminum alloy with a minimum gauge of .080, and temper of 5052-H34 or equivalent.

c. It shall have the word "STOP" printed on both sides in white letters at least six inches high, with a brush stroke of approximately seven-eighths inch width, on a bright red background; the outer edge shall be painted white one-half inch wide.

d. The colors shall conform to the colors shown and specified in the American Association of State Highway Officials

Manual for Signing and Pavement Marking of the National System of Interstate and Defense Highway, dated 1961 or latest issue. In addition, the colors shall be the same in daylight and at night under artificial headlight illumination. Reflective sheeting shall be uniform in color and reflectivity.

e. The entire sign, including letters, shall be reflectorized with "SCOTCH-LITE" or equivalent, and must not lose over twenty percent of reflectivity when wet.

f. The sign shall be mounted outside the bus on the left side opposite the driver and immediately below the window. Rubber spacers shall be installed on either the side of the bus or the stop arm so as to prevent sign from making abrasive contact with the side of the bus.

g. It shall have a driver controlled mechanism, either manual or mechanical (vacuum), which will positively hold the sign in an extended or retracted position to prevent whipping in the wind. (Gears are not acceptable.)

h. An additional vacuum reserve tank with check valve is required for vacuum controlled arm.

i. The control mechanism must be mounted so the driver will remain in normal driving position while operating the stop signal arm.

j. All stop signal arms, including the mechanism, must have special approval of the state department of public instruction.

23.3(24) Storage compartment. A metal container of adequate strength and capacity for the storage of tire chains, tow chains and such tools as may be necessary for minor emergency repairs while bus is enroute shall be provided. Such storage container may be located either inside or outside the passenger compartment but, if inside, it shall have cover other than the seat cushion and be securely fastened to floor or seat frame. The container must have a latch to keep the cover securely fastened to it in such a manner as to prevent the contents from spilling in case the bus overturns.

23.3(25) Sun shield. There shall be installed on the windshield header an interior sun visor which is double bracketed,

adjustable and not less than six inches wide and thirty inches long.

23.3(26) Ventilation. Static type exhaust roof ventilators, nonclosing type, shall be installed in low pressure area of the front roof panel.

Exception—small vehicles.

This standard does not apply to small vehicles not manufactured specifically as school buses.

23.3(27) Windshields and windows. In addition to meeting the nationally recommended minimum standards, hereinabove adopted, as the same relate to windshields and windows, when full drop windows are used they must be blocked so that when in a down position, the opening between the window header and top of glass is not more than nine inches.

23.3(28) Windshield washers. The bus shall be equipped with windshield washers which shall conform to the body manufacturer's recommendations as to type and size for the bus on which they are to be used.

23.3(29) Windshield wipers.

a. The bus shall be equipped with two positive-action, variable-speed windshield wipers of air or electric type. All wipers by design and installation shall provide desirable vision for the driver.

b. Two separate heavy-duty motors, with separate switches, shall be provided and equipped with blades of sufficient length to clear the windshield glass in the driver's direct view.

c. The windshield wiper blades and arms shall be of the heavy-duty type. The blades must be at least fourteen inches in length.

d. All wiper controls shall be located within easy reach of the driver and designed, when in stop position, to move blades from the driver's direct view.

ITEM 3.

Section 23.4(285), rules of the department of public instruction, 1966 I.D.R. 449, is hereby rescinded and the following adopted in lieu thereof:

23.4(285) Small vehicles. "Small vehicles" are hereby defined, for purposes of these rules, as vehicles of less than twenty

passenger capacity, and shall meet the following requirements.

23.4(1) Passenger cars, station wagons, and similar vehicles. Passenger cars, station wagons, carryalls, and similar vehicles may be used for lawful transportation of school pupils, but may not stop on the traveled portion of the road to pick up and discharge such pupils, when said vehicles comply with the following requirements:

a. The vehicle must be of closed body type.

b. Passenger cars must be full size.

c. Body must be all steel or of a metal at least equivalent in strength to steel.

d. Vehicle must be equipped with:

(1) Four-wheel brakes properly adjusted to efficiently stop car when fully loaded.

(2) Hand brake adequate to hold vehicle when stopped on incline.

(3) Two windshield wipers.

(4) Rear-view mirrors—one inside and one outside on left side.

(5) Two taillights.

(6) Two stop lights.

(7) Multiple beam headlights (including indicator light).

(8) Switch to raise or lower headlight beam.

(9) Directional signals—front and rear (including indicator lights).

(10) Adequate horn.

(11) Interior adjustable sun visor.

(12) Adequate heating equipment.

(13) Heater defroster—an additional defroster fan for left windshield may be required.

(14) Safety glass throughout.

(15) Spare tire in good condition.

(16) Two school bus signs, one on front and one on rear, or one sign located on the top of the vehicle with printing on each side of the sign. Signs must be national school bus chrome in color

with black letters six inches high. Sign shall be of type that can be dismounted, turned down, or covered when vehicle is not being used as a school bus.

(17) Dry chemical type fire extinguisher with a minimum capacity of two and one-half pounds and a rating of 8-B:C.

(18) First-aid kit containing at least ten units.

(19) Hand ax.

(20) In addition to meeting the foregoing requirements, carryalls and similar vehicles must have additional equipment as follows: Four red reflectors located approximately at floor level, one on each side at or near rear and two on the rear, one at each side; three sixteen-inch red flags; three thirty-minute fusees in canister with lid; and three reflector type flares.

23.4(2) Carryalls, travel-alls and similar vehicles. Carryalls, travel-alls, and similar vehicles may be used for the transportation of pupils, as provided in subsection 1 hereof, and when equipped as fol-

lows may stop on the traveled portion of the road to pick up or discharge pupils:

a. Must meet conventional school bus specifications listed in these standards for the following items:

- (1) Color
- (2) Identification
- (3) Stop arm
- (4) Flashing warning lights
- (5) Reflectors
- (6) Flags, flares, fusees

b. Must be equipped with rear-view mirror on right side in such position that the roadway on the right side of vehicle, beginning at service door, is visible from the driver's position.

c. Must meet all other requirements listed for small vehicles in preceding section which are not inconsistent with this section.

[Effective September 1, 1968]

These rules shall be applicable only to buses purchased after said date.

REVENUE DEPARTMENT

All prior rules pending, which are not filed in the office of the secretary of state, relating to chapter 348, 62nd General Assembly, are hereby withdrawn.

Pursuant to authority of section 421.14, Code 1966, the following amendments to rules which were filed in the office of the secretary of state on September 30, 1967, are adopted.

[Filed March 13, 1968 without approval by the Departmental Rules Review Com.]

5.11 (Ch.348 62GA) Carpentry. Amend by striking from the end thereof the words "Services described herein are not applicable to new construction."

5.15 (Ch.348 62GA) Electrical repair and installation. Amend by striking from the end thereof the words "The service of installation as described herein is not applicable to new construction."

5.18 (Ch.348 62GA) Excavating and grading. Amend by striking from the end thereof the words "Services described herein are not applicable when rendered for purposes of new construction."

5.27 (Ch.348 62GA) Machine operator. Amend by striking from the end thereof the words "This rule is not to be so construed as to be at variance with subsection two (2) of section 422.45 of the Code. Services described herein are not applicable when performed as a part of new construction."

5.36 (Ch.348 62GA) Painting, papering, and interior decorating. Amend by striking from the end thereof the words "The above described services are not taxable when performed on new construction."

5.38 (Ch.348 62GA) Pipe fitting and plumbing. Amend by striking from the end thereof the words "The above described services are not taxable when performed on new construction."

5.55 (Ch.348 62GA) Welding. Amend by striking from the end thereof the words "The above described services are not taxable when performed on new construction."

5.60 (Ch.348 62GA) Buildings and structures erected for the improvement of realty. Rule 5.60 (Ch. 348 62GA) as filed

with the secretary of state on September 30, 1967, is hereby rescinded and the following rule is adopted in lieu thereof.

5.60 (Ch. 348 62GA) Buildings and structures erected for the improvement of realty. The gross receipts from services of persons engaged in the business of rendering, furnishing, or performing a service used directly in the performance of a building or construction contract on buildings or structures erected for the improvement of realty, where said contract was executed on or after October 1, 1967, are subject to tax.

The cost of building materials, supplies, and equipment, plus the amount of sales or use tax paid thereon, shall be excluded from gross receipts from services, when used in the rendering, furnishing, or performing of services of a building or construction contract on buildings and structures erected for the improvement of realty on or after October 1, 1967.

To arrive at "gross taxable services":
(1) The *general contractor* may exclude from gross services all cost of subcontracts listed as enumerated services and all materials plus sales or use tax paid thereon; and (2) The *subcontractor* may exclude from gross services all cost of materials plus the sales or use tax paid thereon.

The gross receipts from services are exempt from tax when rendered, furnished, or performed and used in performance of a building or construction contract on buildings and structures erected for the improvement of realty when such contract is sponsored by the federal, state, county, or municipal governments along with their agencies and instrumentalities.

These rules are intended to implement chapter 348, Acts of the 62nd General Assembly.

[Effective March 13, 1968]

[The above rules were approved by the Attorney General subject to the following amendment.]

[Filed March 13, 1968]

Rule 5.60 (Ch. 348 62GA) is approved by the Attorney General pursuant to Chapter 17A, Code of Iowa 1966, subject to the following correction:

Strike all of Paragraph 2 on page 2 of Rule 5.60 and substitute therefore as follows:

When sales or use taxes have been paid by a contractor or a subcontractor on the

costs of building materials, supplies and equipment when used in the rendering, furnishing, or performing of services of a building or construction contract, on buildings and structures erected for the improvement of realty on or after October 1, 1967, said taxes paid shall be excluded from gross receipts from services taxed.

This correction shall be attached to and made a part of that document referred to as "Amendments to Rules 5.11, 5.15, 5.18, 5.27, 5.36, 5.38, 5.55, 5.60 executed by William H. Forst, Director, Department of Revenue and adopted on January 26, 1968.

Dated this 11th Day of March, 1968.

[The above amendment was not agreed to by the Department of Revenue before filing the rules.]

February 13, 1968

[Filed March 13, 1968]

Mr. W. H. Forst, Director
Department of Revenue
L O C A L

Dear Mr. Forst:

The Departmental Rules Review Committee, at its meeting held February 13, 1968, found objection to your proposed amendments to Chapter 5 of your rules relating to Sales and Use Tax on Services, and failed to approve same.

Yours very truly,
Wayne A. Faupel
Secretary
WAF:pb

[Filed March 13, 1968]

Mr. Wayne A. Faupel, Secretary
Iowa Departmental Rules Review
Committee
Office of the Code Editor
Capitol Building
L O C A L

Dear Mr. Faupel:

The Department of Revenue has reviewed its rules that were discussed at your February 13 meeting. We have also reviewed the recommendations of Representative Ray V. Bailey in detail.

It is the opinion of the department that the recommendations to the Rules Review Committee should be filed with the Secretary of State noting the Rules Review Committee's disapproval.

Sincerely,
W. H. Forst
Director