USITT NEWS LETTER

U. S. INSTITUTE FOR THEATRE TECHNOLOGY, INC.
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MEET YOUR OFFICERS!

PRESIDENT C. Ray Smith, writer, editor, and critic in the fields of architecture, theatre, and related design areas, has for eight years been an Associate Editor of the journal, PROGRESSIVE ARCHITECTURE. He has edited and written several special issues of that magazine on theatre planning and design and is now editing a book on the same subject for Jo Mielziner.

1st VICE-PRESIDENT Arthur Benline is a licensed Professional Engineer and Registered Architect. Director of the New York State Building Code for eight years, he later served as Commissioner of Air Pollution Control for New York City. He was engaged in the design and construction of many theatres for Fox, RKO, and Loew's circuits and is a charter member of USITT.

2nd VICE-PRESIDENT David L. Thayer is on the Theatre Faculty of the State University of Iowa and has consulted widely in the design of lighting control systems. He has contributed many articles to professional journals, among them, TD&T, a nd is active in the American Educational Theatre Association.

TECHNICAL SECRETARY Ed. Peterson, Jr., a graduate of the Yale School of Drama, represents Kliegl Bros. and occasionally finds time to accept a lighting design assignment. He is conceeded to be the nation's "Top-Convention-Host."

SECRETARY Charles Levy, also a "Yalee," is a Lighting Design Member of USA and has designed for many off-B'way productions while serving as Director of R&D for Century and more recently as Director of the Theatre and Lighting Department at Century.

(cont. p. 2)

DUES ARE PAYABLE NOW!

TREASURER Terry Wells is now Associate Professor and Technical Director of Theatres at Penn State University. A graduate of Wisconsin, he has worked in Illinois, Michigan, Florida and Massachusetts. With wife, Ann, he lives in a red house on top of a Pennsylvania mountain.

PAST-PRESIDENT Donald Swinney, Professor of Drama at Hofstra University, consultant to theatre designers and architects throughout the world and a prominent figure in the field of Educational Theatre, is a charter member of USITT and Director of its Domestic Liason activities. His neighbors will testify that he is an accomplished and indefatigable wood worker.

EXEC. COMMITTEE NAMED

C. Ray Smith announced the following appointments to the Executive Committee for 1969-70. Members are listed in standing committee sequence and the affiliation or title of each is shown only for convenience.

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THE USITT NEWSLETTER

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MEETINGS SCHEDULED

Technical Secretary, Ed Peterson, has set up the following schedule of meetings for the balance of the year.

Aug. 26 USITT at AETA in Detroit
Oct. 29 Presentation: "The Technician and the Choreographer," New York.
Dec. 29 USITT at SAA Convention.

Other meetings will be announced for New York, Chicago, and L. A.

LETTERS

To the Editor:

... Who selected the panel members for that meeting (THE PLAYWRIGHT AND THE TECHNICIAN: A DIALOGUE?) all of whom are promulgating the same kind of theatre and the same approach to stage technology that made an organization such as USITT necessary. If I had been a member of that panel, I assure you, the dialogue would not have sounded like a replay of the same debate you hear at almost every such occasion with all due respect to my fellow Local 829 members. In fact: "What's gone" does not determine what is nor does it determine what is going to be.

Why was I asked to become a member if you are not interested in my views? You are maybe right but as a matter of philosophy (my philosophy on theatre) I should not support these lobsided debates in which neither I nor those of my faith have a chance to speak....

Yes, I do protest. Has USITT, instead of acting as a clearing house for new concepts (a still pressing requirement for the meaningful development of creative theatre) become, unwittingly, a protective camouflage for a handful of calculating specialists who have discovered theatre as a rich client? Let us admit quite frankly: it is one potential we never saw ten years ago. We were then and ... still a re devoted to theatre as an artistic enterprise in need of aesthetic and technological management.

LEO KERZ — March 29, 1969

To the Editor:

The Administration Supplement, dated Nov.-Dec., 1968, has an interesting list of new theatres with Seating Capa city, Name, Completion Date and Cost. I would like to point out that the column on the right-hand side called Cost per seat is not only very misleading but very inaccurate. My reason for this is as follows.

A theatre built with only stage facilities and audience facilities, but which has no costume storage, scenery, facilities for building and painting, subscription space and so forth, can appear to be on a very different price level than a similar theatre of the same seating capacity but with the square footage necessary to cover these latter items. It seems to me that the cost per square foot or cubic foot is much more realistic a nd I would urge that in the future this Cost per Seat be omitted.

Another example of an error which can be misleading was in reference to the Beaumont Theatre at Lincoln Center. It referred to a seating capacity of 1164 seats in the Bea umont but completely eliminated the second theatre in the building which adds to the capacity and changes the cost per seat. The stage of the Beaumont was designed to carry six live productions at one time because of the requirements of future repertory. A theatre housing only one production at a time cannot be compared in cost on the basis of seating.

JO MIELZINER — Feb. 4, 1969

Lighting designer, theatre consultant, founder of Theatre Production Service, and Vice-Chairman of the USITT Presentation Committee, Miss Jean Rosenthal died in New York on May first.
It is with profound regret that we mark the passing of a singular figure in the American Theatre.

The texts of a resolution conveyed to Miss Rosenthal's family over the signature of C. Ray Smith and of a statement by John Houseman follow.

WHEREAS Jean Rosenthal, lighting designer and elfin genie par excellence, was the luminary of magical productions for The Ballet Society, The American Shakespeare Festival, The New York City Ballet, The Metropolitan Opera, The Martha Graham Company, Broadway, and many others

WHEREAS Jean Rosenthal was theatre design consultant for the Tyrone Guthrie Theatre, Clowes Hall, The Memorial Pavilion and Center Theatres of the Los Angeles Music Center, and of the theatre facilities in the new Juilliard School at Lincoln Center, and many others

WHEREAS Jean Rosenthal, a founding member of the U. S. Institute for Theatre Technology, and the Vice-chairman for two years of the USITT Committee on Theatre Presentation, shed light on all our activities, and many others

BE IT THEREFORE RESOLVED THAT at this meeting the USITT and its guests stand for a silent moment in memory of this most talented, persevering, professional theatre luminosity, and that this resolution be sent with deepest sympathy and a sense of loss to her family and her associates.

May 1, 1969

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The NEWSLETTER has received permission to print the statement read by John Houseman at the memorial service for Miss Rosenthal on May 3, 1969 at the Ethical Culture Society Auditorium in New York City.

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For those of us who are gathered here today and for the hundreds who knew her and who worked with her --- for one, ten, twenty or, as some of us here, for over thirty years --- Jean Rosenthal needs no memorial.

The small lithe body, the turned up nose set in the small round, so often smiling face, the bright eyes and the short curly hair --- all these are fixed in the mind's eye and will not be effaced as long as we live. That the image is an enchanting and happy and, even, a gay one, is something that Jean herself insured by the way she lived.

Two weeks ago for the opening of a work with which I was associated I received a telegram: "BEST WISHES AND ALL MY LOVE. I HOPE I AM THERE TO SEE IT. JEAN." She was there, of course, not physically, but no less really --- as she has been and is and will continue to be present in the work of all those of us who had the joy and the honor of collaborating with her --- just as she will be present this afternoon and this evening in six Broadway theatres; with a dozen road companies of shows she helped to create; as she has been these past few weeks on the stages of the City Center, the New York State Theatre, the Metropolitan Opera; as she will continue to be for years to come wherever American theatre and dance and singing are performed in the world and as she will be in those two dozen or more new theatres all over the country for which Jean Rosenthal was consultant and advisor and designer over the past few years --- the latest of them nearing completion less than two blocks from here in the new Juilliard building at Lincoln Center.

In fact, her achievement --- creatively and professionally --- is so vast and far flung that ittis idle to try and list it here. Much has been written about Jean and much more will be written about her work and its influence in our society. To us who knew her and worked with her --- what was no less remarkable than her creative accomplishment was the way in which it was accomplished --- the personality of the human being and the artist to whom the American theatre owes this great body of work.

In thinking of Jean --- from the day, thirty-four years ago, when she first appeared in my life, a diminutive, eager, curly-headed child fresh out of Yale in the basement of the WPA Federal Theatre's Maxine Elliott Theatre, through the agonizing, insane,,triumphal days of the Mercury, of which she was a full, founding, indispensible partner, through the years of her growing eminence and her artistic association with almost every great theatrical figure of her time --- beyond her technical virtuosity and her rich creative resources, there were three personal characteristics which, in my mind and, I believe in all our minds, are inevitably associated with her. The first is COURAGE: courage in every sense. The moral courage to undertake impossible tasks and carry them through; the physical courage, year after year, to face exhaustion beyond human endurance --- to face it calmly and gaily and without ever letting her own fatigue or doubt or despair become apparent to those with whom she was working. In this aspectthat child-look of hers was quite misleading: faced with opposition which she considered unfair or foolish or destructive of her work, she became a lion --- fierce and indomitable in her determination and resource. Single-handed --- like Joan-of-Arc, against insuperable odds --- she

fought for the light designer's right to exist in the theatre --- for a woman's right to work in what had been, till then, a jealously guarded and arbitrarily appointed male world. She won and earned the respect and affection of those who had most savagely opposed her --- and their whole-hearted cooperation in the years that followed.

This brings me to the second of Jeannie's special qualities: POLITENESS. This may seem a curious, mild word to be using, but it was at the very center of her life and work. By politeness I mean not only the outward show of manners, though Jean's were perfect and she did, to my personal knowledge, introduce the quietly spoken "please" or "thank you" in place of the usual howls and curses into the routines of technical theatre instructions. But Jean's politeness went far deeper and it was never more apparent and admirable and heart-breaking than in the last few months of her life. Through her career it showed itself in a constant and sensitive preoccupation with the feelings, the pride, the vulnerability and also the creative potential of others. Constantly engaged in collaborative work, she tried and nearly always managed to push her association beyond mere temporary and technical compromises and understandings. She had a deep and genuine concern with the delicate personal factors that condition creation. And out of this concern were born those long and amazingly close and trusting relationships with her collaborators of which her thirty-year association with Martha Graham is a single and very striking example. There were many others.

The third quality that distinguished Jean Rosenthal was GENEROSITY and it is closely related to the other two. There are dozens here in this room and many times that number the country over --- I could name thirty or forty right now --- whose successful work in the theatre was made possible to a lesser or greater degree by their association at one time or another over the years, directly or indirectly, with Jean Rosenthal. No one I have known in the theatre was more constantly concerned with first, training, then recommending or placing or creating work for people whom she considered worthy; with her constant traveling around the country she was in a specially favored position to make such recommendations. They were not made out of benevolence, or kindness, or busybodyness; they related directly to Jean's own love and dedication to the theatre, to her deep conviction that there was no more exciting, or important or valuable thing in the world than the theatre, in all its human and creative manifestations. She believed in collaboration at every level and implemented this faith wherever she could. No less than in her technical and artistic innovations, or in the concepts which she brought to the design and illuminations of our new stages, Jean Rosenthal was one of those who most deeply and directly influenced the attitudes of the young toward the theatre and its new possibilities in our country. There is not one of us --- old or young--- who has not been directly affected and enriched, professionally or personally, for the rest of our lives, by our association with Jean Rosenthal.

MIDWEST NEWS

Twenty-four members of the Midwest Section attended the final meeting of the season on June 6 in the Chicago Lighting Institute. This was the ninth regular meeting in the first year of the formal establishment of the section.

Topic for the evening was "Dinner Playhouses: Where They have Been; Where They are Going," presented by Mr. William Pullinsi, founder of the dinner playhouse movement. The speaker started the first such theatre in Washington, D. C., 1959, later moved into the Chicago area, and there built the Candlelite Playhouse seating 116. A larger house, seating 525, followed in 1964 and another unit will open next year. There are now some eighty dinner theatres in this country. Mr. Pullinsi indicated that he prefers the arena form for his theatres both to reduce production costs and to permit a close-coupled actor-audience relationship. The stage of the present house measures 16' X 16', the new unit, 21' X 21' elevator stage which may be lowered to the traps where a choice of wagon units permits a complete scene change in one minute. Cleared of wagons the stage is used for dancing after the performance. Actor entrances are placed close to the stage, about 13', so as to minimize the problems of table service. Mr. Pullinsi stated that this type of theatre operation required common management of both food service and production if the package price, the key to its success, was to be made attractive, especially to the new theatre-goer. A lengthy discussion followed the presentation.

Officers and members of the executive board were elected at this meeting.

Chairman:	Richard Arnold Northern Illinois Univ. at DeKalb, Ill.
Vice Chairman	George Petterson Art Drapery Studios
Sec'y-Treasurer	Paul Brady, Univ. of Illinois, Urbana.
Executive Board	James Campbell New York Costume Co.
	John Green Lighting Designer
	Albert Koga Hub Electric Co.
	Glenn Naselius Goodman Theatre.

NYC CODE . . .

In response to many requests the NEWSLETTER is publishing sections of the Revised New York City Code as approved by the City Council by a vote of 35 to 1 on October 22, 1968. The former code, written in the eighteen-nineties, was last revised in 1939 and was material rather than performance oriented. Mr. Ben Schlanger has contributed material for a preface to this publication in which the role of USITT in the eight-year struggle for a new code is outlined.

The USITT founders, as early as 1961, were very much aware of the need for improving existing building codes affecting the construction of theatre buildings. Agroup of USITT members attended a special meeting for this purpose at the Theatre Congress in West Berlin (1961). Officials representing the authorities in many countries did not give much hope or offer any assistance toward eliminating the antiquated requirements built into most of the existing codes. They especially offered no hope for the elimination of the out-dated and useless stage fire curtain requirement.

The reading of most building codes indicated that, almost without exception, only the proscenium form of theatre was visualized. Soon after the Berlin meeting work was begun on the preparation of a new New York City code and Ben Schlanger, then First-Vice-President of USITT, was asked to write that section of the proposal affecting theatre construction. Then President Joel Rubin appointed a USITT Code Committee to work with Mr. Schlanger in providing research and think-tank information sessions. Chaired by C. Ray Smith, the committee included USITT members Dr. Donald Swinney, Russell Johnson, Richard D. Thompson, Ed Peterson, Jr., Arthur J. Benline, Thomas DeGaetani, Dr. Joel Rubin, Hans Sondheimer, William B. Warfel, David Hays, Edward Kook, Helge Westerman, and others representing no less than two dozen theatre oriented organizations, a wide cross section of informed theatre opinion.

Working without outside funding, members of the Committee attended most of the code review meetings and, through Mr. Schlanger, were instrumental in achieving a useful and technologically relevant new code. In addition to assuring the utmost in safety for theatre audiences and workers alike, the new code is vital in that it allows planners and users to provide for all known philosophies of presentation in addition to the proscenium mode.

The new code is an outstanding example of the "performance" approach to code formulation giving a maximum flexibility allowance to theatre planners for varied and innovative design approaches.

It is now the intent of the Institute to further this work by making contact with other important code writing organizations and authorities throughout the world to insure wide application of the rationale incorporated in what is certainly the country's most advanced building code.

NOTES

Under the provocative title, "The Performing Arts Centers, Who Needs Them," a distinguished panel met with the Theatre Administration Committee and invited guests at the Hotel Commodore, New York, on May 2nd. Co-chaired by Alexander S. Lacy, Chairman of the Birmingham-Jefferson Civic Center Authority, and Robert P. Brannigan, Director for Productions, Lincoln Center for the Performing Arts, the panel included Robert D. Graff, head of the New York office of Arthur D. Little, Inc., Hugh Hardy of Hardy, Holzman, Pfeiffer Associates, Architects, Helen M. Thompson, Executive Vice President and Treasurer of the American Symphony Orchestra League, Inc., and Richard Weinstein, Director of the Manhattan Planning and Development Office. This meeting will be fully reported in the next edition of the NEWSLETTER.

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The 12th annual meeting of the Performing Arts Management Institute was held in New York on May 2nd, 3rd, and 4th. Among the Institute members appearing was Robert Brannigan.

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Richard L. Arnold has agreed to undertake compilation of a Theatre Engineering Continuing Bibliography for serial publication in the NEWSLETTER. Mr. Arnold solicits cooperation in this project, asking that you send him copies of articles relating to Theatre Engineering published in organs which are not nationally distributed.

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The Indiana University School of Music announced a special Workshop in Tape Recording and Editing offered with the assistance of the Department of Radio and Television. Taught by Max Wilcox of RCA, New York, the course was designed for educational personnel with varying degrees of experience in the areas of recording and editing.

NOTES CONT. P. 11 -

ARTICLE 8
PLACES OF ASSEMBLY
TABLE OF CONTENTS

* "C26" omitted from section numbers in this table.

LIST OF TABLES

SUB-ARTICLE 800.0 GENERAL

§ C26-800.1 **Scope.**—The provisions of this article shall control the design and construction of places of assembly as defined in article 2. For specific classifications of assembly occupancies, see sub-article 307.0.

§ C26-800.2 **Definitions.**—For definitions to be used in the interpretation of this article, see article 2.

§ C26-800.3 **Tents and air supported structures.**—Places of assembly enclosed by tents or air supported structures shall comply with the provisions of this article regulating indoor places of assembly, and with the provisions of Section 719.0.

SUB-ARTICLE 801.0 BASIC REQUIREMENTS

§ C26-801.1 **General.**—The provisions of this section shall apply to all places of assembly, in addition to the specific requirements of sections 802.0, through 804.0 for the several categories of places of assembly.

§ C26-801.2 **Location.**—No place of assembly shall be located within 250 ft. of any occupancy containing explosive contents.

§ C26-801.3 **Posted capacity.**—Signs shall be posted in all assembly spaces, indicating the number of persons who may legally occupy the space. Signs shall not be required where seating is fixed in place in accordance with an approved seating plan and no provision is made for standee spaces. Such signs, where required, shall read as follows:

OCCUPANCY
BY MORE THAN
.....PERSONS IS
DANGEROUS
AND UNLAWFUL
Public Assembly License No. ..... Commissioner,
(where applicable) Dept. of Buildings, City of New York

When a space is occupied for multiple purposes involving different occupant loads, the sign shall read as follows:

OCCUPANCY
BY MORE THAN
.....(number).....PERSONS AS.....(type of occupancy).....
OR BY
.....(number).....PERSONS AS.....(type of occupancy).....
OR BY
.....(number).....PERSONS AS.....(type of occupancy).....
IS DANGEROUS
AND UNLAWFUL
Public Assembly License No. ..... Commissioner,
(where applicable) Dept. of Buildings, City of New York

Signs shall be at least 12 in. wide and 16 in. high. The lettering shall be red on a white background. The letters shall be at least 1 in. high and the numerals at least 1¼ in. high. Signs shall be framed under a transparent protective cover, and permanently mounted in a location that is conspicuously visible to a person entering the space. Signs shall be lighted by artificial illumination at all times during occupancy to maintain at least 5 ft. candles on the surface of the sign.

§ C26-801.4 **Approved seating plans.**—In every place of assembly providing seating, copies of approved seating plans and approved alternate seating plans shall be kept on the premises. The plans shall be readily available for inspection, and shall provide the following information:

(a) For assembly spaces:
(1) The location of each seat of each tier of seating, along with the number of occupants of each seating section.
(2) The location and number of standees for each standee area.
(3) The total number of occupants of each tier and of the assembly space.
(4) The location and classification of all exits.
(b) For safe areas:
(1) The furniture and equipment arrangement and location.
(2) The number of occupants to be accommodated.
(c) For stage areas:
(1) The maximum number of occupants, including audience seating on the stage.
(2) Any conditions limiting the use of the stage area.
(3) The location of all exits.

These plans shall not be smaller in size than required for ⅛ in. scale plans.

§ C26-801.5 **Enclosure and interior finish.**—Places of assembly shall be separated from adjoining occupancies by construction meeting the requirements of table 5-1 or table 5-2, whichever may apply. The interior finish of places of assembly shall meet the requirements of table 5-4.

§ C26-801.6 **Means of egress.**—Places of assembly shall be provided with exit facilities meeting all of the requirements of this article and all of the requirements of article 6 A place of assembly located in a building classified in another occupancy group shall comply with the exit requirements of this article, but may use the exit facilities of the building of which it is a part as a means of egress from the building.

§ C26-801.7 **Seating in assembly spaces.**—All seating in assembly spaces shall conform to the following:

(a) Seating arrangements.—Except as otherwise provided in this article, all seating shall be arranged in rows to provide for orderly egress.

(1) CHAIR SEATING.—Seating patterns employing individual chairs shall comply with the following:

a. Assembly spaces in which the net floor area, exclusive of stage area, is less than 8 sq. ft. per person shall be provided with chairs that are rigidly anchored to the construction or fixed in place by devices that prevent movement in any direction; except that not more than 12 movable chairs may be provided in a box or loge if such box or loge is separated from the main seating pattern by railings or other permanent construction and has an area of at least 5 sq. ft. per chair.

b. In assembly spaces where the net floor area, exclusive of stage area, is between 8 and 12 sq. ft. per person, movable chairs may be used provided all chairs in a row between aisles are fastened or ganged together to preserve the integrity of the row. Not more than 12 chairs shall be used in any row between aisles.

c. In assembly spaces where net floor area, exclusive of stage area, is more than 12 sq. ft. per person, individual movable chairs may be used. Not more than 12 chairs shall be used in any row between aisles.

d. All chairs placed on stepped platforms less than 4 ft. wide shall be anchored or fixed in place.

e. The minimum distance between centerlines of chairs in the same row shall be 19 in.

f. The spacing between the back of one chair in any row and any part of the chair in the row behind it, including arm blocks, when the seat is in the lift-up position for automatic operation or in the horizontal position for non-lift-up or nonautomatic operation, when measured horizontally between plumb lines, shall be at least 12 in., and this spacing shall be increased for any of the following reasons:

1. Where a difference in floor level occurs between any two rows, the spacing shall be increased as follows:

Difference in Level (in.)	Increase in Space (in.)
6-10, plus any fraction of an inch	1
11-16, plus any fraction of an inch	2
17-22, plus any fraction of an inch	3
23 and over	4

2. Where it is necessary from any location to pass more than seven chairs to reach the nearest aisle, spacing shall be increased ¼ in. for each chair in excess of seven.

g. Not more than eight chairs shall be provided in any row of seating having access to only one aisle except as provided below for bleacher and platform seating.

h. Performance viewing positions shall be provided for wheel chair persons in accordance with the following schedule. These positions shall be located so as not to interfere with egress from any row of seats and shall be reachable by means of ramps and/or elevators. Steps shall not be allowed in the line of travel from the main approach entry to the designated locations.

Capacity of Assembly Space	Number of Viewing Positions
75 to 500	Minimum 2
501 to 1000	Minimum 3
1001 to 1500	Minimum 4
Over 1500—minimum 4 plus 1 for each 400 over 1500.	

(2) BLEACHER SEATING.—Fixed or folding bleachers shall comply with the following:

a. For the purpose of determining occupant load, individual seat space width shall be assumed to be 18 in. There shall be a space of at least 14½ in. between the back edge of each seat and the front edge of the seat immediately behind it when measured between plumb lines.

b. The width of footboards and seat boards shall be at least 9½ in. Where wider seat boards are provided, the space between seats may be reduced by an amount equivalent to the increase in width.

c. Sections having not more than ten consecutive rows of seating shall not require aisles. Where there are more than ten consecutive rows, aisles shall be provided at the ends of seat rows, the minimum spacing between seat rows shall be increased to 16 in. and the required space between seat rows shall be increased by ¼ in for each seat in excess of seven that it is necessary to pass to reach an aisle. Cross aisles shall be provided at the bottom of each section of seating.

d. Bleacher seating shall be constructed to comply with the requirements of articles 9 and 10.

(3) PLATFORM SEATING.—Stepped platforms used for seating without chairs shall comply with the following:

a. For the purpose of determining occupant load, individual seat space width shall be assumed to be 18 in.

b. Platforms shall be at least 28 in. deep from front to back.

c. Platform depth shall be increased ¼ in. for each seat in excess of seven that it is necessary to pass to reach an aisle.

d. Aisles complying with (b) below shall be provided when the height between levels of platform seating exceeds 8 in.

(4) BENCH SEATING.—Bench or pew seating, with or without backs, may be used when complying with the applicable requirements for chair seating in (1) above. For the purpose of determining occupant load, individual seat space width shall be assumed to be 18 in.

(5) TABLE AND CHAIR SEATING.—Tables and chairs shall be so arranged that the distance from any chair at any table by way of a path between tables and chairs is not greater than 18 ft. to an aisle leading to an exit. The width of the path shall be at least 18 in., except that it may be reduced by 1 in. for each 1 ft. that the distance to the aisle is less than 18 ft. but may not be reduced to less than 12 in. chairs, when placed with the front edge of the seat on a line with the edge of the table, shall not protrude into the path. Booths containing up to eight seats may be used, provided they open directly on an aisle.

(6) COUNTER SEATING.—Counters at which food or beverages are consumed shall be attached to the floor. Fixed or movable chairs or stools may be provided. The number of occupants shall be determined on the basis of one occupant for each 18 in. of counter length. The width of aisles bordering counters shall be measured excluding a depth of 18 in. for chair or stool spaces.

(7) STANDEE AREAS.—Standee areas may be permitted within assembly spaces provided each standee space has a minimum width of 22 in. and a minimum depth of 21 in. Standee areas shall not encroach on the required exit facilities and shall be separated from the space to be left clear for passage by tape, ribbon or other easily broken material, supported by lightweight posts fixed in stationary sockets, so constructed and placed as to not constitute an obstruction in case of panic or emergency.

(8) PROTECTIVE GUARDS.—Protective guards shall be provided for seating and standee areas as follows:

a. A protective guard at least 30 in. high above the floor shall be provided along the fascia of all balconies, loges, and boxes, except that the guard shall be at least 36 in high at the bottom of stepped aisles. When rails or other parts of such guards are designed with ledges more than 2½ in. wide, the top surface of the ledges shall slope down toward the seating area at an angle of at least 30° from the horizontal. The guards shall provide an unperforated curb or toeguard at least 12 in. high above the level of the floor of the balcony, loge, or box

b. A protective guard at least 30 in. high above the floor shall be provided at cross aisles where fixed seat backs of any adjacent lower level do not project at least 24 in. above the cross aisle level.

c. A protective guard at least 18 in. high above the floor shall be provided along the front edge of any stepped platform where fixed seat backs of the adjacent lower level do not project at least 18 in. above the stepped platform level.

d. A protective guard at least 26 in. high above seat level shall be provided at the open ends of bleacher seating, extending from the front of the third row of seats to the back of the highest row of seats, and continuously along the rear of the seating, except where the seating is adjacent to a wall.

e. Guards shall be designed to meet the load requirements for railings in article 9.

§ 26-801.8 **Aisles and cross aisles.**—Assembly spaces shall be served by aisles, cross aisles, or other unobstructed floor areas providing access to exits, except as permitted for bleacher seating in section C26-801.7(a) (2).

(a) The capacity of aisles and cross aisles shall be adequate to serve all persons for whom they provide a primary path of travel to an exit. (See section C26-801.9 below.)

(1) CAPACITY.—The capacity of aisles and cross aisles shall be as listed in table 8-1. The unit of exit width shall be 22 in. Seats or other facilities shall not project into an aisle or cross aisle so as to reduce the width of the aisle or cross aisle more than 1 in. per unit of exit width.

(2) MINIMUM WIDTH.—Aisles and cross aisles shall have a minimum width of 44 in. except that the width may be at least 36 in. under any one or more of the following conditions:

a. In any assembly space having a total or not more than 300 occupants.

b. When not more than the number of persons permitted for one unit of exit width is served.

c. At the narrowest point when a tapered aisle is permitted under (3) below.

d. When an aisle parallels and is alongside an enclosure wall or partition that is provided with exit doors spaced not more than 16 ft. on centers, provided such aisle serves only the rows of seats adjacent to it.

(3) TAPERED AISLES.—Tapered aisles shall be used where egress is provided only at one end of the aisle, except that uniform aisles may be used when their width for the entire length will accommodate 80 per cent of the total occupant load served by the aisle. Tapered aisles shall be widened gradually so that their width at the point of discharge provides for the entire occupant load of the aisle.

(4) UNIFORM AISLES.—Aisles of uniform width shall be used where egress is provided at both ends of an aisle by either cross aisles or exit doors. The width of uniform aisles shall not be less than required for 60 per cent of the total occupant load served by the aisles.

(5) AISLE WIDTH AT OPENINGS.—When an aisle or cross aisle discharges directly into an exit openings, a space shall be provided in front of such openings that is at least as wide as such openings and at least as deep as the width of the aisle or cross aisle.

(6) CROSS AISLES.—Cross aisles, at any point shall not be closer than 12 ft. to a stage area using scenery or scenic elements. Steppings shall not be permitted in cross aisles.

(7) AISLE GRADIENTS AND STEPPINGS.—The floors of aisles shall have a gradient of not more than 1 in 8. Where differences in levels require a greater gradient, steps shall be used, complying with the following:

a. When one riser only is used between levels of platforms, its height shall not exceed 8 in., and where more than one riser is used, none shall exceed 7¾ in.

b. No riser shall be less than 4 in. high.

c. No riser shall vary from the height of the riser immediately above or below, except that risers that are separated by a tread of 17 in. or more may vary up to ¾ in.

d. The width of treads of intermediate steps between platform levels shall be at least 9½ in., but not more than 10½ in., exclusive of nosings.

e. Treads at the level of platforms and 17 in. or more in width may slope not more than ¼ in. in 12 in.

f. No steps shall be used to enter a row of seats from an aisle unless an unobstructed floor space of at least 7 sq. ft. is provided at the level of the aisle, between the aisle and the steps.

g. Each step in an aisle shall be marked along its nosing with a permanent contrasting color stripe, and shall be provided with a step light.

h. The line of risers of aisle steppings shall deviate no more than 20° from a line perpendicular to the centerline of the aisle.

(8) STEPPED AISLE LANDINGS.—Stepped aisles shall be provided with landings at exit openings, and shall have a length equal to at least the width of the aisle and a slope of not more than 1 in 12.

(9) LIGHTING.—Aisles and cross aisles shall be provided at all times with at least ½ ft. candle of artificial illumination by electrical means.

(10) VOMITORIES.—Vomitories within assembly spaces shall comply with all of the requirements for aisles, and shall have a clear ceiling height of at least 7 ft.

§ C26-801.9 **Travel distance.**—At least one exit opening shall be available from every attached seat or standee space in an assembly space, or from the most remote point in the space when movable seats are provided or, when no seats are provided within the primary travel distance limitation listed in table 8-1. In addition, an alternate exit opening shall be available from every attached seat or standee space from the most remote point when attached seats are not provided, within the secondary travel distance limitation listed in table 8-1. Such alternate exit openings may serve to satisfy the requirements for primary travel distance for other seats or locations. Exit openings satisfying the primary and secondary travel distance requirements for any one seat or location shall be separated from other by a distance of at least 25 ft.

(a) Travel distance shall be the measured distance along centerlines of paths of travel to the centerline of the exit opening, as adjusted by penalties for multidirectional or stepped travel as provided below.

(1) No path of travel shall be permitted through rows of seating other than the first leg of travel from a seat to an aisle.

(2) The first 35 ft. of a primary path of travel and a secondary path of travel may be common to each other except that this distance may be increased to 50 ft. in F-2 places of assembly.

(3) Not more than three changes in direction of travel shall be permitted in the path of travel to an exit opening. A change in direction shall be deemed to occur when it is necessary to change direction by a 45° or greater angle, measured from the preceding line of travel, except that it shall not be considered as a change in direction when it is necessary in an aisle or cross aisle to travel in another direction not more than 7 ft.

(4) Travel distance shall be the sum of the distances of all segments of travel to the exit, computed as follows:

Segment	Length
First leg of travel	Measured distance
Second leg of travel after first change in direction	Measured distance
Third leg of travel after second change in direction	1.25 times measured distance
Fourth leg of travel after third change in direction	1.40 times measured distance
Any leg of travel with four or more steps	1.25 times length of segment as computed above

§ 26-801.10 **Exit openings.**—Exit openings from assembly spaces shall comply with the following:

(a) Capacity.—The capacity of exit openings shall be listed as in table 8-1, based on the number of occupants for whom the opening satisfies the primary travel distance requirement.

(b) Width.—Exit openings shall be at least 36 in. wide for single doors and at least 66 in. but not more than 88 in. wide for doors swinging in pairs, except that in assembly spaces having an occupant load of over 300 persons, single door openings shall be at least 44 in. wide.

(c) Classification.—Exit openings from assembly spaces shall be classified as follows:

Class 1.—Exit openings that are used for normal entry to the assembly space, and that open directly to a safe area or to an open exterior space.

Class 2.—Exit openings that are not used for normal entry to the assembly space, and that open directly to a safe area or to an open exterior space.

Class 3.—Exit openings that open from the assembly space into corridors, exit passageways, or vertical exits.

(d) Distribution of Classes.—The required exit capacity from F-2 places of assembly, and from all other assembly spaces in which the net floor area, exclusive of stage area, is 12 sq. ft. or more per person may be provided by exit openings of any class. The required exit capacity from assembly spaces in which the net floor area, exclusive of stage area, is less than 12 sq. ft. per person shall be distributed so that exit openings of each class are provided to comply with the following requirements:

1. For assembly spaces in which the mean floor level is not more than 15 ft. above or below the adjoining grade elevation, the exit capacity shall be distributed as follows:

Class 1—not less than 40 per cent
Class 2—not more than 60 per cent
Class 3—not more than 40 per cent

2. For assembly spaces in which the mean floor level is more than 15 ft., but not more than 30 ft., above or below the adjoining grade elevation, the exit capacity shall be distributed as follows:

Class 1—not less than 60 per cent
Class 3—not more than 40 per cent

3. For assembly spaces in which the mean floor level is more than 30 ft. above or below the adjoining grade elevation, the exit capacity shall be distributed as follows:

Class 1—not less than 100 per cent

(e) Location.—No exit opening shall be closer than 12 ft. to any part of a stage using scenery or scenic elements. All exit openings shall be clearly identifiable and shall not be disguised as part of a wall or covered in any way to obscure them from view. Where, because of the configuration of the assembly space enclosure, an exit opening is not visible from all seats using it as a means of egress, directional exit signs shall be placed on the enclosure alongside the exit opening to indicate its location. These signs shall be in addition to those required over the exit opening.

(f) Locking.—No exit door shall be locked so as to prevent egress from an assembly space while it is occupied.

§ C26-801.11 **Safe areas.**—Safe areas shall comply with the following:

(a) When provided to serve class 1 or class 2 exit openings safe areas shall be separated from assembly spaces by noncombustible construction having a 2 hr. fire-resistance rating, and shall serve as transition areas in the line and direction of exit travel. They shall serve for normal entry to the assembly space and may be used as corridors, lobbies, or lounges. No room or space classified in occupancy groups A, B-1, D-1, or D-2 shall open upon a safe area. Safe areas shall be at a level not more than 6 ft. above or below the level at which egress is made from the assembly space, except that a separate safe area shall not be required for any assembly space having an occupant load of less than 150 persons and which is served by a safe area of another assembly space, when such safe area is in the direction of egress. Ventilating systems for safe areas shall not be connected to systems serving any other spaces, unless separated from such systems by fire dampers actuated by smoke detectors meeting the construction requirements of article 13.

(1) COLLECTING SAFE AREAS.—Places of assembly having more than one assembly space may have a collecting safe area that receives the occupant load discharge into it by other safe areas. Collecting safe areas shall be located within 6 ft. above or below the assembly space nearest to grade.

(2) OCCUPANT LOAD.—The occupant load of a safe area shall be the aggregate occupant load of all exit openings discharging directly into it. The occupant load of a collecting safe area shall be the aggregate occupant load of all exit openings discharging directly into it, plus 50 per cent of the occupant load of other safe areas discharging into it.

(3) DIMENSIONS.—Except as provided in (4) below, the clear unobstructed floor area of each safe area shall be sufficient to accommodate the total occupant load of the safe area on the basis of 2 sq. ft. per person, not including space occupied by furniture or equipment. The minimum dimension of such unobstructed space shall be 8 ft. The width of the unobstructed space shall be measured at right angles to the direction of travel to an exit and shall not be less than required for the occupant load, on the basis of the exit capacity listed in table 8-1. The height of safe areas shall be at least 8 ft. at all points.

(4) SAFE AREAS NEAR GRADE.—When a safe area provides egress to an open exterior space, either directly or through a vestibule, the safe area need not provide the floor area required by (3) above when the level of discharge from the safe area to the open exterior space is not more than 4 ft. above or below the grade of the open exterior space.

(5) RAMPS AND STEPS.—Ramps in safe areas shall have a gradient of not more than 1 in 12, except that when not exceeding 6 ft. in length, the gradient may be not greater than 1 in 10. Steps in safe areas shall comply with the following requirements:

a. No riser shall be less than 6 in. nor more than 7½ in. high.

b. No riser shall vary in height from the riser immediately above or below it.

c. Treads in flights of steps shall be at least 10½ in. wide exclusive of nosing, and, except as provided in d. below, the sum of two risers plus the width of one tread shall be at least 24 in. but not more than 25½ in.

d. No change in levels shall have less than three risers, except that where the intervening tread is between 28 in. and 36 in., two risers may be used when the edge of each tread is marked by a contrasting color stripe.

e. Where exit openings from an assembly space are above or below the level of the safe area, a platform shall be provided at the same level as that of the exit opening. The platform shall be at least 1 ft. wider on each side than the exit opening, and shall extend a minimum of 6 ft. in the direction of exit travel. The sides of such platforms, and of steps or ramps leading from them, shall be protected by guards at least 3 ft. high.

(6) EXITS FROM SAFE AREAS.—The capacity of exits from safe areas shall be as listed in table 8-1. Exit openings from safe areas shall discharge into exit types as provided in article 6.

(7) DOOR HARDWARE.—Doors from safe areas or from exits from safe areas opening directly to the outdoors and furnished with locks shall be equipped with fire exit bolts complying with the requirements of section C26-604.4(k)(2).

C26-801.12 Corridors.—Corridors shall comply with all of the requirements of article 6, except as modified below:

(a) Capacity.—The capacity of corridors shall be as listed in table 8-1.

(b) Changes In Level.—Changes in level requiring less than three risers in a corridor shall be by a ramp having a slope not greater than 1 in 10.

§ C26-801.13 **Exit Passageways.**—Exit passageways shall comply with all of the requirements of article 6, except as modified below:

(a) Capacity.—The capacity of exit passageways shall be as listed in table 8-1.

(b) Changes In Level.—Changes in level requiring less than three risers in an exit passageway shall be by a ramp having a slope not greater than 1 in 10.

§ C26-801.14 **Vertical exits.**—Stairs, escalators, and ramps shall comply with all of the requirements of article 6, except as modified below:

(a) Capacity.—The capacity of stairs, escalators or ramps shall be as listed in table 8-1.

(b) Width.—The minimum width of stairs shall be at least 44 in., except that where the total occupant load is not more than permitted for one unit of exit width, the minimum width may be 36 in.

(c) Unenclosed Vertical Exits.—Vertical exits leading directly from one safe area to another, or leading from a safe area directly to an open exterior space, need not be enclosed.

(d) Ramp Slope.—Ramps serving as vertical exits shall not have a slope greater than 1 in 10.

C26-801.15 **Open exterior spaces.**—

(a) Capacity.—Open exterior spaces shall be adequate in width and area to accommodate the accumulated occupant load of all exits discharging into them on the basis of 2 sq. ft. per person.

(b) Minimum Dimensions.—The minimum dimensions of open exterior spaces shall be 20 ft., except that when the principal entrance to the place of assembly is from an open exterior space, the minimum dimension of this space shall be 30 ft. No open exterior space shall have less than 400 sq. ft. of floor area, and floor area shall be measured exclusive of the following:

1. The area immediately outside any exit door from the place of assembly for a distance perpendicular to the exit doors of 10 ft. for the full width of the exit opening.
2. The area of steps, platforms, stairs, or ramps within or leading to or from the space.
3. The area of obstructions such as shrubs, trees, fixed furniture, signs, sculptures, pools, and similar obstructions to occupancy or exit travel.

(c) Above or Below Grade.—When an open exterior space is more than 15 ft. above or below the grade of the street or public space to which it discharges, its required area shall be increased by ⅓.

(d) Egress From Open Exterior Spaces.—Exterior exit passageways, ramps, or steps leading from open exterior spaces shall be not less in width than required for the occupant load of all exits discharging into the open exterior space. The width of such exit passageways shall be based on the capacities listed in table 8-1, but in no case less than 10 ft. Ramps and steps shall comply with the requirements of (e)(5) above.

§ C26-801.16 **Exit lighting.**—In addition to the requirements of article 6, lighting shall be provided in the following areas:

(a) Safe Areas.—Safe areas shall be artificially lighted by electrical means at all times during occupancy of a place of assembly so as to provide illumination of at least 5 ft. candles at the level of the floor and on the surface of all stairs, steps, ramps, and escalators within the safe area.

(b) Open Exterior Spaces.—Yards or courts which serve as open exterior spaces shall be artificially lighted by electrical means at all times between sunset and sunrise during occupancy of a place of assembly so as to provide illumination of at least 5 foot candles at the level of the floor over at least the required area.

C26-801.17 **Exit signs.**—Signs meeting the requirements of article 6 and C26-801.10(e) above shall be provided in all assembly spaces to indicate the location of exits and, where necessary, the direction to the exits. All exit or directional signs shall be placed so that they are clearly visible, and the bottom of all signs shall be at least 7 ft. above floor level. Signs shall be of the internally lighted type in all assembly spaces where the general illumination is reduced to less than 5 foot candles during a performance or during occupancy. Signs shall be lighted at all times during occupancy.

Table 8-1 Determination of Exit and Access Requirements

Occupancy Group Classification	Maximum Travel Distance Within Assembly Space (ft.)[a]		Capacity (number of persons per unit of width)				
			Doors or Openings				Ramps Corridors, Safe Areas, Exit Passageways
	Primary	Secondary	Aisle and Cross Aisle[e]	From Assembly Space	From Safe Area	Stairs and Escalators	
F-1a[b]	85	125	80	50	100	60	80
F-1b[c]	100	125	90	80	125	80	100
F-2	175	250	400	400	500	320	425
F-3	100[d]	125[d]	90	80	125	80	100
F-4	85[d]	125[d]	80	50	100	60	80

Notes:

[a] See Section C26-801.9. When an exit opening from an assembly space discharges into corridor that does not meet the requirements of this code for a safe area, the travel distance shall include the distance within the corridor to an exit.

[b] See Section C26-802.2(b)(4) for stages.

[c] See Section C26-802.3(b)(3) for stages.

[d] In places of assembly completely equipped with automatic sprinklers, this distance may be increased 50 per cent.

[e] See Section C26-801.8.

§ C26-801.18 **Emergency lighting.**—All assembly spaces shall be provided with emergency lighting facilities sufficient to provide at least 5 foot candles of illumination at the floor level. Such lighting shall be on circuits that are separate from the general lighting and power circuits, either taken off ahead of the main switch or connected to a separate emergency lighting power source, and be arranged to operate automatically in the event of failure of the normal lighting system.

§ C26-801.19 **Light projection sources.**—Motion picture projection and other light projection sources shall comply with the following:

(a) Film.—The projection, use or storage of film having a nitrocellulose base (commonly known as nitrate film) shall not be permitted except under conditions specified in special permits when issued by the fire department. Safety film meeting the specifications and test standards of reference standard RS 8-1 may be projected, used or stored.

(b) Projection Machines.—Projection machines shall meet the requirements of the electrical code of the city of New York. The lamp housing of projection machines using carbon-arc or other light sources that emit gaseous discharge shall be equipped with, or connected to a mechanical ventilation system of adequate capacity to exhaust the products of combustion through ducts directly to the outdoors. Such duct systems shall comply with the requirements of article 13. When more than one projection machine or other facility employing a carbon-arc or similar light source is used, all may be vented by the same duct system if the capacity is adequate for all facilities so connected.

(c) Other Light Source Facilities.—All devices, such as spotlights, that employ a carbon-arc or other light source that emits gaseous discharge shall be vented directly as required in (b) above, unless the space in which such devices are located is mechanically ventilated and provides at least 2,000 cu. ft. of room volume for each device.

(d) Light or Projection Rooms or Booths.—When enclosed, rooms or booths used for the projection of motion picture film or the manipulating of lights shall be built of noncombustible materials, and shall provide a clear working space of at least 2 ft. around the projection apparatus. Such rooms or booths shall be provided with vents opening to a mechanically ventilated area or the outdoors, adequate in size to supply the make-up air required. The rooms or booths shall be provided with at least one noncombustible or metal clad door at least 2 ft. by 6 ft. opening in the direction of exit travel, and no point within the room, booth, or gallery shall be more than 50 ft. from a door opening into a corridor or space that provides access to an exit at a distance not greater than 75 ft.

§ C26-801.20 **Motion picture screens.**—Motion picture screens shall be noncombustible, or have a flame spread rating not over 25, or be of materials that have been rendered flameproof in accordance with the provisions of chapter 19 of the administrative code. The construction supporting screens shall be noncombustible, and shall comply with the stage rigging requirements of article 9 and with the provisions of article 10.

SUB-ARTICLE 802.0 F-1 PLACES OF ASSEMBLY

§ C26-802.1 **General.**—The provisions of this section shall apply to all places of assembly classified in occupancy group F-1 under the provisions of article 3.

§ C26-802.2 **F-1a places of assembly.**—F-1a places of assembly shall comply with all of the requirements of sub-article C26-801.0, and with the following:

(a) Construction in seating areas.—

(1) Scenery or scenic elements may be placed in seating sections of F-1a assembly spaces if such elements:

a. Are noncombustible, or of materials that have been rendered flameproof in accordance with the provisions of chapter 19 of the administrative code, or have a flame spread rating of 25 or less.

b. Are adequately braced or secured.

c. Do not obstruct the required visibility of, or paths of travel to, exit openings.

(2) Platforms or runways for performances, to accommodate the operation of cameras, electronic equipment, or motion picture projection machines not using carbon-arc or other light source that emits a gaseous discharge may be constructed in seating sections, provided such platforms or runways comply with the requirements of (1) above.

(b) Stage Requirements.—

(1) DEFINITION.—For the purposes of this section the stage in an F-1a place of assembly shall include the performing area and all other nonaudience areas that are used in the presentation of a performance and that are open to the performing area. The performing area shall be that area between the outer edge of the stage apron and the furthermost up-stage acting boundary, the width being the maximum stage opening to the audience.

(2) STAGE FLOOR CONSTRUCTION.—The floor construction of stages shall provide fire-resistance ratings complying with the requirements of section C26-301.4 and table 3-4 except as follows:

a. Any portion of the stage floor used for passing scenery and scenic elements to a lower level may consist of heavy timber construction supporting tight fitting traps of at least 3 in. nominal solid wood or of equivalent materials in terms of fire-resistance, strength, and stiffness properties.

b. Stage lifts shall comply with the provisions of article 18. Any portion of the stage floor that is equipped with stage lifts shall be of noncombustible construction. Joints between lift platforms and adjacent floors shall be tightly fitted.

c. Finish flooring shall comply with the provisions of section C26-504.13.

(3) AREAS BELOW THE STAGE.—When the stage floor is equipped with traps or stage lifts, the room or space below the stage into which the traps or lifts open shall be completely enclosed by construction having at least the fire-resistance rating required for the stage floor, and such room or space shall not be used as a workshop or storage area. Storage shall not be deemed to include the location in this area of scenery or scenic elements used during a performance. However, no combustible material that has a flame-spread rating greater than 25 or that has not been rendered flameproof in accordance with chapter 19 of the administrative code may be stored in this location at any time. Under-stage areas shall comply with the requirements of (b)(11) below.

(4) EXITS FROM THE STAGE.—At least two exits, remote for each other, shall be available from every point on a stage, each within a travel distance limitation of 125 ft. The occupant load of the stage shall be based upon one person per 15 sq. ft. for the performing area and on one person per 50 sq. ft. for the remaining area. When any portion of a stage is used for audience seating at any time, exits of adequate capacity shall be provided for that portion, within the travel distance limitations for assembly space seating. Exit openings serving a stage directly shall have a capacity of 75 persons per unit of exit width.

(5) SCENERY AND SCENIC ELEMENTS.—All scenery or scenic elements shall be of noncombustible materials, or of materials having a flame-spread rating not exceeding 25, or of materials that have been rendered flameproof in compliance with the provisions of chapter 19 of the administrative code. Scenery and scenic elements not complying with the above requirements may be used only when expressly permitted by the fire department.

(6) RIGGING LOFTS, FLY GALLERIES, AND GRIDIRONS.—Girders, beams, or slats of galleries or gridirons over the stage floor or in the rigging loft need not be fire protected but shall be of noncombustible materials designed in accordance with the provisions of articles 9 and 10.

(7) AUTOMATIC SPRINKLER PROTECTION.—Stages in F-1a places of assembly shall be provided with automatic sprinkler protection complying with the construction provisions of article 17, as follows:

a. Automatic sprinklers shall be placed above all rigging lofts; and above all stage areas, other than those portions of stage areas specifically designated on approved plans as performing areas which do not have rigging lofts above and that are not at any time used for storage purposes. Sprinklers above rigging lofts shall be located so that no gridiron or other obstruction intervenes between the sprinkler heads and the scenery or scenic elements.

b. When any part of a stage is sprinklered in accordance with a. above, or when rigging lofts are provided, such stage areas and rigging lofts shall be completely separated from audience areas by a deluge sprinkler system designed to form a vertical water curtain, with heads spaced to provide a water density of at least 3 gpm per linear foot. The water curtain system shall be controlled by a deluge valve actuated by a "rate of rise system" and "fixed temperature system." The heat actuating devices shall be located on not more than 10 ft. centers around the perimeter of the sprinklered area or as otherwise required for the type of device used to assure operation of the system. In addition to the automatic controls, manual operating devices shall be located at the first control station as required by (b) (10) below, and adjacent to at least one exit from the stage. Such exit shall be remote from the fire control station.

c. When openings are provided in the stage floor for stage lifts, trap doors or stairs, sprinklers spaced 5 ft. on centers shall be provided around the opening at the ceiling below the stage, and baffles at least 12 in. in depth shall be installed around the perimeter of the opening.

d. All valves controlling sprinkler supplies shall be provided with tamper switches wired to an annunciator panel located at the fire control station.

e. The operation of any section of the sprinkler system and the deluge system shall activate the emergency ventilating equipment required in (8) below.

f. The water flow alarm, tamper switches and deluge system equipment shall be provided with central station supervision in addition to the required local alarm.

(8) EMERGENCY VENTILATION.—Emergency ventilation shall be provided for all stages in F-1a places of assembly to provide a means of removing smoke and combustion gases to the outdoors in the event of a fire, as follows:

a. A mechanical exhaust system shall be provided of sufficient capacity to exhaust an amount of air at least equal to the sum of the following:

(1) 2 cfm per sq. ft. of the performing area.

(2) 4 cfm per sq. ft. of that portion of stage area that is not designated as performing area.

(3) 4 cfm per sq. ft. of rigging loft area.

b. The exhaust system shall be designed to be activated both manually and automatically, manual operation shall be by means of a manually operated switch located at the fire control station as required by (b) (10) below and adjacent to at least one exit from the stage. Such exit shall be remote from the fire control station. Automatic activation shall be by means of the sensing devices that start the operation of the sprinklers. Exhaust air openings of ducts shall be located so as to provide the most effective removal of smoke and combustion gases.

c. The exhaust system shall be provided with an automatic emergency by-pass damper in the exhaust duct on the suction side of the fan. Such damper shall close to the fan in the event of a power failure to the fan motor and shall open directly to the outdoors if the fan is located outside the building, or shall open to a duct leading directly to the outdoors if the fan is located inside in the building. When located inside the building, the fan shall be insulated with a minimum of 1 in. magnesia block or the equivalent in insulating and fire-resistive qualities. Exhaust fans shall have drive and bearings located outside of the fan impeller housing. The exhaust system shall not be connected to exhaust openings in any space other than the stage and rigging loft, and shall be constructed to comply with the provisions of article 13. All switches shall be clearly labelled "emergency stage ventilation" and shall be painted red.

d. The emergency venitlation system shall be connected to both the normal and emergency light and power circuits.

(9) CURTAINS.—No curtain shall be located between the audience area and the stage unless it is designed to permit the air movement required for emergency ventilation in (8) above to bypass or pass through the curtain without excessive billowing.

(10) EMERGENCY CONTROL PANEL.—An emergency control panel shall be provided, as follows:

a. It shall be located on or adjoining the stage, except that where the stage is surrounded by seating, it shall be located so as to permit a view of the audience and stage areas. It shall be manned in accordance with the requirements of the fire department at all times during the presentation of a performance to an audience.

b. It shall be equipped with tell-tale lights to indicate when feeders and subfeeders of emergency light and power circuits are in operation in assembly spaces and all exits, including safe areas.

c. It shall, when a deluge type sprinkler system is provided, be equipped with manual operating devices to activate the sprinkler system. It shall also be provided with a signal system to show when any portion of the sprinkler system has been deactivated.

d. It shall be provided with switches to provide for operation of the emergency ventilating system. Controls for the ventilating system shall be electrically supervised. The supervisory circuit shall be provided with a trouble bell and light, both of which shall be activated in the event of a failure in the ventilation system. A silencing switch may be provided, and where provided, shall have either an automatic reset or shall ring again when the trouble is corrected.

e. It shall be equipped with a public address system serving loudspeakers in the assembly space. The public address system shall be connected to both the normal and emergency light and power circuits.

f. It shall be equipped with an alarm system and intercom connected to the manager's office, the dressing rooms, and to a supervisory central fire station.

(11) AUXILIARY STAGE SPACES.—Auxiliary stage spaces such as understage areas, dressing rooms, green rooms, storage room, work shops, and similar spaces associated with the use of the stage shall comply with the following:

a. No point within any auxiliary stage space shall be more than 50 ft. from a door providing access to an exit.

b. There shall be at least two exits available from every auxiliary space, one of which shall be available within a travel distance of 75 ft. A common path of travel of 20 ft. to the two exits shall be permitted.

c. The occupant load of dressing rooms shall be based on one person per 50 sq. ft. of area.

d. Auxiliary stage spaces shall be equipped with automatic sprinklers when required by the provisions of article 17.

e. No workshop involving the use of combustible or inflammable paint, liquids, or gases or their storage shall open directly upon a stage.

f. The interior finish of auxiliary stage spaces shall comply with the requirements of table 5-4.

(12) STAGE LIGHTING.—No stage lights shall be placed so that they will develop temperatures on the surface of any material that will cause that material to ignite, or smoke, or cause its flameproofing to deteriorate.

§ C26-802.3 **F-1b Places of assembly.**—F-1b places of assembly shall comply with all of the requirements of sub-article C26-801.0, and with the following:

(a) Certificate of Occupancy.—The certificate of occupancy for F-1b places of assembly shall specifically note the prohibition against the use or placement of scenery or scenic elements on or above the stage.

(b) Stage requirements.—

(1) Definition.—For the purposes of this section, the stage in an F-1b place of assembly shall be the area where the principal activity viewed by the audience takes place.

(2) CONSTRUCTION.—Raised platforms may be built as stages in F-1b places of assembly when they are supported on floors having the fire-resistance ratings required by table 3-4, in accordance with the following:

a. The area below the platform shall be enclosed on all sides with solid construction.

b. The horizontal area of stage construction shall not exceed the following:

Wood frame: maximum area—400 sq. ft.

Fire retardant treated wood: maximum area—1,200 sq. ft.

Noncombustible frame: maximum area—unlimited.

c. The floor of the stage, when wood is used, shall be at least 1 in. nominal thickness, and shall be laid on a solid, noncombustible backing, or all spaces between supporting members shall be fire-stopped with noncombustible material.

(3) EXITS FROM THE STAGE.—At least two exits, remote from each other, shall be available from every point on a stage, each within a travel distance limitation of 150 ft. The occupant load of the stage shall be based upon one person per 25 sq. ft. of area. When any portion of a stage is used for audience seating at any time, exits of adequate capacity shall be provided for that portion, within the travel distance limitations for assembly space seating. Exit openings serving a stage directly shall have a capacity of 100 persons per unit of exit width.

(4) EMERGENCY CONTROL PANEL.—In F-1b places of assembly having an occupant load over 600 persons, an emergency control panel shall be provided, as follows:

a. It shall be located so as to have a view of the audience and stage areas, and shall be manned during the presentation of a performance to an audience, by a competent person instructed in its use.

b. It shall be equipped with tell-tale lights to indicate when feeders and subfeeders of emergency light and power circuits are in operation in assembly spaces and all exits, including safe areas.

c. It shall be equipped with a public address system serving loudspeakers in the assembly space. The public address system shall be connected to both the normal and emergency light and power circuits.

SUB-SECTION 803.0 F-2 PLACES OF ASSEMBLY

§ C26-803.1 **General.**—The provisions of this section shall apply to all places of assembly classified in occupancy group F-2 under the provisions of article 3. F-2 places of assembly shall comply with all of the requirements of sub-article C26-801.0, and with the following:

(a) Enclosure.—To qualify as an F-2 outdoor place of assembly, a place of assembly shall have at least 40 per cent of the combined surface area of all exterior wall and roof planes open to the outdoors. When a portion of an outdoor place of assembly is enclosed to a greater extent, that portion shall comply with all of the requirements of this code applicable to indoor places of assembly.

(b) Grandstands.—Grandstands shall comply with the following:

(1) CONSTRUCTION.—Grandstands shall be designed in accordance with the requirements of articles 9 and 10.

(2) HEIGHT AND AREA.—Grandstands, when built entirely of noncombustible materials, may be of unlimited height and area, and when built of combustible materials, shall be subject to the following limitations:

a. No section of seating shall exceed 20 ft. in height, or exceed 10,000 sq. ft. in area.

b. When more than one section of seating is provided, and the separation between them is less than 50 ft., each section shall be separated from the other by construction having a fire-resistance rating of at least 2 hr. and rising to a height of at least 2 ft. 6 in. above the levels of seating at each row.

c. No outdoor grandstand of combustible materials shall be erected within less than ⅔ of its height, but in no case less than 10 ft., of a building or an interior lot line unless separated therefrom by noncombustible construction having a 1 hour fire-resistance rating.

(3) SPACES UNDER SEATS.—Spaces under grandstand seats shall be kept free of all combustible materials and shall not be occupied or used for other than egress, unless such spaces are completely enclosed by noncombustible construction having a 2 hour fire-resistance rating.

(4) PARKING.—Motor vehicle parking spaces shall not be closer than 20 ft. to any grandstand unless separated therefrom by noncombustible construction having a 1 hour fire-resistance rating.

(c) Stage Requirements.—

(1) DEFINITION.—For the purposes of this section the stage in an F-2 place of assembly shall be the area where the principal activity viewed by the audience takes place.

(2) CONSTRUCTION.—The horizontal area of stage construction shall not exceed the following:

Wood frame: maximum area—5,000 sq. ft.

Fire retardant treated wood: maximum area—10,000 sq. ft.

Noncombustible frame: maximum area—unlimited.

(3) EXITS FROM THE STAGE.—At least two exits, remote from each other, shall be available from every point on a stage, each within a travel distance limitation of 300 ft. The occupant load of the stage shall be based upon one person per 50 sq. ft. of area. When any portion of a stage is used for audience seating at any time, exits of adequate capacity shall be provided for that portion, within the travel distance limitations for assembly space seating. Exit openings serving a stage directly shall have a capacity of 400 persons per unit of exit width.

(4) EMERGENCY CONTROL PANEL.—In F-2 places of assembly having an occupant load over 1,000 persons, an emergency control panel shall be provided, as follows:

a. It shall be located so as to have a view of the audience and stage areas, and shall be readily accessible at all times during the presentation of a performance to an audience, to a competent person instructed in its use.

b. It shall be equipped with tell-tale lights to indicate when feeders and subfeeders of emergency light and power circuits are in operation in assembly spaces and all exits.

c. It shall be equipped with a public address system serving loudspeakers in the assembly space. The public address system shall be connected to both the normal and emergency light and power circuits.

d. Drive-in Theaters.—Drive-in theaters shall comply with the following:

(1) Projection booths and projection machines shall comply with the requirements of section C26-801.19. Motor vehicle parking spaces shall not be closer than 20 ft. to any projection booth or machine.

(2) Projection screens and supporting structures shall comply with the requirements of section C26-801.20 and shall be designed in accordance with the requirements of articles 9 and 10 as applied to signs. Motor vehicle parking spaces shall not be closer than 20 ft. to any projection screen.

(e) Amusement Parks.—Buildings and structures within amusement parks shall be constructed to conform with all of the requirements of this code governing the specific use and occupancy. Amusement devices shall not be placed in operation until they have been made to comply with the provisions of article 18.

SUB-ARTICLE 804.0 F-3 AND F-4 PLACES OF ASSEMBLY

§ C26-804.1 General.—The provisions of this section shall apply to all places of assembly classified in occupancy groups F-3 or F-4 under the provisions of article 3.

§ C26-902.5 **Stage areas using scenery or scenic elements.**—Scenery battens and suspension system shall be designed for a load of 30 lbs. per linear foot of batten length. Loft block and head block beams shall be designed to support vertical and horizontal loads corresponding to a 4 in. spacing of battens for the entire depth of the gridiron. Direction and magnitude of total forces shall be determined from the geometry of the rigging system including load concentrations from spot line rigging. Locking rails shall be designed for a uniform uplift of 500 psf with a 1,000 lb. concentration. Impact factor for batten design shall be 75 per cent and for loft and head block beams shall be 25 per cent. A plan drawn to a scale not less than ¼ in. equals one foot shall be displayed in the stage area indicating the framing plan of the rigging loft and the design loads for all members used to support scenery or rigging. Gridirons over stages shall be designed to support a uniformly distributed live load of 50 psf in addition to the rigging loads indicated.

The NEWSLETTER is indebted to Mr. Robert P. Brannigan for assistance in the preparation of this section.

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LEMONS ASKS YOUR HELP !

A major new member campaign has been started with the completion of the membership brochure. Twenty-five thousand brochures were printed and are available to all members on request. To date about 25 members have requested them in amounts ranging from 6 to 500.

Plans are now developed for a mass mailing to all interested persons as well as to potential sustaining members. Pressreleases have been prepared and the assistance of both AIA and the AETA has been sought in the distribution of these materials. A blind mailing, it is recognized, can provide, at best, a four percent return. The same results can be obtained if each USITT member makes it his task to find and to enroll only one new member!

To reach the true potential for membership in USITT is a task which cannot be assigned to a few members or to the Membership Committee alone. Each member must become involved in the campaign! Carry at all times a supply of membership brochures so that you may distribute them with a personal request to join. Be sure that the brochure is available to members of every theatre association with which you come in contact. Send mailing lists of your regional or specialized theatre-related organization to the USITT office and we will send the piece to those names. And do not forget the companies with which you do business! An issue of the JOURNAL or a look at the list of Sustaining Members published in this letter may be enough to convince them that they should be members of the Institute!

Only through a united effort can the USITT realize its full potential!

Tom Lemons
Membership Chairman

The Editor regrets that he has been unable to meet the deadline in the preparation of this issue and, in particular, offers his apologies to those members who have been inconvenienced by the delay. The next NEWSLETTER will be distributed in September and will contain the regular features which have been omitted from this one in order to accommodate the NYC Code Feature.

NOTES

The International Exhibitions Foundation has announced two new touring exhibitions which will be available for rental this fall through 1970. A new concept in Theatre Design created by the KOHM group, Kook, Oenslager, Harris, a nd Mielziner, with the assistance of the Ford Foundation, offers a solution to the problem of housing touring American companies in foreign countries. Two scale models, a number of watercolors, and drawings comprise the package which was first shown at the Museum of the Performing Arts in NYC. The second exhibition is a group of watercolors titled "Jo Mielziner Designs for the Theatre." This retrospective collection spans forty-four years and includes designs for eighty plays. The collection was first shown at the Virginia Museum of Fine Arts.

Booking information is available from the IEF office, 1616 H Street, NW, Washington, D.C.

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Urbana's new Krannert Center for the Performing Arts was opened with the Fifth North American Conference on Campus Planning and College Building Design on April 20th. Among those featured in the program were George C. Izenour, Cyril Harris, Joel Rubin, Ben Weese, and Jo Mielziner, each reading papers on Theatre Design of the past, present, and the future. Not featured, but essential backstage was Bernie Works who extends an invitation to all USITT members to visit the new Urbana theatre.

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The Presentation Committee is now preparing the Procee dings of the Projection Seminar in the Metropolitan Opera House for publication and distribution in the fall. The Seminar attracted over two-hundred, forty of whom joined USITT during the day. Commendation was voted to Dick Thonson, Carol Hoover, and Ann Wells for their supervision of this event and to the Metropolitan Company for their generosity in making the house available to the Institute.

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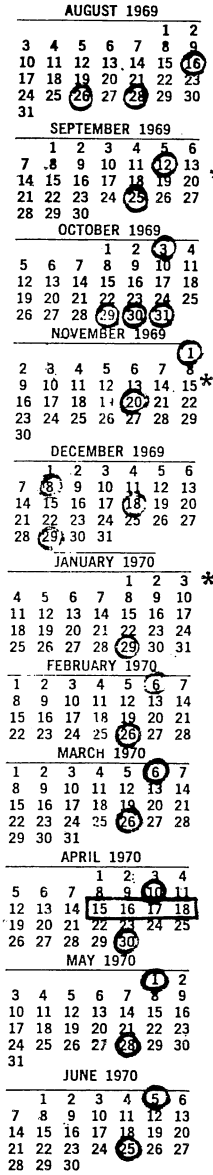
CALENDER OF EVENTS - 1969-1970



16 - SOUTHERN CALIFORNIA - Planning Session - Los Angeles
26 - Open Meeting at AETA Conference - Detroit, Michigan
28 - EXECUTIVE COMMITTEE - New York

12 - MIDWEST - Scenic Materials - Chicago
25 - EXECUTIVE COMMITTEE - New York
* - ENGINEERING - New York - Week of Sept.15 or 22 - "Hydraulic Movement of Scenery"

3 - MIDWEST - Makeup - Chicago
29 - PRESENTATION - N.Y. "The Technician & the Choreographer - a Dialogue"
30 - EXECUTIVE COMMITTEE - N.Y.
31 - MIDWEST - Tour of Krannert Center, Urbana, Illinois

1 - MIDWEST - Tour of Krannert Center (Cont)
20 - EXECUTIVE COMMITTEE - New York
** - ARCHITECTURE - New York (To be announced)

8 - MIDWEST - Tour of Civic Opera Chicago
18 - EXECUTIVE COMMITTEE - New York
29 - Open Meeting at SAA Convention - New York

29 - EXECUTIVE COMMITTEE - New York
*** - ADMINISTRATION - New York - To be announced

6 - MIDWEST - "Scenic Painting" - Goodman Theatre
26 - EXECUTIVE COMMITTEE - New York

6 - MIDWEST - "Choreographer and Technician" - Chicago
26 - EXECUTIVE COMMITTEE - New York

10 - MIDWEST - Opening Meeting at Central States Speech Conf.
15-18 - USITT ANNUAL CONFERENCE - Barbizon Plaza Hotel, N.Y.
30 - EXECUTIVE COMMITTEE - New York

1 - MIDWEST - Lighting - Chicago
28 - EXECUTIVE COMMITTEE - New York

5 - MIDWEST - Business Meeting - Chicago
25 - EXECUTIVE COMMITTEE - New York

PRESENTATION WORKING COMMITTEE MEETS EACH MONTH ON THE DAY BEFORE EXECUTIVE COMMITTEE MEETING

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