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Practical tools to help lighting designers start working in the field

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PRACTICAL TOOLS TO HELP LIGHTING DESIGNERS START WORKING
IN THE FIELD

A Thesis
Presented to
The Faculty of the Department of Television, Radio, Film, and Theater
San Jose State University

In Partial Fulfillment of
The Requirements for the Degree
Master of Arts

By Jennie Yeung

May 2006

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ABSTRACT

PRACTICAL TOOLS TO HELP LIGHTING DESIGNERS START WORKING IN THE FIELD

By Jennie Yeung

This thesis presents a methodology for novice lighting designers beginning work in the professional field. Some potential problem areas are identified along with recommendations for solutions. The writing is broken down into areas such as specific job descriptions and appropriate etiquette practices, human relationships from initially meeting the production company to the final performance and strike, involvement with the production team and theater crew, descriptions of the use of technical tools, equipment and paper work, and venue issues of physical space and budget with examples given in the appendices. Each of the areas is described in context: place of occurrence as well as according to the timeline. By using methods recommended in this thesis, lighting designers should be able to successfully prepare for a production.

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TABLE OF CONTENTS

1.	OVERVIEW	1
1.1	Statement of Problems	2
1.2	Literature Review	6
1.3	Methodology	13
1.3.1	Analysis	13
1.3.2	Observations	14
1.3.3	Interview Process	18
1.4	Chapters Break Down	20
2.	RELATIONSHIP WITH A PERFORMING GROUP	21
2.1	Expectations and Obligations	21
2.2	Professional Structure and Relationships	25
2.3	Common Language	30
3.	PRE PRODUCTION – DESCRIPTION OF PARAMETERS FOR THE PRODUCTION	32
3.1	Venue Problems	32
3.2	Equipment	40
3.2.1	A Venue Lighting Package	40
3.2.2	Power Supply and Control Protocol	42
3.2.3	Lighting Fixtures	44
3.2.4	Color Media	47
3.2.5	Paperwork	49
3.2.6	Lighting Control Board	51
3.3	Budgeting - Different Types of Charges	52
3.4	Crews – Human Relationships	59
4.	LOAD IN – REHEARSALS –PERFORMANCES-STRIKE	69
4.1	Production Meetings	70
4.1.1	Designers' Run-through	72
4.1.2	Meeting the Venue's Production Manager	72
4.1.3	Parameters for Schedules in the Theater	73
4.1.4	Meeting the Whole Team	77
4.1.5	Paper Tech	78
4.2	Procedures in the Theater	78

4.2.1	Arriving at the Theater	79
4.2.2	Hanging the Plot	81
4.2.3	Setting the Trim	82
4.2.4	Focus Session	83
4.2.5	Programming the Light Control Board	85
4.2.6	Dry Tech, Cue-to-Cue	89
4.2.7	Technical Rehearsal	89
4.2.8	Dress Rehearsal	94
4.2.9	Performance and Strike	95
5.	CONCLUSIONS AND FUTURE RESEARCH	97
5.1	Summary	97
5.2	Future Research	99
	WORKS CITED	101
	APPENDICES	
I.	List of Procedures According to Timeline	107
II.	General Information Needed from the Performing Venue	110
III.	Initial Meeting With the Performing Group	114
IV.	Form for Renting Equipment	117
V.	Form for Purchasing Consumables	121
VI.	Sample of Technical Requirements	125
VII.	Information Needed from the First Production Meeting with the Venue Production Manager	129
VIII.	Typical In-theater Schedule	144
IX.	A Lighting Plot	147
X.	A Patch Sheet	149
XI.	A Cheat Sheet	155
XII.	A Cue Master	158
XIII.	Magic Sheet	164
XIV.	Instrument Schedule	166
XV.	Sample of Contract for Lighting Designers	172

CHAPTER 1

OVERVIEW

In educational environments, student lighting designers (LD) are often spoiled. They enjoy the luxury of established and consistent production procedures, well-defined and agreed-upon job descriptions, advanced knowledge of the constraints of the venue, and a common language of theater jargon and etiquette used in their particular environment. When these student designers move to the professional world, they face a multitude of unknowns. Smaller performing groups¹, which most often hire inexperienced LDs, tend to be less experienced themselves as production companies, have fewer resources and provide for less separation of duties than larger, more established companies. An LD can be taken totally by surprise when the professional world where he or she² is now working little resembles that in which she was trained. Such a transition can be frustrating and discouraging.

¹ In the context of this project, the term "small performing group" is used for lack of a better term, and is not meant literally. The term is meant to encompass those groups that exhibit some or all of the traits described above (including, but not limited to, disregard for or ignorance of standard theatrical processes and job titles, lack of resources, etc.). In the author's experience, these groups include amateur, community, and self-titled "professional" groups, of widely varying sizes, types of performance, experience, and purpose. No slight on the integrity of a group's artistic vision, message, or work is intended by this categorization.

² The singular pronoun "she" will be employed throughout the remainder of this document. This is entirely for the sake of simplicity, and is meant to imply no prejudice.

The challenge for the inexperienced LD is to bridge this gap in understanding. This thesis is to assist new LDs in this process by gathering useful information and relevant experiences from a variety of sources, and from them producing a step-by-step guide for LDs beginning to work in the field.

Effective approaches for LDs newly working in the field will be valuable. Following the step-by-step guide this project produces will help LDs be more efficient and successful. This, in turn, will make the production process more cost-effective for performing groups. This guide will synthesize lessons garnered from the experiences of professionals, and thus be a valuable tool to assist LDs in preparing for the real world scenarios they may encounter.

1.1 STATEMENT OF PROBLEM

Smaller performing groups vary widely in their purpose, size, and degree of deviation from common theatrical practice. Some are simply fledgling, amateur, community, or small regional theater groups. They may understand the basics of technical theater, but lack the organization or strong technical staff to implement production efficiently. They may simply suffer from budget constraints and all the resulting limitations. Others are international cultural organizations, presenting traditional dance or other performances; these groups may challenge the inexperienced designer in unique ways, as those in charge may have little or no familiarity with standard American theater practices. While the group leaders have strong training in their art, they may not have the same expectations for the technical process as the trained LD. Skillful

persuasion may be needed to get the resources necessary to implement the design. The group leaders may not have a clear understanding of the protocols and etiquette of rehearsal, work time, or the production hierarchy. Any of these groups may create enormous problems for the LD who is not prepared for these circumstances.

Whether because of budget constraints or lack of knowledge, smaller performing groups do not usually follow the standard production processes common in educational environments. In many cases, they have not delineated a production process at all. Even the definitions of individual production processes may not match those taught in educational institutions. For instance, blocking, technical, and dress rehearsals may be blended together, misunderstood, or thought to be unnecessary. While the staff of a small company may be experienced in their art, they may not be trained in technical theater (Shepherd, Interview, January 2006). Often, especially when the performing group is organized towards a special project, the new LD, fresh from a college theater program, may be the most trained person on the production team when it comes to technical and production issues. The designer can find herself in the position of needing to educate the group's leaders in theater etiquette while avoiding giving offense (or stepping on toes) to get what she needs in order to do her job. This is a delicate issue, which can easily create interpersonal problems -- especially when there may be a lack of common theatrical language and understanding. An LD has to be skillful, both technically and in human relationships, in order to successfully navigate these problems.

In educational situations, job titles and duties are usually clearly delineated. In small companies, these delineations are often blurred. Although there may be a defined

director, others involved with the company (as volunteers or monetary backers) may impose their will without following the chain of command or even notifying technical directors and designers. In order to be successful, the designer has to be able to get a feel for the group's organization, structure, and personality on the spot, without prior briefing. She needs to discover quickly whether and how much she may resist this interference in her design.

In addition, groups unfamiliar with technical theater may expect that in hiring an LD, they have hired a stage manager, light-board operator, master electrician, technical director, sound designer and operator, and production manager. In order to defend herself against this, the designer must be clear from the start about the specific duties she is agreeing to perform. Not only must she understand, in detail, the duties of her job, but also be certain the rest of the production team understands the boundaries of her duties as well as having clearly defined duties and responsibilities of their own. The problems with job descriptions may be aggravated when most of a group's members originate from a different culture where roles and expectations may be defined differently.

Unlike the educational environments where students are aware of all the technical difficulties particular to the school's theaters, the physical constraints and idiosyncrasies of real-world venues are not always properly documented or disclosed. The designer makes decisions based on what she has been taught to expect in terms of the nature, resources, or equipment of a venue. This creates trouble if those assumptions prove false, and plans must be altered on the spot to accommodate venues that do not live up to textbook standards or misinformation.

In addition to unfamiliar venues, the LD often encounters shortcomings in the competency of the in-house staff unfamiliar to the LD. Rather than working with fellow students, who share training and skill sets, the designer now is working with a staff that can range in ability from fully experienced union stagehands to staff or volunteers with no prior theatrical training. The designer might have to be knowledgeable about and work within union regulations, while simultaneously being able to train someone on the spot.

Amidst all this, the LD must work with in-house equipment with which she may not be familiar. Although inventory may have been clearly listed in the technical specifications of the venue, the designer may find out that not all listed equipment will be available to the LD's specific event. Even equipment the designer has learned to assume is basic and commonplace (cables, color frames, remote control for lighting board, etc.) is not always available at a given venue, making for confusion and necessitating quick adaptation. The problem may be further intensified if the compatibility of outside rental equipment is involved; two sets of equipment, though of the same type, may be of different brands, and function differently or be incompatible.

Underlying all these problems is the lack of resources small theater groups often face. Budgets are usually tight for smaller performing groups. In an educational setting, students have abundant time in the theater to work. In the real world, however, the LD will have relatively little time in the theater, as the small company is often renting the space and cannot afford to pay for any more time than is absolutely necessary. As a result, the designer must estimate accurately the time needed to implement the design on

stage. She has to be able to communicate clearly to the company staff the LD's methodology in production. Often, she has to prioritize items and may forfeit some artistic elements for the sake of efficiency. She must also learn strategies to minimize the misunderstandings that inevitably arise when working with performers and groups who may not be familiar with theatrical etiquette and protocol.

All these problems result when performance groups and professionally trained production staff do not share a common language and understanding of the theatrical process. The sense of professionalism that the LD has learned includes a set of rules and etiquette that are assumed to be common knowledge, but are not necessarily common knowledge in the "real world" of small performance groups.

1.2 LITERATURE REVIEW

Books that cover a cross section of jobs in production tend to be too general for novice LD's. These books include, at most, a chapter or two on the actual job of the LD. Books which do relate to lighting design are for most part written by scholars as opposed to hands-on electricians with experiences in the field. While many have a tidbit of useful advice here or there, none is comprehensive or strictly pragmatic. None address the designer who has been trained in theories and needs now to apply them to less-than-ideal, real-life situations, with all the problems that introduces. Most individual scholarship does not offer comprehensive, step-by-step, practical advice on lighting design and implementation. Design means designing within the constraints such as the director's approval, the building's architecture, the budget, and the manpower. By implementation,

I mean from defining the job, to working with the production team, authorizing the estimate, motivating the crew, renting, purchasing, scheduling, and finally bringing the design to stage.

Though each book presents useful information, most description is incomplete for the application of this thesis, as detailed in the following analysis. Particularly lacking is coverage of topics related specifically to small performing groups such as interface with production team and volunteers, calculation of the fiscal estimate, explanation of the lighting package, union rules, venue's architectural constraints, scheduling strategy in order to maximize resources. None of the scholars takes a novice LD through a timeline of necessary jobs.

In their book, Dance, the Art of Production, Betty Dupont and Joan Schlaich provide a thorough description of producing dance production. It covers most topics, including those outside lighting design such as audition, booking venues, publicity, costume, lighting, makeup, and stage management which are helpful to the LD for smaller groups. As both authors are professors from a dance department, they are able to give viewpoints on technical theater from dancers' or choreographers' perspective, some of them are interesting, e.g., it reminds readers, that though dancers may not eat before performances, the crew should be fed (41). However, most of topics are not detailed enough for a novice LD. For example, when the budget is touched it gives no explanations on how to derive the actual fiscal figure and produce the document. In the one chapter devoted to lighting, basic steps for the LD to implement designs are described. Nonetheless, the basic steps have many gaps, such as meeting the venue's

production manager to ascertain the venue's policy and constraints in design. Other areas, such as interfacing with the performing group, communication systems, rental and shop orders, crew size and union rules are omitted.

Michael Gillette's Theatrical Design and Production gives a complete description of the job of an LD as well as the techniques and instruments. As the cover suggests, "an introduction to scene design and construction, lighting, sound, costume, and makeup." It gives in-depth introduction in lighting fixtures, theory and the job descriptions of the LD as well as the rest of lighting team, yet it gives no suggestions as to how to establish the job descriptions and duties with smaller companies when the demarcation is blurred. It devotes quite a few chapters to the technical aspects of lighting design, but it does not cover practical problems that an LD has to accommodate when designing, e.g., problems that occur with the architecture of the venue. The book does not offer any suggestions to implement the design under these less than ideal conditions, e.g., when the budget cannot support the design of the LD. In describing the rehearsal and performance procedures, compromises needed to accommodate different departments, or suggestions needed to resolve conflicts that often arise due to unexpected delays were not brought up.

W. Oren Parker's Scene Design and Stage Lighting includes over 200 pages for stage lighting. It gives a comprehensive description and comparison of lighting instruments, cables and connectors. When hanging lighting fixtures is explained, possible difficulties, such as when the hanging space is practically unreachable are not portrayed. When the production crew is described, there is no explanation of union regulations, common labor law or crew management. Professional types of venues such

as Broadway and regional theaters are described; however, the types that are more popular for smaller groups is missed. Parker compares designing for regional, repertory and stock theaters but not for working in such venues with an existing lighting package.

James Moody's Concert Lighting gives a technique, art and business organized discussion from inception of the job to putting the lighting design on stage. He proposes concrete duties for various job descriptions which have traditionally been subject to interpretation. He does not mention variation in job descriptions for these titles especially in smaller groups. His book is geared towards more organized groups running road shows rather than brief runs in local theaters or rental houses. Nonetheless, the chapter on dealing with problems of human relations and technical equipment has interesting suggestions such as the suggestion of using color media from the venue rather than buying desired ones when the budget is low. The author correctly suggests, whenever possible, a visit to the venue at the first available opportunity as the lighting design may have to accommodate architectural features. However, he gives no examples as to what to examine during the visit.

The Stage Lighting Handbook, by Francis Reid, is dedicated to lighting. It discusses the importance of an LD attending rehearsals; yet, differences between rehearsals such as the designer's run-through or table work on character analysis are not explained. When discussing lighting design, no research on parameters is mentioned, such as contacting the venue production manager for venue constraints or discussion with the performing group on budget or the availability of volunteers. Reid describes the mounting of instruments, but does not emphasize the different types of connectors or data

communication cables. When discussing focusing instruments, he offers some useful hints such as moving the control board to the house and judging the size of the crew needed. On the other hand, he does not mention possible compromises such as having to share the stage area with other departments and having to work in a less than ideal situation. He describes the lighting, technical and dress rehearsal as three different sessions, but does not mention how to run them or the necessity to combine them when the budget is low.

Linda Essig's Lighting and Lighting Ideas, as the title suggests, is more for artistic design than for implementations. She talks about getting a bid for rental of fixtures, cables and shop orders for consumables but she does not mention lighting inventory of the venue which is what smaller groups use. She gives hints to deal with some less than ideal situations such as when the fixtures are difficult to reach. She proposes using a focus track. She discusses the focus session but gives no suggestions on sharing the stage space with other departments. She discusses important rehearsals such as designers' run-through but gives no suggestions to an LD on how to deal with human relationships. She briefly discusses the subject of union regulations and gives some suggestions on scheduling the crew, gives no suggestions on scheduling volunteers who have a day job.

In Stage Lighting Design, by Richard Pilbrow, the author takes an LD through the job. As the author says in the introduction, the book deals with the role of lighting in a production and the role of LD in a production team (7). He does not describe interfacing with the performing group or the venue's production team. For example, he suggests the

LD start by reading the script but gives no suggestion the LD should find out if she is comfortable working with the director or the performing group. He suggests attending rehearsals as early as possible, rather than finding from the director a date to watch. He does not give any parameters that are needed for design such as the budget and the availability of the venue. The chapter written on load-in and on theater procedures is well organized and gives detailed description. He gives suggestions for scheduling with other departments and hints to help overcome problems during focusing. Human relationships such as crew management and interfacing with the rest of the team are not mentioned. He discusses technical documentation and methodology, but does not give any guidance as to how one deals with minute details, such as determining the availability of sufficient cabling, that an inexperienced LD might not think of.

The only book that speaks with the voice of experience to prepare beginning LDs for the obstacles they are likely to encounter is Practical Guide to Stage Lighting by Steven Louis Shelly. He explicitly explains parameters that affect a lighting design. As the author's intention is not a cookbook, a lot of small but important steps are missed. For example, in considering the budget, he did not explain different types of charges or local unions mark-ups. He correctly indicates the architecture of the venue as an important parameter, but does not give any concrete examples. He points out some of the difficulties in scheduling jobs on stage between different departments, but does not give any suggestions as to how to maximize the resources on stage. He recommends some crew management techniques, yet does not discuss volunteers which most smaller group rely on. I will use Mr. Shelly's model and theories as a "jumping-off" point for my

research.

Among books published more than thirty years ago, when practices in theaters were different than today, the contents are even more lacking. For instance, Frederick Bentham's The Art of Stage Lighting devotes a chapter to describing the lighting procedure for LDs. Partly because the book was geared toward professionals in England and because it was published nearly forty years ago, the contents do not seem to be relevant to local or contemporary practices. He touches on some interesting topics such as moving a show from New York to England when only those who know about theaters in both places can do the job (183). He describes paperwork such as the plot and charts in a narrative manner which is hard to follow when these days most LD use common packages to do the job (187). The in-theater procedures and run-through rehearsals have some useful ideas, such as the suggestion that the LD should allow the board operator time to rest the board every now and again (195). The inter-communication equipment used then was single-channel, i.e., the board operators, the stagehand, the stage manager, and the LD were all on the same channel (197). One suggestion useful even today, is using a repertory plot instead of setting all the lighting from scratch. However, the book does not provide adequate information for an LD regarding interface with the performing group, and budget and contract are not mentioned at all.

Another older book reviewed was A Syllabus of Stage Lighting by Stanley McCandless. Though the contents are for the most part out-of-date, some of the information are still applies, e.g., comparison of types of venues like roadhouses, community and college. In discussing the professional procedures of an LD, he points

out that success depends on mutual understanding and agreement between all concerned, but he does not give any suggestions as to how to accomplish that goal. He discusses common rehearsal methods such as spacing, technical and dress rehearsals as three separately defined sessions in the theater building, yet it may not be applicable to smaller performing groups.

This thesis is going to produce a comprehensive guide, which may be the first one of this type to assist new LD's starting work in the field.

1.3 METHODOLOGY

The research method used is qualitative and based on literature review, interviews and observations rather than quantitative based on formal questionnaires. Theater companies running performances in either college theaters or community venues with fewer than six hundred seats were chosen as models. Various personnel affiliated with these productions, such as directors, theater managers, theater crew, and rental/retail staffs were interviewed. Information was gathered and the emergent issues were then further researched from various books, magazines and web sites to give a complete description of findings and recommendation for solutions. These became a rich source of detail about the way LDs deal with issues and situations.

1.3.1 Analysis

The literature review identified material concerning the influence of professionals

working in technical theaters. Books, journals, web sites, report on lighting design, equipments, stage effects, and stage management were researched and analyzed. These sources give suggestions about ways in which LDs should be prepared for situations when working in the field. The list of issues concluded from the research include:

- Job Descriptions, jobs and delineation of duties
- Common Language, etiquette and professional structure
- Budget – Necessary fiscal resources required executing the lighting design.
- Planning for the Load-in – Parameters for the scheduling load-in
- Procedures in the Venue – Procedures from moving into the venue to leaving the venue
- Venue Problems – Various problems found in the physical building and unique to a venue.
- Venue Crews – Types of crews and human resource issues
- Equipment – Attention to different types of equipment - connectors, tools and paperwork

1.3.2 Observations

Observations were conducted by taking part in production teams in different productions, and engaging in research through observation and participation. The objective of this study was explained to the theatrical groups concerned, and their

responses have been incorporated into this thesis.

The first group chosen was the Downtown Arts Series. It is sponsored by the City of San Jose's Office of Cultural Affairs with the purpose of allowing emerging groups to gain experience in producing in a professionally equipped downtown venue, the San Jose Stage. The productions were led by the venue's resident technical manager, as most of the performing groups had no technical staff or different ideas in technical theater. I took part as the stage manager for a drama, Love, by Vietnamese Performing Arts and the LD/stage manager for Melodies by Sun Dance Foundation. Skills that the technical team used to persuade the groups to adopt common technical theater practice were observed.

I followed the process as the stage manager for Solid Gold for Pam East Dance with a professional LD, Jon Nothwang. The recital took place in the Louis Mayer Theater, Santa Clara University. Though it was a college theater, the venue technicians have skills comparable to any professional venue. The dance school has been running performances for many years with rigid procedures established. The crew, even though staffed mainly with volunteer teachers, was experienced and clear instructions were given by the producer.

The next project was to be the lead LD of the Performing Arts Series of San Jose. It was a continuous series of performance: El Color Del Flamenco by Flamenco Society of San Jose, Fiesta Mexicana by Aztlan Academy, A Killing in Choctaw by Oriki Theater, Asian American Comedy Night by Contemporary Asian Theater Scene, Mystique by Habib Khan Saraswati Temple, Samo't Sari by Kaishan of San Jose Dance Company, Great Wall II Concert by Firebird Youth Chinese Orchestra, He Said She Said

by Visual Rhythm, and Homage to the Deity by Dancing Sun Foundation. It lasted for six weeks in the Montgomery Theater, a 500 seat union house. In this particular series, nine groups from diverse ethnic backgrounds specialized in various performing arts such as drama, dance, orchestra and choirs, gathered together and performed under a common framework set by the City of San Jose. These groups shared the same repertory lighting plot designed by the lead LD. Each individual group had its own LD and made decisions for its own show. Some appointed me as the show's LD right from the beginning, others were undecided until later on. One group switched the lead LD one day before loading into the theater. Nonetheless, the interaction of each group with the lead LD was unique. When the series ended, I had been the LD for six of nine groups.

The aim of the City of San Jose was to help non-profit groups build the capacity to produce successful shows in mid-size theaters. Most of the groups that took part were local except one from Taipei which did not arrive until two days before the actual performance. While running the production lighting for these groups, the lead LD was also involved in other aspects, such as logistics and assigning jobs for the crew. Once again, skills learned from previous projects were tested in the numerous production meetings and rehearsals attended.

In the weeks of working in the venue, friendly relationships were formed with various personnel. The working crew included local union stagehands with years of experience, students who were graduating with technical theater degrees, professionals who did not speak English, and those for whom being backstage was a first time experience. As conflicts and crises arose on various occasions with different personnel,

dilemmas were resolved with different approaches by different people.

Following the Performing Arts Series, continuous observations were carried out by taking part in other productions such as being stagehand for the production of Fiddler on the Roof of the San Jose Children's Musical Theater which performed in a mid-sized union house, the Montgomery Theater. A local LD, Paul Polombo designed the lights. Though the crew was filled with volunteers the production was well organized. The subsequent project was being the lead LD for the Dance Festival of Cabrillo College that took place in its own college theater where I designed the repertory plot. Each look on stage was designed with student choreographers with the teachers having the final say. It was stage managed by a local professional stage manager, Zack Burch.

Other jobs that allowed me to observe as an insider included being the LD for a series of dance performances. I designed lighting for Abinhyana, a local professional Indian dance with live orchestra, Juipin Dance School and China Dance And Arts, a Chinese Dance School. I was an electrician for Shakespeare in Hollywood by Theaterworks, South Pacific by Saratoga Drama Group, and Seussical by Sunnyvale Community Junior Theater. These groups have had years of experience and the production procedures and practices established with the LD's job clearly defined.

Less experienced groups included a series of Arangetram - graduation solo concerts given by Indian dancers accompanied by a six to eight person orchestra. These events took place in various local theaters such as the auditorium of the Center for Employment Training, Evergreen High School Theater, the California State University Hayward Theater, Julia Morgan Center for the Performing Arts in Berkeley, and Cowell

Theater in San Francisco. These types of productions are organized by families of the graduating dancers who have no production experience. Though hired to run only the lights, I often assumed the stage manager and technical director's jobs. The crew was made up of in-venue electricians supplemented with volunteers with no stage experience and who sometimes did not arrive until just before curtain. On-the-spot training had to be carried out continuously. More problems were encountered as the performing groups often used different jargons. A typical example is the term "screen" being used when they meant a drape.

Each set of observation notes was categorized for key concepts and issues according to the areas described in Section 1.3.1. This data became a primary resource for recommendations. However, it is important to state that the findings of this research are not confined to observation alone. The data was essential to the conclusions, but it did not alone determine the conclusions. During the observation, interviews with professionals in various contexts and literature analysis were carried out.

1.3.3 Interview Process

Interviews with personnel associated with the production process were conducted in a relaxed manner using different open-ended questions with the intention to seek the interviewees' perceptions and approaches to production in the areas that interested them most.

Technical managers and administrative managers from college and community theaters were interviewed. They work with the performing group for the technical

necessities, in-theater scheduling and work with the performing groups when the groups are occupying the venue. The technical managers interviewed were Steve Stampley from Louis Meyer Theater at Santa Clara University, Kaye Thornton from Foothill College Theater, Jorgen Wedseltoft from Spangenberg Theater, David Feraldo from Mexican Heritage Theater, Bill Rupel from the Sunnyvale Performing Arts Center, Gerald Carter from West Valley College Theater, and Edward Wright from California State University at Hayward Theater. Theater administrative managers interviewed were Lisa Risdemacher from Louis Mayer Theater, Cindy Watkins from West Valley College Theater, Meredith Jung from Auditorium of The Center for the Employment and Training Arts and Kristyn Nagata from Campbell Heritage Theater. Union members Kevyn Clark, and Steve Hurb were interviewed for explanation of union rules of the International Alliance of Theatrical Stage Employees. Production company staff Dinna Myers, Bob Bsmay, and Barbara D'Ardenne from Musson Theatrical, a local theatrical supply and rental company, were consulted. Others interviewed include professional stage managers Zack Burch, Edmond Kwong and Marley Amin, master electricians David Guzzetta and Cassandra Mayer from the San Jose State University Event Center, Michael Daws from Santa Clara University, Louis Mayer Theater, and Carol Fischer from West Valley College Theater. LDs interviewed include Edward Hunter, Steve Mannshardt, Danny Jennifer Higgins Dunn and Michael L. Urmari. Set Designers interviewed were John York and William Shephard. Directors interviewed included Michael Butler from San Jose Repertory Theater, Janlyn King from Cabrillo College, JianFei Xu from China Dance and Arts, Juipin from Juipin Dance School, Pam East from Pam East Dance, and

CHAPTER 2

RELATIONSHIP WITH A PERFORMING GROUP

2.1 **EXPECTATIONS AND OBLIGATIONS**

The United Scenic Artists Local 829 (USA829) describes in their website the job of the Lighting Designer as:

The Lighting Designer shall design the lighting and render the following services, if required, and agrees:

- a) To provide full lighting equipment lists and a light plot drawn to scale from Scenic Design and theatre drawings provided by Employer.
- b) To provide color, hook-up plots and instrument schedule including all information required for the realization for the design.
- c) To coordinate and plot special lighting effects.
- d) To supply specifications for competitive bids for lighting and special effects suppliers mutually satisfactory to the Employer and the Lighting Designer.
- e) To oversee focusing of the lighting equipment and setting of lighting cues.
- f) To attend the rehearsals as necessary to design the production and to conduct the lighting rehearsals.
- g) To render the above services in any future productions or revivals, Produced or leased by the Employer subject to the then current USAA rates and conditions applicable to each case subject to the designers availability.

The Employer agrees neither to alter nor to permit anyone to alter or make substitutions for settings, properties, costumes, lighting, and sound. Visual effects as designed and approved by the Designer(s) after the first Public performance without the deliberate written consent and approval of the Concerned Designer.

However, every designer needs to know, and as Bob Bsmay pointed out in his interview, “No two productions, two production companies or two theater venues are the same.” (Bsmay, January 2006, Interview).

An LD’s job description usually is defined by the expectation of the production

company. In productions with more experienced companies, such as Theaterworks, Pam East Dance, Abhinyana, and for established LDs such as Jon Nothwang and Steve Mannshardt who design for professional production companies, the job is usually well defined. The novice LD who works for less experienced companies may have to define more of the job herself.

Commonly the LD's job is to design the luminous looks of the production on stage (Palmer 3). Apart from designing lights, the LD is usually called upon to create special visual effects that are electrical such as smoke, dry ice and other electrical props; frequently the LD is consulted for all the visual effects. The job is completed once the show is up and running and the LD's presence is no longer needed (Nothwang, January 2006, Interview).

With Abhinyana and Pam East Dance and Theaterworks, lighting design and master electrician are two separate jobs; with Saratoga Drama Group the lighting designer's job includes being the master electrician and recruiting the lighting crew; with Juipin Dance School, China Dance and the Indian Arangetram, the LD's responsibility includes everything from being master electrician to technical direction and stage management. To avoid any misunderstanding, the LD should ask the employer what is expected (Kelly 6). Understanding the expectations may sound simple, but the LD is sometimes the only one who has been formally trained to work in theater production. The LD will have to help the group identify the personnel necessary and define her own actual job duties.

In some groups, such as Theaterworks, Saratoga Drama Group, and the Dance

Festival of Cabrillo College, the LD is asked to produce paperwork like the lighting plots and schedules. However, none of the performing groups in the Performing Arts Series or Downtown Arts Series asked for any paper work from the LD. The performances in these two Arts series used the venue's repertory lighting plot as the basic framework; none of the LDs produced an additional paper lighting plot.

From a professional standpoint, the LD's obligation is more transparent. As it is pointed out in the USAA job description, apart from luminous look on the stage, the LD's job includes looking for the appropriate means or fixtures to carry out the design, attending rehearsals, supervising the focusing and attending the lighting rehearsals. The LD bears the ultimate responsibility for the lighting of the show, including providing leadership in times of crisis. Knowledge will allow the LD the ability to make the best decision for the production in times of human or equipment failure (Shelly 82). Michael Butler pointed out that theater is a group-created art. The best LDs are those who can deal with pressure and know how to handle disasters, both physically and psychologically (Moody 84).

An LD should be an artist, not a lighting mechanic or someone who will just "come and do the lights." Most people with some knowledge of stage lighting would be able to illuminate an acting area for visibility (Streader 22). Visibility alone is neither a design nor an art (Palmer 1). The creativity, beauty and power of light evoke emotion and lift the production into a different category as the LD moves into production (Streader 22). Such capabilities come from the study of art, which is called aesthetics, and exhibits the personality and skills of the LD. Palmer says in his book, "Other than

inspiration, there are basic principles to learn and master, like the understanding of properties of lights, aspects of psychophysics and stylistic convention and the method to analyze the interdependence between light and a production concept (Palmer 2)."

However, directors Janlyn King and Mythilli Kumur agreed with Moody that designers or directors would prefer to work with an LD who has communication and decision-making abilities over more creative persons who cannot verbalize their thoughts and ideas (Moody 83).

The job demarcation of smaller groups is usually not clear. The LD often has to assume additional duties such as the stage manager to call productions meetings and create the production calendar; or the administrative clerk to ascertain insurance coverage for the venue. Although most LDs probably have some knowledge in all aspects of technical theater, such as operating the soundboard or loading sets, care should be taken that the duties assumed are within the LD's ability. Jobs such as mounting scenery, checking the sound and building light cues can run in parallel, so that having the same person doing more than one of these jobs will take a lot longer to accomplish.

A written contract with the performing company is always advisable (Appendix XV). Even for a novice LD, when the assignment is likely to be short and informal, a written contract is equally important. The contract should contain important information such as the LD's and the performing company's obligations, dates of employment, the compensation schedule and liability for the equipment and personal insurance issues.

Though obligations may not be specified in fine detail, the LD should to be careful about the assumptions. The contract must be very specific. Every unspoken

assumption can lead to misunderstanding and even conflict later on (Shelley 37). The dates of employment should include load-in at the theater to the time when the show is open to the public. As an example, for the dance festival in the Cabrillo College, important dates, like final studio rehearsal, were still-to-be determined at the time of signing the contract. The dates were specified loosely within an agreed time frame, e.g., two weeks before load-in and the LD was responsible to be available. Specify the performing company's obligation for manpower, the paying out-of-pocket expenses allowed e.g., phone bills or photocopies, transportation and equipment compensation for the LD.

Liability for accident and ownership of the lighting design are the most commonly forgotten areas. All the theater venues visited demand to be named as beneficiaries in a one million dollar or more liability insurance policy from performing group. Yet none of the LDs interviewed ever had the same inclusion. Questions regarding equipment loss and breakage or personal injury are not usually asked until an incident occurs, but should have been clarified in the contract. A novice LD may not have ownership of the design but such rights should be decided at the beginning of negotiations. However, as the beginning of this chapter indicated, the LD must be able to adapt to various situations.

2.2 PROFESSIONAL STRUCTURE AND RELATIONSHIPS

When the LD moves between different performing companies, the LD is challenged to understand the collaborative method in working with a new director and colleagues. The company's hierarchy may not be transparent, even to its own principal

organizations is the need to invent the mechanism of production. Typical examples are the Indian's Arangetram and some of the groups that took part in the Performing Arts Series such as the Oriki Theater and the Contemporary Asian Theater Scene, where the production staff is chosen because of individual ability. However, often these producers are inexperienced and believe that everything is magic including how a performance is prepared. Though they have the resources, it does not necessarily follow that they are the ones who know what it takes to produce (Moody 34). Areas of responsibility, division of labor, functional process and communication methods have to be defined to ensure the coordination among the unfamiliar team to ensure efficiency to a productive collaboration (Ionazzi 158). It is important for the LD to recognize the culture of the production company in order to recognize the strength and weakness of the structure (Hunter Interview, January 2006).

The contact sheet listing the major designers and administrative personnel with phone numbers and emails may reveal the company's organizational structure. If one is not available, the LD should make one. When reading contact sheets in an informal way, describe the job of each personnel and identify the leaders such as the producer, the director, the stage managers and other designers as well as get some feeling for the company's personal relationships by asking the preferred communication method (Ionazzi 20).

Titles do not always have the same customary meanings. For example, with Sun Dance Foundation, the "producer" simply supervised the process but had no authority for the overall budget. The company manager in contact with all the departments can have

the apparent authority of the producer. In Flamenco Society of San Jose, artistic decisions were made by an actor, and the person with the title “director” was the coordinator with no contribution on artistic decisions. With Saratoga Drama Group the “stage manager” meant someone stationed on the deck and in charge of the set or scenery shifting with no overall control of the flow of the program. In China Dance the “sound designer” was the one compiling all the sound cues and gave no input as to how speakers or monitors were placed or how the tone should be balanced. Sharing duties is common, especially in companies without many technicians, such as Juipin School of Dance, where the LD is the technical manager and the stage manager. Titles are not important, but the one who has the authority as well as the ability to make critical decision should be identified. All those involved should understand other duties so no job is missed putting the integrity of the show in jeopardy.

Some companies, e.g., Pam East Dance, require all the communications done via the director. Other directors, e.g., Abinhyana and Cabrillo College, simply do not want to spend much time on the technical side, and, once the jobs are delegated, the director only wants to be minimally informed. Some companies insist all outside contact be handled by an assigned person. Such policy could seem unreasonable if the assigned person is not technically skilled.

The LD should know to whom she reports and for whom she is responsible as well as knowing everyone else on the staff. The easiest way to find out is by talking to every one in production meetings (Stern 49). Normally the LD reports to the director, not the stage manager. The director usually assembles the whole design team with the hope

of enhancing the production. A director approves all the looks on stage. It is quite useless for a designer to pursue a personal idea that is at variance with the director's intention. Whenever there is a disagreement, the LD can try to persuade the rest of the team to her way of thinking, but if she cannot, she must bow to the director's wish (Pilbrow 33). It is the director's responsibility to help build and maintain good relations among group members (Kwong, January 2006, Interview). The authority of the LD over the lighting technician is defined by her relative functions. Lighting technicians take orders from and are responsible to the LD (Stern 51).

Always ensure the chain of command is followed, especially after moving into the theater; do not listen to direction/requests other than from the one whom you understand to have the authority, and always defer to that person (Smith February 2006 Interview). Ask the director to talk to you directly rather than through other people.

Moving into the theater may be the first time when the whole company, the director, the technical staff, and even the investors meet together to see the visual picture on stage. This is the moment when the LD's technical and artistic skill as well as human relation skills are put to the test. All the previously discussed effects become live. As light does have magic qualities that draw emotional response, the temptation for onlookers to try to impose their input is often irresistible. To protect the LD from "help" that often interferes with the creative process, the LD can speak in highly technical terms comprehensible only to the initiated and to those who are potentially truly helpful" (Schlaich 73).

Some requests may be based solely on one particular performing artist's need or

on personal relationships rather than overall production success. It is part of the LD's job to juggle people's needs and to prioritize the artistic and technical requirements in order to keep both elements in balance and to keep everyone focused on the common goal of a successful performance (Kelly 93).

2.3 COMMON LANGUAGE

Often the performing company may be from a different culture of thought regarding concepts, styles, processes, and terminologies. The company's leaders may have strong training in their art but lack skill in common technical theater practice. The group leaders may have a totally different understanding of the protocols, rehearsal etiquette, work time, or the production hierarchy than the venue assumes. This can create enormous problems for the LD. An example was in Saratoga Drama Group where there was no stage manager controlling the flow of the performance. The crews operate according to their own understanding of timing (Hunter, January 2006, Interview). Another example was the Indian Arangetram where the technical rehearsal involved only the technical staff and not actors or directors.

A discussion of production requirements, basic concept, special effects desired, and the production calendar can reveal technical terminology and knowledge (Appendix VI). It serves as a starting point for later production meetings with directors and designers (Kelly 14). Most directors like to emphasize their desired special effects. This topic allows the LD to get a feeling of the technical knowledge of the company as well as the personality of the director. Whenever a term is used, find a time to describe the term

in a different way to see if the group has same understanding of the terminology. A good example is within Indian cultures, drapes on stage are called “screens” (Thornton, February 2006, Interview).

There are as many variations of etiquette as there are theater companies; a novice LD can learn by becoming personally involved. There is no such thing as a perfect designer, all LDs fail in some way (Moody 85). Revisiting different incidents in your mind is always valuable to prepare for other situations in the future. The most important dynamic is trust. The LD should always wait until there is enough trust from the group before introducing the LD’s personal methodology. As with most professionals, an LD has to be flexible and able to adapt to shifting situations easily. Each performing group has its own culture and the LD has to adjust herself to it. As Bsmay pointed out in the beginning, “No two productions, two production companies or two theater venues are the same” (Bsmay, January 2006, Interview).

CHAPTER 3
PRE-PRODUCTION –
DESCRIPTION OF PARAMETERS FOR THE PRODUCTION

3.1 VENUE PROBLEMS

Performing venues vary in size, shape and architectural structure. The LD must anticipate physical staging constraints (Appendix II). Preplanning and forethought about possible solutions to every conceivable staging question must be considered in advance (Moody 40).

Acquiring spatial information can lead an LD to make informed choices rather than base plans on assumptions (Shelly 39). In general, venues such as San Jose Center for Performing Arts, Flint Center, Santa Clara Convention Center, and Mountain View Center for Performing Arts have compiled the essential facts about the performing space in a packet called “technical specifications” which can be obtained from the Internet or from the production manager of the venue. Nonetheless, the LD should be aware that information is not always up-to-date (Moody 31). It is especially necessary to check this in community and college theaters; for example, in Louis Mayer Theater, Santa Clara University, and the West Valley College Theater, the lighting instruments are shared among different facilities on campus and printed information is often not accurate for a given timeframe.

An LD should visit the venue at the first available opportunity (Shelly 40). At this time the LD can get a feel for the surroundings as well as verify the written

specifications. If it is not possible to visit the venue, due to geographical or travel constraints, any additional information would help: photographs, video recordings, or even sketches. For example, the pictures on the web site of the Julia Morgan Center for the Arts in Berkeley reveal some basics. Julia Morgan Center was originally designed and built as a church in the 1890's. When converted into a theater, many of its original features were retained, such as the cathedral ceiling in the house and church style aisles. After viewing the photographs, an LD should be prepared to accommodate uncommon features in such a building.

The divergent purposes of theater buildings are classified into some approximate types (McCandless 77). Major rental theaters devoted to the performing arts, such as the San Jose Center for the Performing Arts, are well equipped. It may not have a repertory light plot but will have equipment in working order and competent technicians, which allow for complex designs. Adequate time in the theater may not be a problem as long as there is budget.

Some commercial roadhouses, such as the Flint Center, which mostly receive touring groups that carry their own lighting equipment, tend to have limited or no inventory. Here the LD has to be savvy with regard to equipment needs. These venues often host highly technical Broadway-style shows but may lack some basic equipment such a black upstage curtain or gel cutter.

Auditoriums such as the San Jose Civic Auditorium, due to the diversity of the production and events they host, usually have a reasonably confined stage where flexibility is found in the house. As the stage equipment and space are limited, the

effectiveness of production is limited likewise (McCandless 77).

College and university performance facilities are devoted to research and experimentation; they are often fully equipped for stage performances with an attached workshop and an on-site permanent manager (McCandless 76). Most of the college technical managers, such as Stampley at the Louis Mayer Theater, Santa Clara University, Carter at the West Valley College Theater, Wright at California State University Theater, Hayward, are readily helpful, especially to young designers who like to experiment with new equipment or designs. On the other hand, the above-mentioned college theaters are partly staffed by inexperienced students who may require training and close supervision while on the job.

In outdoor festivals, hotels or conference facility rooms, where the stage may be a temporary feature, the light and sound production are generally contracted out to independent companies. The LD has to specify all the details, including where to hang the electrical pipes at the ceiling. Not only must the lighting plot details be within the capacity of the power supply, the LD has to consider the placement of control boards where communication may be by walkie-talkies and supplemented by hand signals. When designing the lighting for such a venue, the LD has to integrate other lighting sources, such as the sunlight through windows, general room light, or spill from other lights backstage. There may not be any soft goods, such as black drapes for masking; the performing area may not be well defined.

One of the prime factors affecting the lighting design is the shape and size of the space, such as proscenium, thrust, and arena stage (Shelly 39). In a walk through the

house, the LD can discover the sightlines and possible fixture hanging positions. The Mexican Heritage Plaza Theater has a deep stage, while the stage of San Jose Repertory Theater is shallow, the stage of the theater in the Santa Clara Convention Center is a semi thrust, and the stage of the San Jose Stage Company is on the audience level. Even for the same production, the design can be different for each of these spaces.

All the theaters visited have lighting positions above the stage floor. There are two main systems of stage pipes: dead hung, or moving pipes that can be lowered to the stage level. In Evergreen Valley High School Theater, San Jose Stage Company Theater, and Cabrillo College Theater, the pipes are dead hung from the ceiling. The only access method is by ladders, or genie lifts. If heavy instruments have to be hung, such as moving lights where two people are need for the task, the LD must be certain that the theater has two similar ladders for climbing (Guzzetta, January 2006, Interview).

The moving pipes are of two systems, motorized and manual counter weight with either pig iron weights or sandbags. Most commonly found are manual systems with pig iron weights, and dedicated trained labor is needed to balance the pipe. In Calvin Simmons Theater and San Jose Civic Auditorium some of the pipes are counter weighted by sandbags; flying these pipes requires specialized skills and safety procedures and can only be carried out by trained personnel. The Louis Mayer Theater has a motorized system where the pipes do not have to be counter-weighted but may take over a minute for the pipes to fly in and out. LD's must observe the space for lowering the pipes. There may be "side trees" or other pipes in the way, and lowering the pipes will take longer if the space has to be cleared beforehand.

Reaching electrical pipes above the audience may be more problematic. In some theaters there are catwalks leading to these pipes. Do not assume when there is a catwalk for one, there are catwalks for all of them. In West Valley College, two out of three pipes can be reached by catwalks, but the third one can only be reached by forty-foot long extension ladders. Placing ladders to reach the rails may take some expertise if the floor is multi-tiered or slanted. In Julia Morgan Center for Arts, the catwalks are the original beams for the ceiling. With permanent seats underneath, the pipes can only be reached by mounting ladders at the side; technicians have to crawl on to the beam, moving across on the 12-inch wide beams while working on the fixtures. To add fixtures to these locations is intimidating and unsafe if not impossible. Some floors, such as the one in Cowell Theater, are covered by a vinyl secondary floor that can be damaged by mounting heavy ladders on them. The secondary floor has to be removed before moving heavy ladders over it and then be replaced afterwards, or plywood protection must be provided for ladder/lift base.

For the creative LD who intends to hang instruments somewhere other than the existing electrical positions, accessibility to desired locations as well as the electrical distribution system via multiple drop-in boxes or connector strips and floor pockets or wall boxes must be accessed (Guzzetta, January 2006, Interview). If the system is drop-in boxes, then electricity can be accessed anywhere there is a pipe, provided the cables are long enough. Mounting instruments somewhere other than the electrical pipes can be hard work and time consuming, and extension cables are needed.

While visiting the venue, the LD can also observe the soft goods, such as the

availability and condition of a cyclorama, the positions of a black-out drape, the legs and the main curtain. The Foothill College Theater and the Cubberley Community Theater paint the upstage walls white in place of the cyclorama; the San Jose Center for the Performing Arts and the Montgomery Theater have no cyclorama, and one will have to be rented if the LD intends to use one; others such as the Center for Employment Training have an auditorium with no cyclorama, and mounting one is difficult especially when pipes are dead hung. It is common that a white scrim be hung just downstage of the cyclorama to give a more three-dimensional feeling, as in the Louis Mayer Theater, Santa Clara University and the West Valley College Theater; however, the draw-back is that gobo images may be doubled as the images are formed on both the scrim and the cyclorama. Examine the surface on which the lights are likely to shine. In some theaters the cyclorama or the black drapes may be badly stained or so torn that light on them is not advisable. In the Julia Morgan Center for Arts there is no main drape or black backdrape. A preshow design for the audience entering the theater must also be planned. The positioning of the legs affects the placement of the sidelights and focus of front lighting.

Verify how instruments are transported from the storage area to the desired hanging position. If equipment is stored far away, such as in the Louis Mayer Theater at Santa Clara University where instruments are stored in the balcony level, or the desired hanging is remote, such as the front-of-house pipe in the Montgomery Theater, a rope with a pulley may be available to help to ease the movement. In the Mexican Heritage Theater, the only way to transport fixtures from the stage floor area to the catwalks is by

carrying them up three flights of stairs, so it is worth considering use of the instruments that are already there. In the California Theater, extra lighting instruments are kept on the same floor as the catwalks to ease the necessary transportation. Observe the location of the loading dock, the distance from the loading area to the stage, and accessibility for the loading truck. In the Cabrillo College Theater, there is a fifty feet long corridor leading from the truck loading area to the loading entrance. Moving fixtures wider than what the corridor can accommodate is absolutely impossible.

At the same time, find out about the availability of ladders. Genie lifts are always the easiest if the mounting area is flat, but they are difficult to transport from one area to another due to size and weight. A-frame ladders are easier to transport, but it is difficult to carry heavy instruments when climbing. Dinosaurs - movable stairs - are easier to climb with a heavy instrument but cannot be mounted in a smaller space.

In more recently built theaters, such as the Mexican Heritage Theater, it is required to have smoke detectors that are activated by smoke or fog. If these effects are to be used, determine if the venue demands that a Fire Marshal be on site to safeguard the building if the smoke detectors have to be turned off for the effect. California State Law, Title 19, forbids any open fire; even a small candle flame is considered pyrotechnic, and a special licensed pyrotechnician (Class F) has to run the effect with a special permit. The special permit is granted on site only after the equipment on stage is inspected by the local Fire Marshal. While such an inspection is taking place, no one can be using the stage and it may take hours.

The dimensions given in the technical specifications of a stage may be the gross

dimensions of the stage floor and not the net (actual) performing space. Though often there are ground plans from the theater illustrating the space, the LD has to observe the real space. It is common, as in the San Jose Center for the Performing Arts and the California Theater, that the structural proscenium arches are bigger than the actual opening. This may be due to masking which may not be altered due to various constraints, such as in the Flint Center where the top of the proscenium is dressed by the valence as well as the bottom of the main curtain. To enlarge the actual main proscenium means to remove the main curtain, which is a time and labor-consuming job. In the Montgomery Theater, there are two pillars painted black just downstage of the cyclorama. The performing space is significantly smaller than the actual stage dimensions, and lights and projections on the cyclorama have to consider the two pillars. In West Valley College Theater, the floor is painted up to the ground row lights for the cyclorama; if the ground row is removed, the floor will have different colors. The side trees may limit space for entrances and exits. In The Mexican Heritage Theater, the side trees are pre-mounted on fly pipes. If these side trees are to be lowered to the floor level, and their positions on the floor are fixed, then entrances and exits will have to fit to the spaces.

Physical space is something that the LD cannot control, but the design can anticipate physical staging problems before they develop (Moody 40). If visiting the venue is not feasible, an extended conversation with the venue's technical manager will avoid uninformed assumptions. Acquiring information prior to designing allows the LD to make decisions based on fact, not fiction (Shelly 39).

3.2 EQUIPMENT

The LD can dream up the most imaginative lighting design, but it can only be executed if the LD knows how. The lighting instruments, the color media, cabling, and the control board are all part of the LD's tools (Gillette 333). The explosion of theater technology in recent years has produced a significant amount of new equipment. Along with these modern developments, much outdated equipment is still in use. The LD has to stay aware of the latest technology as well as remain familiar with older equipment in order to maximize the design.

Lighting cannot be rehearsed until it is physically created with every instrument in position, colored, supplied with electricity, illuminated and focused. To create lighting for a production requires time, and careful planning ahead is vital. Even with careful planning, the most likely factor to play havoc is the choice or availability of instruments (Reid 110).

3.2.1 A Venue Lighting Package

All the venues visited, except the San Jose Center for the Performing Arts and the California Theater, have a repertory light plot that lights the stage with a general wash. Re-hanging the instruments to meet a special lighting design is likely to take a great deal of time and labor which most low budget performing groups will not consider. The LD should make use of the existing house repertory plot. The light plots – graphic lighting

design - are generally available through the venue's manager and in some cases, (e.g., the Flint Center and the Julia Morgan Center for the Performing Arts) through the Internet as well (Appendix IX).

Some venues, such as Santa Clara University's Louis Mayer Theater and the West Valley College Theater, maintain more specialized lighting plots (e.g., a dance plot) in season. As the plots continuously change, the paper representation may not be up-to-date or even available. In such cases the LD has to find out from the venue manager some parameters on the design, such as the number of areas across and deep, the number of washes available and the ability to add more fixtures. Most venues expect the washes of the repertory plot to be restored after each performance; restoration can be labor intensive and expensive. Therefore, the LD should consider leaving the rep plot untouched. Nonetheless, it is wise to find out if the plot is kept focused and whether the dark areas, if they exist, are acceptable. Some designs, such as in the Sunnyvale Center for Performing Arts, have a strip of darkness upstage. Others, such as the Montgomery Theater, the Evergreen High School Theater and the Mexican Heritage Plaza Theater, have extra instruments for emphasized areas or special pools. In the Sunnyvale Center for Performing Arts, moving lights are used for the special pools.

Most venues carry an inventory of lighting fixtures, media, cables and special effects machines, which are often available at no charge to the venue renters. Such a list is often part of the "technical specifications" – paper work provided by the venue listing the parameters and technical information of the venue. Verify when the list was last updated to determine if it is current. Using the venue's inventory is, most of the time,

more economical and practical, as the venue staff is familiar with its operation.

However, there may be constraints based on the type of instruments used that limits the design. It was found that some venues are not organized or the storage is not reasonably accessible, and the desired equipment may not be available or maintained regularly. It is frustrating when an instrument is found faulty after it is hung. Most of the time rented instruments are more reliable and give the LD a wider choice of instrumentation (D'Ardenne, February 2006, interview). The LD has to decide if outside rental or use of house inventory gives the better value. With a low production budget, the LD should be prepared to explain why renting is preferred to the venue's stock inventory.

3.2.2 Power Supply and Control Protocol

The technical specifications provided by the venue should give information such as the overall amperage to the venue and to each dimmer. However, the specification may not be up-to-date and the dimmers may not be maintained to function reliably. Though each receptacle may be specified to be 2400 watts/20 amp, it may have a lower rated circuit breaker or lower rated cables attached. Do not assume all power receptacles work or are connected to the dimmer pack, especially those receptacles without a dimmer number. Always check the amperage rating of the cables attached to these receptacles. If the LD is not familiar with the instruments or the venue, always wait for the venue staff's instruction before powering anything up; indeed, most venues require that staff to be present. Lighting equipment that requires high amperage, such as a dry ice or smoke machine, should have a dedicated receptacle. Other equipment using the same receptacle

would increase the load and may overload the circuit.

In order for effects and stage lighting instruments to operate independently, such as a gobo “twin spin” or a disco ball, separate dimmers are needed for the accessory and the instrument. However this means that more dimmers are needed which may be a problem in some venues. For accessories, that run on constant power, such as black lights or moving lights, it is necessary to use separate dedicated power with 120 volt rather than dimmable power.

There are at least five types of connectors that are currently used by theaters. The common ones are 15 or 20 amp old style twist lock, 15 or 20 amp new style twist lock and stage pin. The twist locks have the advantage that connectors are not easily pulled apart (Parker 573). Most venues visited, such as Louis Mayor Theater, Santa Clara University, The Auditorium of Center of Employment Training, and Mountain View Performing Arts Center use stage pin connectors because they have been in existence longer and most rental instruments use them (Gillette 367). Stage pins do not always give a firm connection so one usually compensates by sticking gaffer tape across the connecting joints. These different connectors are not compatible but can be connected with adapters. Ask the venue manager or rental shop which types of connectors are needed so that appropriate adaptors are secured. It is possible that different types of connectors are needed in different sections of one venue. In desperate situations, the connectors can be changed between instruments. However, as it takes time to do the rewiring which in turns means money, the LD should decide if renting adapters is more economical than changing.

A “twofer” or martingale is used to connect two or three instruments to the same circuit. Be careful not to exceed or overload the circuit or cables. It is never wise to assume the control board will reach only a low level of intensity i.e. 50% insuring that actual amperage is never reached (Hunter, January 2006, Interview). Another area of concern is the total power supply; do not assume that all power receptacles work at full load. The dimmers may be faulty or not wired with a correctly rated circuit breaker, which in turn leads to overload. Do not risk the possibilities of overloading the main circuit breaker in the middle of a performance. The total load should be checked with the head electrician prior to finalizing the lighting plot (Fischer, January 2006, Interview).

The lighting control board controls the dimmers and other instruments using a digital protocol. The most common one, DMX-512, is a standard created by United States Institute for Theater Technology (Gillette 359). However, there are other older protocols and compatibility may be a problem, especially for control board not provided by the venue. For independent peripherals, such as scrollers or moving lights, a separate universe of DMX 512 data system should be used (Guzzetta, January 2006, interview). Check with the venue for available length of power (4 pin XLR) and data cables (3 or 5 pin XLR) to be sure there are enough to run between the instruments as well as from the instruments to the control board. Some venues, such as Cabrillo College Theater and The West Valley College Theater, have splitter boxes to ease the data transfer over a long distance.

3.2.3 Lighting Fixtures

New lighting fixtures with advanced technology come on the market so fast that

by the time information is published in books, the fixture may be out of date. For an established LD, finding the correct instrument to execute a design can be a driving ambition, but for a novice LD working for a low budget company, the venue's inventory is the usual limiting factor (Moody 102).

The repertory plots, such as in the theater of the California State University, Hayward and the auditorium of the Center For Employment Training, use ellipsoidal and fresnel instruments while others, such as the Mexican Heritage Plaza Theater and the California Theater, use ETC "Source 4" PARs for the basic washes. In the Evergreen High School Theater, ETC "Source 4" juniors are used for front washes. The capability of these instruments and most others can be found in the technical specification pages available on the manufacturer's web site.

Not all ellipsoidals have the same features; some have built in iris while others simply have slots for it. Instruments will take different size gobo holders, such as size "M" for Source 4 Junior and size "A" for 6x9's (Fischer, January 2006, Interview). Unless the LD is certain about the size of the gobo slot, pre-trimming the template is risky as it might not fit. Gobo tape is useful if the template does not fit the holder. Also, gobo tape can be used for masking the pattern and mending unnecessary splits. If the holder is the wrong size, in an absolutely desperate situation, the instrument may be taken apart and the gobo taped directly to the instrument. Do not assume that the lens or the tube of an ellipsoidal can be rotated or changed. The tube of a Source 4 Junior cannot be rotated and an older style ellipsoidal has a fixed lens so the only way to change lens is by changing lens tube (Dunn, January 2006, Interview). The ETC Source 4 and Strand SL

Ellipsoidal are significantly brighter than the older style instruments, such as the 6x9 radial ellipsoidal and the fresnel. If these various instruments have to be mixed to form a wash, be careful when adjusting the intensity to give an even wash.

There are even more variations in moving lighting instruments. Via controls at the lighting console board, most can focus and diffuse, zoom in and out, change shape and color, change patterns and gobos, spin and move on the floor (Gillette 353).

Complicated designs can be achieved by moving lights in place of conventional equipment. However, a large quantity of conventional fixtures may have more flexibility than one moving instrument (Parker 489). Since the operations of moving lights vary wildly, one can only rely on the in-venue technicians if the moving lights belong to the venue; otherwise the LD must know how to operate them or have a professional moving light programmer available (Little, January 2006, Interview).

Whenever handling an unfamiliar instrument, check its voltage ratings. In America, 120 volts is the standard, while some places on other continents use 220 volts. The unknown instrument may have been shipped from overseas and the voltage may not be the same, though more advanced instruments have built-in converters. The connectors may have to be changed or an adapter may be needed to fit the local standard. If it is an instrument that the LD cannot obtain until the last minute, ask for a photograph or drawing of the end of the connectors. Go to an electrical distributor for the best advice (Daw, January 2006, Interview).

The personnel from the rental shops are generally helpful. The LD should find out about the renting equipment from the rental shop, e.g., the operation, or if additional

hardware is needed. If unsure about the particular terminology the LD purchasing or renting equipment must describe the item. If the LD asked for something using theatrical terminology, the shop will supply exactly what is requested. It often happens in both the rental and sales department that if wrong terminology is used, a wrong or unsuitable item will be supplied (D'Ardenne and Myers, January 2006, Interview). Perhaps when a customer asked for black muslin, she really needed a black scrim. To ensure the rental items are correct, the LD can visit the rental shop and examine the items ahead of the due date for delivery. Though most vendors are helpful, some custom items such as specialized gobos may not be accepted for return or refund.

A real budget for delivery of rental and consumables items (Appendix IV and V) is a luxury for low budget productions. With no budget item for delivery, the LD must consider the size of available transportation and the necessary manpower for pick up, load in, strike and return before deciding on renting (Shelly 39). Once again, ask the rental shop the physical size of the rental to determine the size of the truck needed.

3.2.4 Color Media

The repertory plot of some venues, e.g. the Mexican Heritage Plaza Theater or the Montgomery Theater have no colors, while others, such as Julia Morgan Center for the Performing Arts and the Sunnyvale Performing Arts Center, have color media already loaded in their rep plot. The colors may not be the LD's first choice, but additional color media may be available at the venue. Rather than buying new color media, for low

budget production, the LD can settle for color readily available such as light blue or dark pink rather than requiring specific brands or numbers (Moody 32).

Sometimes however, locating the necessary amount of correct color in the venue can take a considerable amount of time if the color media are not sorted in an organized manner. The LD should decide what is more economical to the performing company. Some production houses such as Musson Theatrical are happy to give away the color media that has been returned with previously rented instruments (D'Ardenne, February 2006, Interview).

When providing her own color media, the LD should carry extra sheets/colors. With some older instruments, which get hot quickly, color fades in the center after a few hours of usage and replacement is needed. New modern instruments do not get as hot and do not burn color media as quickly. When theatrical lights are not needed, use stage work lights and prolong the color media life as well as the longevity of the expensive lamps.

To minimize the time needed in the venue, the color media should be precut and presorted to the fixture's frame size. To identify ownership of the color media, always label them with a grease marker. Whenever possible use either the venue's color or the LD's and not a mix (Feraldo, January 2006, Interview). For rental equipment, ask the shop for frames before the actual delivery dates and preload the color media. Most rental shops do not charge extra for frames if they are going with lighting fixtures. Once again the size of the frames for color media can be obtained from the specification sheet. However, for unfamiliar fixtures, wait until you can get obtain the correct frame or ask

for a sample for reference. The LD should have a pair of scissors in the toolbox in case the venue is not equipped with a paper cutter. The LD should build in some cushion providing room for flexibility and backup for items, like extra instruments, lamps, and cables, as well as color media. No backup means another trip to the theatrical supply company (Shelly 31).

3.2.5 Paperwork

Communication between the LD and the electricians must be clear. Effective paperwork, which requires prior analysis, provides comprehensive and accurate answers allowing technicians to carry out jobs without the LD's direct supervision. This assumes the paper work is accurate and clearly written so that it can be understood by the electricians (Guzzetta January 2006, Interview). Useful paperwork includes a lighting plot (Appendix IX), an instrument schedule (Appendix XIV), a magic sheet (Appendix XIII) and a cheat sheet (Appendix XI).

However, if the show is simple using the venue's existing repertory lighting plot and resident board operator at the venue, some of the paperwork may not be necessary. The venue's resident light board operator is likely to have all the necessary data recorded in the light control console. The light plot, patch information, schedule or cheat sheets may not be necessary (Daw, January 2006, Interview). Check with the venue production manager during the LD's first venue meeting or discussion.

A light plot (Appendix IX) is a plan view layout of the lighting design. A light plot that is prepared and cut into sections mounted on cardboard allows the hanging to be

done in different areas at the same time without the entire drafted plot being required.

USITT established a standard for symbols used so that experienced electricians can easily read an unfamiliar plot.

An instrument schedule (Appendix XIV) with dimmer and channel numbers allows the light board operator to enter patch information, the relationship between dimmer and channel number. The magic sheet is paperwork that facilitates the LD making quick references while concentrating on the look on the stage during cue building. There are many ways to construct a magic sheet provided it is easily read, simple to understand and contains all necessary information, such as channel number, purpose and color. Often the magic sheet is a graphic indication of the lighting fixtures and is taped on the production table to allow for quick reference (Shelly 114).

A cheat sheet (Appendix XI) enables the channels to be easily identified with the purpose and intensity levels. Typically the channels numbers are arranged consecutively in rows that mirroring the same layout as the monitor screen of the lighting control board. The LD can scan the monitor display and the cheat sheet for information. However, the cheat sheet is only useful to the LD if she is able to have access to a monitor display while building cues. It is useful for the light board operator to reference specific channels when conversing with the LD.

In some groups the LD is the one calling the show. However, if the LD is not the one calling the show, a clear “cue master” (Appendix XI) sheet has to be prepared so that the Stage Manager is certain of when the cues “go.” The sheet should have the cue number, the fade time, the compositions and any notes helpful to correct execution.

The LD must constantly update all the paperwork by keeping a master copy handy and recording changes diligently. Always leave a copy of the paperwork in the venue in case of the LD's unplanned absence (Ionazzi p 35). And of course the LD must always have backup copies of all paperwork.

3.2.6 Lighting Control Board

Though early-computerized light control boards are becoming outdated and manual boards are becoming artifacts, they are still around; for example, the theater of the Dance Department of San Jose State University has a manual board. In this situation enough time has to be allowed between cues to reset the sliders for the next cue. With computerized boards, the cues can be prestored with accurate fade in and fade out time. The most common computerized boards are the Strand 500 series found in the San Jose Repertory Theater, the Mexican Heritage Plaza Theater, and West Valley College Theatre and the ETC Obsessions found in the California Theater, the Montgomery Theater, Cabrillo College and Julia Morgan Theater Center for the Performing Arts.

The LD should understand the structure of the lighting control board that the venue provides. With manual boards the LD should ask for a sample cue sheet from the venue, as the cue sheet is often a template of the light control board layout. With computerized boards the LD should be familiar with the parameters of the board, e.g., maximum number of submasters and channels. Most light boards can display approximately 100 consecutive channels on a single monitor screen. When numbering channels in a lighting design, it may be worth limiting the channels to two pages to

reduce key-strokes (Shelley 93). The designation of channel numbers should provide some identity of the function, e.g., 1-20 for special pools or gobos, 21-99 for front and top washes while 100-200 for sidelights. To provide unexpected moments when lights need to be turned on quickly, it is wise to program submasters so lights can be turned on quickly. This is especially useful if the worklight switches are not easily reached so that submasters may be the only alternative to providing immediate light on stage.

Before entering the cues, ask the light board operator if it is possible to clear all previously programmed cues. Keep a copy of the LD's programmed cues on floppy discs for the unfortunate incident when all cues in the board are lost. The floppy allows previously programmed cues to be restored easily.

In these days of perpetual improvement in both fixtures and control boards, trade magazines, e.g., Lighting Dimensions magazine and technical theatrical conferences such as the USITT conference, and Lighting Dimensions International Show, Theater Design and Technology Entertainment Design and Lighting Dimensions conferences can help keep an LD up to date with information if not direct hands-on practice.

3.3 BUDGET - DIFFERENT TYPES OF CHARGES

The event determines the product on stage; budget limits the method of transforming programming ideas into reality (Schlaich 132). Some designers refuse to let budget limit their creativity, but in real life few LDs can indulge in such a luxury (Moody 39). An inexperienced performing company, such as the parents who run Indian Arangetram, may not have a clear idea of the production operating cost while planning.

The LD should give the company some basic budget questions to research including venue rental, labor and even charges like ushers, janitorial service, security guards as well as crew costs and any percentage of ticket sales that the venue demands to give a complete picture to the performing group. Sometimes, such as in the Flint Center or the Mexican Heritage Center, these peripheral charges are greater than the venue charges. A researched budget helps the management to provide the needs for the program to happen (Schlaich 133).

Rental prices for venues such as the San Jose Center for the Performing Arts, the Montgomery Theater and the San Jose Civic Auditorium are published on the Internet or easily available through their administrative offices. The two common pricing policies are a basic package or itemized billing. A basic package, as found in academic theaters at California State University, Hayward and Santa Clara University includes limited manpower, equipment and some hours in the building with additional cost for additional hours (Risdemacher, January 2006, Interview). The LD should check carefully for what is included in the package and be aware of the extra charges for the use of followspots, dance flooring, fog machines, etc.

In an itemized accounting, found in union houses such as the Montgomery Theater and the California Theater, the venue rental may be hourly or daily from 8:00am to midnight, with separate charges for labor, lights and sound according to the number of fixtures and equipment being used (Hurb, January 2006, Interview). The venue's rental charges may be different for a performing day or a load-in rehearsal day without an audience. The rental charge for the Campbell Heritage Theater is different for non-peak

days (Monday to Thursday) and peak days (Friday to Sunday) (Nagata, January 2006, Interview).

Labor charges vary according to the type of venue. In academic theaters, such as the Louis Mayer Theater at Santa Clara University, which is mainly staffed by students who work between classes, the rental does not include minimum hours of work (Stampley January 2006, Interview). In other non-union venues, such as the Mexican Heritage Plaza Theater and the Mountain View Center for the Performing Arts, with venue staff, the minimum for each technician is usually four hours, with straight time for eight hours, time-and-half after eight hours and double time after twelve and between midnight and 8:00am. The crew can do set up, load in, or run rehearsals or performances (Feraldo, January 2006, Interview). The charges may be scaled according to the different levels, for example in the West Valley College Theater, the rate for the event manager, and master electrician is 50% more than for a stagehand (Gerald, January 2006, Interview).

In union IATSE houses, the labor charges are firm and clear. The minimum labor call is four hours with straight rate for the first eight hours, time and a half after eight hours and double time after twelve hours as well as between midnight and 8:00am. Union rates are doubled on holidays such as Easter and Christmas. During the “straight rate” the union stagehands can be doing load-in, setup, strike but not rehearsals or performances. “Show call” is incurred when the union hands are required to remember the cues, i.e., during rehearsals or performances. “Show call” is the labor charge per stagehand per rehearsal/performance. Each rehearsal or performance incurs a separate

“show call” charge. Since the charge is per show or rehearsal, each “show call” lasts for one rehearsal or performance, up to a maximum of four hours with overtime rate after four hours. However, the initial four-hour rate applies even if the rehearsal or performance lasts less than four hours. Hence in a union house it is wise to combine the technical and dress rehearsal. It is another show call for the actual performance. Last minute technical adjustments before, or a quick strike before or after a performance is considered an extended show call hour. The hourly charge will be the same as overtime (Hurb, January 2006, Interview).

But one cannot assume union labor rates are consistent, even in the same city or the same venue, the rates may be different depending on the existing contract between the venue and the union or the promoter and the union. For example, the union labor contracts in the San Jose Center for the Performing Arts are different than for the Flint Center where Flint Center has its own contract rates with the union (Hurb, January 2006, Interview). Sometimes it is possible for the performing company to negotiate directly with the union for a particular contract with different rates. Be sure to ask if quoted rates include extras like holiday pay, workers’ compensation and “payroll” overhead because these extra could mean an additional 50% on top of the initially quoted hourly rate. In some situations, the payment goes through an appointed off-site agent, in others directly to the union steward head. In most cases, payment is always before curtain (Hurb, January 2006, Interview). Though it is not an LD’s job to pay the venue staff, the LD is often the one with whom the technicians are most familiar and hence turn to for payment. The LD should give the performing company an idea of the amount needed as well as

the authority to approve money decisions. After verbal consent for expenses is obtained, send an email to all involved in money decisions as written confirmation (Urmari, February 2006, Interview).

The LD must work with the director to derive an optimum budget balancing the needs of all areas. The LD may have to comprise, e.g., use more volunteers in place of a paid crew or streamline the design to keep in line with the budget (Stern 93). During the process, consider any unexpected expense such as needing a larger crew or extra venue time. Do not allow other designers and directors to think that all the “mandatory” stage effects are possible both technically and financially if there are foreseeable problems (Kelly 14). As the production nears the performing date, all departments are likely to try to push for a bigger share of the budget; the attitude towards money often keeps shifting. It is worth bringing up the money topic again and again to be sure that the producer is current with the budget (Urmari, February 2006, Interview).

No matter how carefully the LD plans, there is always variance between estimated and actual figures. In some performing companies, a purchase order has to be obtained before any money can be spent (Stern 90). But once moved into the venue everything may not go according to plan. When a purchase is urgent, such consent may not be practical or even possible. To be prepared, ask for an authorized amount of petty cash (Urmari, February 2006, Interview). Though actual expenditures influence if the LD is hired again, one may have to decide when to sacrifice the show and when to ask for what is obviously over the limit. an LD should always evaluate if the effort is worth the expense (Moody 39).

3.4 CREWS – HUMAN RELATIONSHIPS

A theater organization is a society of talented people rather than a coalition of isolated talented ideas (Butler, January 2006, Interview). The people of the theater, artists of different kinds, are subject to the self-discipline of their particular art and the principle of cooperation is vital (Goffin 60). Knowledge of equipment, techniques and artistic representations are only part of the LD's skill, the ability to work with others for successful collaboration is another major part. Stanley McCandless said, "Stage lighting design is not an independent art, but a unified expression where no one element is more inherently valuable than others"(99).

The LD reports directly to the director, though she crosses paths with most people of the production team. A typical example is found in the production of Fiddler on the Roof by the San Jose Children's Musical Theater. The LD had to meet with the scenic designer on lighting the set. He had to learn the color scheme from the costume designer in order to find suitable lighting colors. Though he did not speak to the actors directly, it was his job to enhance the mood on stage for them. He did not work for the stage manager, but he had to be certain that the stage manager executed the cues correctly. His prime responsibility was to lead the electrical team and create all looks on stage.

The initial meeting is the vital time when the director and the LD find out if they can work together (Bsmay, January 2006, Interview). The LD should prepare herself with cursory analyses of both the script and venue prior to this meeting in order to facilitate the building of trust in the LD's skill and ability (Bsmay, January 2006,

Interview). At the same time the LD should be herself without merely trying to impress or overwhelm the director with brilliance (Kelly 21). Listening is a good practice. Directors depend upon the designers to carry out the agreed-upon plan and the visual effects desired. Each director is different and has different expectation from the LD (Apperson 25). Most directors ask for some mandatory looks and leave the rest to the LD (Hunter, January 2006, Interview). The director of Dancing Sun asked for a particular style on stage. The director of Abinhyana gave the LD the entire necessary mood needed with each cue. The director of Juipin Dance School left everything to the LD. The director of China Dance dictated all the looks and treated the LD as an electrician. Some directors have imaginative ideas but little or no understanding about method or budget. The LD must discover the director's style in order to carry out the director's visual effects on stage (Apperson 25).

Communication is fundamental to design. The art of stage lighting relies on the art of communication (Shephard, January 2006, Interview). The LD must be able to visualize the proposed design in three dimensions yet discuss the proposed design in words and visual images with other designers so that lighting can blend with sets and costume. This is not easy because light is so difficult to put into words (Reid 209). Listening and staying nonjudgmental makes this process an open forum for dealing with problems and developing solutions (Apperson 40). When the LD is the new person on a long-standing production team, the LD should learn the team's particular ways of working. Don't be afraid to introduce one's own method, but it is more important to form as positive a team effort as possible (Kelly 26). There is always a potential for

clashing egos. The LD is hired to create a beautiful show. As an artist she does not want to be told how to do the job; however, there is one critical point that comes to play: as much of a cliché as it may sound, the customer is always right. And even if the customer is not exactly right, the customer, i.e., the director, must always end up satisfied (Diersen).

When one is new to professional theater work, older or more experienced people may be intimidating (Apperson 70). This feeling was expressed by Cassandra Meyer, who was the student stage manager while a professor, Nick Nichols, was the LD for the production of As You Like It in the San Jose State University Theater. Nichols was the authoritative figure there and Meyer felt pretty awkward (Meyer, January 2006, Interview). Confidence grows out of understanding the total production. If the LD knows the show and the director's expectation, the LD will be in a stronger position (Apperson 70).

The LD must depend on the master electrician and crew to carry out the hands-on work to implement the design (Gillette 35). It is part of the LD's job to ensure the entire lighting department is in order and in times of crisis provide leadership (Shelley 82). Often the LD provides directions for tasks and the stage crew provides the method to solve any problems relating to the tasks. It is the responsibility of the LD to ensure that the lighting crews receive clear, concise detailed information, so that they can work efficiently and within given time constraints (William). If everything has been carefully planned, the team will know what is expected and will be prepared to carry their own weight – provided they are confident that their needs have been considered (Streader 93).

Giving orders is the LD's responsibility. How this is done can make life easy or miserable for everyone. A good LD not only knows how to light the stage, but also does it with an aura of respect and courtesy, and manages by supporting instead of demanding (Apperson 70). Most in-venue technicians interviewed commented how much they like to cooperate. The success of the project relies greatly on motivation and job satisfaction.

Motivation pertains to the effort toward the specified goal. Satisfaction is the feeling of contentment associated with the work (Ionazzi 163). Fulfilled emotional needs, such as group acceptance, praise and recognition are the best means to create high motivation. Nonetheless, physiological needs such as water and snacks will motivate a hungry person more than words of praise (Ionazzi 165). During the Performing Arts Series, in the Firebird Concert, the producer brought breakfast to the crew. The whole crew worked for the entire morning without breaks. Michael Daw from the Louis Mayer Theater of Santa Clara University commented that when the call is early in the morning, a donut could motivate him more than anything else (Daw, January 2006, Interview).

There are two main types of staff, paid and volunteer. Most low budget groups survive on volunteers. Though volunteers are not compensated financially, they expect gratitude and appreciation, psychic and emotional rewards for their efforts. Do not assume that all the volunteers are there only with the motive to help as they may be there for other reasons. In performances involving young children, often the mother volunteers so they can be around their own children. Without understanding the work involved in technical theater, volunteers are more likely to be delicate and take comments or incidents personally.

With the urgency and possible hazards that are involved on stage, commands are often blunt and brief with polite words like “please” often omitted, and also loudly projected with the intention of being heard instantly. The LD should explain to the volunteers beforehand the tone and language. Zack Burch, the stage manager at the Cabrillo College Dance Festival, had a technique: after outbursts, he apologized at the first available moment to ease bad feelings. It is difficult to hold volunteers for their jobs. For most groups interviewed, such as Abinhyana and the San Jose Children’s Musical Theater, important positions such the assistant stage managers were only assigned to responsible people who were likely to remain to the end of the production (Kumer, February 2006, Interview). Get volunteers involved right away; otherwise they will drift away and probably not come back. Assign them simple tasks such as tidying the wing space until something more substantial is available. Let them feel that they are doing a useful part. Everyone should take pride in and work for the good of the whole production (Hunter, Interview, January 2006)

Paid staff is there to work and should cooperate. However, do not presume their level of expertise because some are newer to their jobs than others. This problem is especially true in college theaters. Be equipped with patience and training skills. Most union workers earned their union cards after a thousand hours of backstage work therefore one expects experience and skill, but occasionally, stagehands are granted temporary union cards and are less skilled (Hurb, Interview, January 2006). Regardless of union affiliations, paid or unpaid, all are human and expect understanding and respect. One cannot change the workers; the only way is to work with them (Nichols, Interview,

January 2006). What the LD says to them may not be welcomed at the moment but when said in a friendly and polite tone, chances of positive response will be high.

When the amount of work needed on stage is finalized, the LD should discuss with the production manager (PM) of the venue the house policy, production crew size, and the intended theater schedule. The house policy can be different from time to time and from venue to venue. It is especially true for union houses when the rules are per contract between the venue, the performing company and the union. One can always obtain a copy of the contract from the local union business agent. Policies in non-union houses vary even more and may not be completely spelled out. To avoid confusion or rules being made up as you go along, always refer back to the PM. If the PM is not likely to be around, ask for some contact method while absent.

Some venues, such as the Mexican Heritage Plaza Theater and the Flint Center, demand an in-theater administrative or technical service manager (TSM) be present solely for administrative purposes and who will not be available for any technical jobs (Feraldo, Interview, January 2006). The TSM is the venue side liaison with the technicians or the union. The TSM does not belong to the local union, hence is available even when the union staff are on breaks. In union houses, there is a steward, the head of all the union staff. The steward is the union liaison between the venue and the performing company, i.e., the one with whom the LD places all technical requests, changes or complaints. Apart from assigning jobs, the steward also looks after the welfare of the union staff people, which includes the meal breaks and paper work. In some venues, such as the California Theater, the Montgomery Theater and the California

State University Theater, Hayward, there is no position similar to the TSM. Rules or policies are imposed by the team leader of the day, who will look after both administrative and technical matters. In such a case, the team leader may also be one of the technicians. The LD and the personnel from the performing company may have to improvise how to mount the technical requests if the team leader happens to be busy with other jobs and prior planning is vital (Fischer, Interview, January 2006).

The size of the minimum crew is usually determined by the house policy. It varies from just the team leader as in the West Valley College Theater, to one per department – the fly, light, sound, and the steward as in Flint Center, to a full number of technicians covering every single job as in the California Theater. Some venues, such as Foothill College, require that the size of crew be determined by the PM. It is common in non-union venues to allow for a seemingly infinite number of volunteer technicians. In union houses, the policy on the number of volunteers allowed varies from venue to venue. Some forbid volunteers; some ask that the number of union staff match number of volunteers, while others allow for a much larger number of volunteers as long as all the department heads are union. Most require that in-house controls, such as the light board, the soundboard and the rigging be operated by in-house staff only. In some venues the technicians are not allowed to change jobs; a fly technician can only do pin rail, a sound technician can only do sound while in other union houses, the staff can do whatever is needed.

Reducing physical labor results in a crew whose wits are sharpened by being less tired (Reid 44). Too many stagehands waste money and are in each other's way and too

few will miss deadlines and exhaust everyone. Knowledge is the key that will allow the designer to make the best decision for the production in times of human or equipment failure (Shelly 82).

Make a point of meeting everyone in the workforce from the performing group and especially the technicians. Let them know the LD is accessible and explain what is expected of them. It is the LD's responsibility to communicate to the lighting team (Ionazzi 22). Let everyone in the workforce feel that they are an integral part by sharing the LD's plan and schedule and keeping them informed throughout the process. Information is a form of power – to gather it well and share it appropriately is important (Langley 100). The crew will feel part of the production when their ideas are heard. It shows your good judgment to know that someone else can look at a problem and possibly come up with a better solution than yours. Such an attitude furthers the crew feeling that they are part of the show (Moody 52). For most crew members, the greatest reward is seeing the production successfully executed and feeling they are a meaningful part (Langley 111). Part of the LD's job, along with the rest of the departmental heads, is to monitor work progress so that expensive venue time is not wasted (Shelly 143). A negative attitude is always dangerous to the health of the group efforts and should always be squelched (Langley 102).

Moving into the venue is the first time to see the long discussed plans implemented (Shelly 143). The LDs and stage managers observed did not rush to begin the load in, but rather took some time to introduce the venue and company crew to one another and establish an initial rapport. By addressing each other by first name, the LD

can make the staff feel respected at the top of the job, and the LD is likely to be respected in return. It is important to try to break down any barriers as fast as possible between company members and other personnel who will be working incredibly hard together, under a lot of pressure, in close quarters, depending on each other completely for success (Kelly 111).

Being the center for information, the LD should try to not take part in any installation job. The LD is expected to be an encyclopedia, but do not be afraid to say, "I don't know." Don't put yourself on the line if you don't know – people will lose trust in you if you give a wrong answer. But along with saying "I don't know." is the obligation to go find the answer or tell them whom to talk to if there is more appropriate person (Apperson 41).

As the LD often acts as the middleman between the director and the lighting crew, she has to be careful not to upset either side (Hays 109). Staying calm and helping others stay calm is the more effective response to most situations (Apperson 76).

Temperamental people can be insecure and giving them extra attention may be an easy solution to keeping things running smoothly. At the same time don't be a doormat or tolerate abuse. If a problem is foreseen which may damage the performance significantly, ask a third party to intervene. Most venue production managers interviewed are ready to help and derive beneficial solutions with the parties.

Juggling the egos in a theater company is a fine balancing act (Apperson 29). On one hand the LD must provide what the director asks for at a moment's notice, on the other hand the LD must be completely honest in a way that the director can understand.

The LD must make a critical decision: either put a foot down to cease all outside meddling or smile and accept any suggestion that comes along. Nonetheless, do not allow the designers and directors to think that all the “mandatory” stage effects are possible both technically and financially if there are foreseeable problems (Kelly 14).

To reiterate, the common goal is a successful performance. Consideration and respect for all involved will help win consideration and respect for the LD who must understand another’s thinking and accommodate the other members without expecting them to sacrifice their respective identity in the process. The aim would be to develop in the theater and its company that best sort of comradeship in which individual pride becomes pride in the whole (Goffin 62). Everyone should strive for the common goal – a successful performance. In this way theater work is rewarding.

Good LDs are considerate, organized, efficient, punctual and dependable. But it takes much more than the LD alone to make a successful performance. No one skill is more important than the others. Try to keep in mind that any one person’s activity may affect what someone else is trying to do. This consideration may help avoid many conflicts and win respect (Cunningham 149).

This chapter has covered much material: venue, equipment budget, team management. It is clear that much more goes into being an LD than merely understanding lights. The newly graduated LD should especially take to heart the need to gain broad experience in understanding production by intently observing and listening.

CHAPTER 4

LOAD IN – REHEARSALS – PERFORMANCES – STRIKE

An inexperienced performing group is often only focused on the performance dates. Whether the group leaders are from non-American cultures or simply lack knowledge, they may have little or no familiarity with the usual production practice regarding the various rehearsals necessary leading to the actual performance. Leaving the production process incomplete, blocking, technical, and dress rehearsals may be blended together, misunderstood, or thought to be unnecessary. Sometimes, the schedules are defined before the lighting designer is hired. The directors may have strong artistic backgrounds and demand a lavish production that is not realistic within time and other constraints. The LD has to stay the middle ground and negotiate for a schedule that fits the structure while grasping the anticipated complexity of the show, the budget and the amount of labor (Shelly 43).

Time, talent, and money are finite. Expectations should be scaled to coincide with resources (Culley, Interview, January 2006). Time is the most precious of all theatrical commodities. The date of the first performance is an unalterable deadline that determines a whole sequence of earlier deadlines, which must be met despite limited time and resources available to the theater team (Fraser 4). The budget allows for the size of the labor force and the cost of the venue dictates the time allowed for load-in and rehearsals.

The producer, the director, or the stage manager is responsible for creating and

maintaining the schedule for all production meetings and rehearsals (Gruver 86). If such a calendar has not been created, the LD should suggest one. Designers' final deadlines and "run-through" rehearsals, which involve the majority of the team, should be set in the beginning. Calling for production meetings can be problematic especially near performance dates, when everyone is likely to be busy with last minute preparations (Amin, Interview, January 2006). Nonetheless, the calendar is vital to all those taking part. In Shakespeare in Hollywood with Theaterworks, the calendar was on the agenda in their first production meeting to ensure no misunderstanding. For the Dance Festival of Cabrillo College, the final rehearsal schedule was fixed before the LD was committed to the job.

4.1. **PRODUCTION MEETINGS**

Having everyone sit together to discuss problems can solve misunderstandings early in the process (Stern 38). Production meetings provide an ideal time to discuss critical design choices (Parker 391). Through discussions with the director as well as others involved, the LD will be familiar with others' needs to help to personalize relationships and develop cooperation. Often script requirements affect more than one area of design, e.g., opening the door on the set may be an invitation to the sound designer to provide background for the scene in addition to suggesting special lighting. Thorough discussions are needed to arrive at a concept and style for the unique interpretation of the dramatic work (Parker 381). It is important that everyone at the meeting has a clear understanding of what is expected of them and what they can count

on others to do (Ionazzi 77).

In the production meetings of San Jose Stage Company and Theaterworks, the set designers demonstrated their ideas with three-dimensional models, the costume designers demonstrated their idea with swatches and sketches, but the LD could only rely on verbal exchanges unless she utilized some form of computer-assisted lighting visualization software package such as what you see is what you get (WYSIWYG). The LD should be aware that not all technical terminologies are understood by the rest of the team and should use clearly understood descriptions and explanations (Parker 376). Continuing discussion of ideas with the director and other designers is essential but all involved should be aware that the director makes final decisions (Schlaich 83).

If these production meetings are not held, the LD should investigate the reason. It could be that the director is not certain what she wants or has too many projects going, or is prepared to leave all the lighting ideas to the LD and will be reticent to enter creative discussions (Urmari, Interview, February 2006). The LD should attempt to persuade the director and the rest of team of the importance of early and continuing production meetings. Even if the LD is hired just before the performance, the LD should still ask for production meetings to gain information. In desperate situations, these meetings may be done via email or telephone conferencing. Emails are most effective in transferring information, yet cannot guarantee a response (Mannshardt, emails, January 2006). Telephone conferencing can make everyone focus on the same topic and hopefully achieve results, but it is difficult to clearly explain concepts with no visual aids. To avoid information being misplaced or misunderstood, always reiterate the decisions in writing

to all interested parties after the discussions (Urmari, Interview, February 2006).

4.1.1 Designers' Run-through

One of the most important dates on a production calendar is the designers' run-through. The show is rehearsed from top to bottom for all the designers to observe together. By this point the whole production is structurally together and unlikely to have major changes in either the script or the set (Mannshardt, Interview, January 2006). Rehearsals are working sessions; while the designers and directors often discuss opinion, others may offer thoughts that may be extraneous (Gruver 68). The LD's presence is for her to garner the feeling of the script, the blocking, and to observe the time and place for effects (Mannshardt, Interview, January 2006). After this run-through, the LD should attend as many rehearsals as needed to feel comfortable with the feeling of the production (Gruver 69). However, check with the director beforehand, to be certain that the LD's presence is welcome (Parker 391).

4.1.2 Meeting the Venue's Production Manager

The LD should visit the venue early in the production-planning period to ascertain the limitations and the venue policies. When the performing dates are approaching and requirements from the performing company are finalized, more meetings with the venue's production manager (VPM) are needed to discuss the technical requirements, the in-venue schedule, the crew size as well as more detailed venue policy (Appendix VII). These crucial meetings are usually initiated by the performing company (Thornton,

Interview, February 2006).

It is wise to have an authorizing person from the performing company at such a meeting because a financial decision may be needed. But at the same time such an individual is only helpful if she respects the LD. It is disconcerting if the individual argues with the LD in front of the VPM, especially over technical questions about which this other person is ignorant (Bsmay, Interview, January 2006). Do not overlook the theater's scheduling office, checking carefully for the dates booked and the hours for each day. When the schedule is finalized, contact the VPM to ascertain call times. Directly double-checking this particular information is important (Feraldo, Interview, January 2006,).

Always discuss the finalized in-theater schedule with the VPM. If you are working with staff from unions, you must follow their regulations. The VPM can advise you on the best way to run your day to accomplish maximum work done under the venue's rules and regulations (Hurb, Interview, January 2006). Take precautions to ensure breaks and to avoid having to pay for overtime. Even if you have been involved in a show at the facility before, do not assume the rules. Even within the same venue, the rules and the practice can be different for different production companies (Clark, Interview, January 2006).

4.1.3 Parameters for Schedules in the Theater

To avoid last minute glitches, get together with other personnel, such as the stage manager and director, to plan the load-in and rehearsal schedule (Kelly 94). Be sure the

schedule can work realistically and conform to the availability of all volunteers, designers, technicians and actors. Discuss with the director the method he wants to use for rehearsals on stage (Ionazzi 19). For major staff, like the set and the sound designers, reconfirm privately their availability, as people may not want to discuss their schedule publicly (Burch, Interview, January 2006). The finalized schedule should be written down and passed to all the departments (Appendix VIII).

The LD should be certain what the load-in includes, not only regarding lighting but also set, props and sound. The stage floor is the most demanding area for which all departments compete. Find out which departments need the floor and when (Amin, Interview, January 2006). Some tasks require the stage to be totally dedicated. A common example of non-dedicated use would be using the floor as a path way to other parts of the performing area. In San Jose Center For the Performing Arts, the easiest pathway between stage left and stage right is via the stage floor, but when loading musical instruments into the orchestra pit; the instruments are often moved onto the apron of the stage (Burch, Interview, January 2006). Another example of dedicated stage use is if a pyrotechnic permit is required, the permit can only be granted on site while the performing group is occupying the venue, but during the process of inspection, no one can use the stage space, so the schedule must be planned around it (Bsmay, Interview, January 2006).

While the floor is occupied, the LD may be able to work in areas like the catwalks. As soon as the stage floor is free, the LD should start hanging on the pipes above the stage. Some rigging may be carried out simultaneously - hanging lights,

placing set pieces, and setting sound equipment. All these jobs may involve lowering the pipes to stage level as well as rebalancing the weights at the arbor with only trained loaders approved by the venue (Dunn, Interview, January 2006). The set and the on-stage mics can be placed on the stage floor while the sidelights and front-of-house lights are being mounted or even when a spacing rehearsal is taking place. Conflicts can arise, especially if safety is concerned, when more than one department is trying to use the stage (Daw, Interview, January 2006).

Since building light cues may not involve the stage floor, the stage can be used for spacing rehearsals or building sets. The activities on stage can be used as figures for the LD to visualize lighting looks or effects (Daw, Interview, January 2006). The LD should ask about the possibility of having at least one actor on stage with a correct costume during the technical rehearsal for lights. This is particularly helpful for dance concerts. Lighting effects will look different on different costumes and different skin tones (Dunn, Interview, January 2006). It is always easier to build cues when the LD can talk to the light board operator face to face. However, if the LD has to talk to the light board operator via inter-communication headsets, then the conversations between the LD, those helping the LD, and the lighting board operator should be the only ones allowed on the inter-communication system. The same applies to when the sound designer and her team is doing sound checks with the soundboard operator. Dedicated time should be allowed for solely doing sound checks and light cue checks. This is especially critical when an orchestra is involved and a sound check is likely to be complicated (Daw, Interview, January 6). In the dance productions of the Abinhyana Dance Company, a dedicated time

slot is assigned to sound checks. During the sound check, the lighting team uses cellular telephones for any communication.

With most groups that took part in the San Jose Performance Arts Series, and other community groups, who were a limited budget, the on-stage rehearsals were done on the same day as the performance. The technical rehearsal combined with the dress rehearsal as one rehearsal. The single technical/dress rehearsal reduces the cost of rental, saving time as well as saving the actors' energies for the actual performance. This is also advisable in union houses when charges are per rehearsal or per performance rather than hourly.

Breaks are required in union houses and advisable in the others. Traditionally, rehearsals run long and tempers run short (Stern 188). During the production of Shakespeare in Hollywood by Theaterworks, a fifteen minute break was scheduled every two and half-hours. A longer break nearer to curtain is absolutely vital. Conflicts among the crew and designers are common and breaks can release tension and cool emotions. It may seem time wasted, but the crew returning from a fifteen break may work twice as fast and be three times as cooperative as before (Daw, January 2006, Interview). In some cases it may be a good idea to stagger breaks. For example, when time is needed to solve light problems, let the sound crew go on break, or when there are problems with the set, let the lighting crew go for break. A clear mind is absolutely needed for on the spot decisions during the actual performance (Burch, Interview, January 2006).

4.1.4 Meeting The Whole Team

A meeting for the performing company to discuss the load-in and the production requirements with the house crew and the load in volunteers should be called by the company's stage manager so that everyone involved can make plans and avoid surprises during the actual load-in. With most groups in the Performing Arts Series and the Indian Arangetram, it was the LD who suggested and coordinated such a meeting. In similar meetings, San Jose Stage Company, Saratoga Drama Group and Theaterworks provided simple snacks creating a relaxed and cooperative mood during the discussions.

The purpose and expectations of each in-theater activity should be discussed with all the technical crew and staff. Some of the volunteering technical crew may be intimidated being backstage for the first time. Explain to them that the start/stop process during technical rehearsal is for everyone to practice what they have to do during the performance. No skill is more important than another and each person may affect the whole production.

Double check on the rental items. If items are to be delivered, ask the rental company to arrange with the theater directly. However, if the theater is not willing to take responsibility for the delivered items, the LD can arrange for delivery to be take place while the production company is occupying the venue (D'Ardenne, Interview, February 2006). Always arrange for a contingency labor plan so that if the rentals are not delivered on time the crew may take part in another area of load-in until the delivery's arrival.

4.1.5 Paper Tech

Paper tech is a specific time for the designers, director and stage manager to discuss and mark the cues in the production script and finalize the technical and design functions of the performance (Ionazzi 106). The effect, the purpose, and the content of each cue should be described to the stage manager so that each cue can be noted in its appropriate position in the final version of the script (Gillette 319). The more complicated cues and sequences should be talked over thoroughly. This gives some chance for glitches to be partially ironed out before the actual technical rehearsals when the actors and directors are running around going crazy (Kelly 112).

4.2 PROCEDURES IN THE THEATER

Upon moving into the theater, the long discussed plan is put to action. The performing company's organization structure, everyone's interpersonal skills as well as the LD's technical skill is put to the test (Hunter, Interview, January 2006). Successful performances do not depend on magical powers or formulas. They depend on experience, knowledge and a degree of intuition (Langley 327). Learn as much as possible, be positive about the concepts but be prepared for changes (Moody 43). The most carefully prepared plans can fly out the window if various elements of the set are not ready, or trucks are delayed. Everyone's patience and tolerance is sorely tested by having to interrupt the established flow of the load-in to compensate for the missing parts (Kelly 98).

Load-in is also the LD's most demanding period (Stern 98). Theater time is

limited, and the LD must devote full attention to the process. Time is always the worst enemy and can produce wasted resources (Gruver 51). Don't expect anyone but the LD to watch the clock (Apperson 45).

4.2.1 Arriving at the Theater

The load-in day is the first day the performing company moves into the theater. Always arrive early to get a feeling of the venue and the technicians. Introduce yourself to the venue staff and at the same time learn the venue's working system and various job titles. In most venues, e.g., the Montgomery Theater and the Louis Mayer Theater, Santa Clara University, there is a venue production manager (VPM) in charge, similar to a steward head in a union house, who assigns jobs to the venue technicians; in others, e.g., Cabrillo College Theater, there is no specific person in charge, and the technicians simply wait for the LD or a member of the performing company's to give instruction.

Show your respect to the venue staff by asking them for an area for your equipment. If the LD can make the venue staff feel respected at the top of the job, the LD is likely to be respected in return (Hurb, Interview, January 2006). Ideally, this holding area should not be the stage itself because some of the equipment might be in the way during rehearsal or performance.

Rather than helping to unload the truck, the LD should take time to analyze the situation on a bare stage with the master electrician without distracting the load-in. The beginning of load-in is often the only time when the stage is bare (Shelly 149). Mark or spike the stage floor with reference lines like the centerline and the main curtain in relation to the downstage acting space. These are reference points needed for load-in

which may not necessarily be needed for the actual performance.

In the production of Shakespeare in Hollywood by Theaterworks, the LD created a command station, a table, where all the paperwork and tools could be gathered, out of the way and away from the stage electrics. From the table, the LD could oversee the mounting of the instruments. Downstage on the apron is an ideal spot, otherwise, the side of the apron or the first row in the audience might suffice. When settled in, review the intended work schedule with the master electrician and the VPM. The LD for Visual Rhythm for the Performing Arts Series, Nguyen-Cat Le, taped the in-theater schedule on the command station tabletop easily found and referenced by all those involved.

Verify with the scenic designers or technical director the actual space as compared to the stage plan, such as the space between the side booms or linesets and the opening of the main curtain and other draperies. The LD should again verify that what is intended is pragmatic (Shelly 144). For the Dance Festival in Cabrillo College Theater, the balcony pipes at the back of house were intended to hang instruments for gobo washes. When on site, it was found that underneath these pipes were permanent seats on a slanted floor which made mounting ladders unsafe and “genie” lifts impossible. The LD identified the potential effect on the production and gave up the idea of using these positions. Resolution of any venue-related problems in this area requires willingness to compromise (Ionazzi 27). Often the venue stagehands have suggestions that help simplify the rigging and focus. The crew in Cabrillo College Theater suggested using the catwalks instead of the pipes at the back of the house. Though not ideal, this was preferred. The LD must keep an open mind to suggestions and not become defensive

(Moody 52). If necessary, consult other department heads to discover a solution. Notify all the affected parties and update the paperwork to reflect the changes.

4.2.2 Hanging the Plot

Hanging the plot is when the actual lighting instruments are being mounted. The LD does not have to be in the theater to supervise. The head electrician ought to be able to accomplish the hang provided the LD has produced all the necessary paperwork. However, in simple performances when there is one day, or less, for load in, it is advisable for the LD to be there or provide some means to be reached immediately (Shelly 155). The LD should not be involved in any job but is needed to provide critical pieces of information for the hang to be correctly completed. In smaller companies, the LD is the master electrician as well.

Place the instruments to be hung immediately beneath the pipe at the location where shown on the plot. Depending on the number of instruments you are mounting, it may be worth labeling the instruments with marked tapes, e.g., “downstage red pool”, “stage right blue breakups”. It is especially useful if you are adding quite a few look-a-like instruments to an already focused plot when the addition must be differentiated from the existing instruments (Daw, Interview, January 2006). Clearly mark all the instruments that do not belong to the venue to identify ownership and prevent confusion during load-out/strike (Shelly 155). While the instruments are within easy reach, i.e., on the stage level, install all the accessories to the instrument – the gobo, the color gel, barn doors or top hat, and face the instruments toward focus direction (Daw, Interview,

January 2006). Since the ground row for the cyc, the side booms and other instruments on the floor stand can be placed after other work is being accomplished on stage, they can be done last.

All updates should be recorded on a master light plot. Every effort should be made to try to update everyone's copy. Always leave one copy of the paperwork in the theater just in case you are not there (Ionazzi 35). But also keep the master light plot with the LD just in case the LD is contacted.

4.2.3 Setting the Trim

Setting the trim is when all the hanging elements, such as the electrics, the masking borders and the scenery in the air are positioned and spiked. Check the preferred method of spiking with a venue technician, e.g., the Mexican Heritage Theater and the Louis Mayer Theater, Santa Clara University use spike tapes but the West Valley College Theater prefers weaving ribbons through the rope. It is pertinent to check the entire trim before spiking the electrical pipes so that they can be restored even if moved. In an artistic sense, this process is trying to hide all the technical elements from the audience. From the LD's perspective, the vertical height of the hanging positions allows the affected light beam to adequately spread and provide coverage. The LD should also make certain that the intended focus range for all of the instruments at each hanging position can physically occur (Shelly 168).

If the house plot is used, the resident master electrician should be able to trim the electrics. A 25'-50' measuring tape should be taped to the pipe while adjusting the pipe

to the desired height. However, if the pipes are dead hung, as in the Cabrillo College, the border can only be trimmed by safety pins or clips which may not be desirable and is labor intensive. Though concealing the fixtures is often the ideal, in reality it may not be possible, especially for the audience seating nearest the stage. There is a saying that if the actors are good enough to hold the audience's attention, whether the technical equipment is seen or not has no impact (Guzzetta, Interview, January 2006). And, in fact, modern theater practice does not require masking all technical equipment.

The size of the lighting pools varies with different height of the pipes. In the case of moving lights, the positions of the light pools are changed with different height of the instrument. Each time the height is changed there will be reprogramming needed (Guzzetta, Interview, January 2006).

4.2.4 Focus Session

The focus session is when the lighting instruments are focused to the desire of the LD. The LD must run the focus session. The director should be there to approve any mandatory or requested effect. Since time is precious, if the focus is not done with both the director's and the LD's approval, the task may have to be repeated and valuable time will be wasted (Shelley 172).

The focus session often is the last session of load-in for which a larger crew than that for rehearsal is needed. It is important that the session be organized and rapidly executed before running into overtime. The manpower needed will be one on a climbing a ladder or in lift to focus, one or two pushing the ladder or lift, one reading the channel

Safety & Health Administration (OSHA) requires that there must not be any concurrent stage rehearsal. Apart from a ladder there are often cables or other equipment on the floor which create a dangerous situation for all personnel (Feraldo, Interview, January 2006).

The noise level of others on stage should be kept to a minimum, as the electrician on the ladder or catwalk has to talk to the LD on the stage floor. Other activities such as tuning the piano would be difficult for both the piano tuner and the technicians. The legs or the borders may not be at the final positions if they are part of an incomplete set; often the LD can only estimate their position. When the stage floor must be shared, the part of the stage where the focusing is not taking place can be dimly lit while the focusing light has higher intensity.

Take special precautions for the isolated pools of light. Do not assume a pool on the floor can light the actor's face. Find out the height of the actors to insure the whole body is in the pool of light (Daw, Interview, January 2006). The focus session is also the first glimpse of the effect of lights on stage, the chosen color media and the size of the pools and effects on the set. Prepare to accommodate changes while at the same time paying close attention to the time needed by other sessions such as rehearsals.

4.2.5 Programming the Light Control Board

The light cues are programmed into the light board by the light board operator after the focus session. However, in staggering the schedule for the stage floor and the crew, it may be necessary to program light cues prior to the focus session which means

adjustments will be needed after focusing.

Before any programming of cues takes place, while the LD still has the stage floor, all the pre-programming on the lighting control board, such as the dimmer/channel patches, the submasters and the groups should be checked. Correcting faulty instruments, replacing lamps, or checking electrical continuity may involve lowering pipes or climbing on ladders. Such tasks may be difficult or impossible once the stage floor is used for something else such as a rehearsal. This preliminary earlier lighting check should include looking at each instrument. The light board operator should be using the control board to ensure the operation, electrical, and data paths are correct. Each channel from the control board, followed by the submasters and the groups should be activated. While checking the color media, all the instruments should be on at the same intensity or the color media may appear to be different. Controls for work lights and house lights should be checked, especially if controlled by the lighting control console (Daw, Interview, January 6).

With ample time, the LD can slowly craft the desired look with the director (Shelley 232). However, in the real world there are always far too many cues to build in the allocated time and the session is like the fast painting of an undercoat. (Shelley 232). The LD has to be able to convert the artistic vision to real lights and clearly communicate it to the board operator to create the best results. A brief meeting with the light board operator discussing the method of build cues is valuable and necessary (Daw, Interview, January 2006). If the director is not available to build cues with the LD, which is preferable, the LD should build the cues and show the director the look of each cue

during cue-to-cue or technical rehearsal. This way the number of key strokes needed with the director during rehearsal is further reduced saving time (Daw, Interview, January 2006).

With most control boards, some pre-programming is needed before cues can be entered, e.g., soft patches, submasters or groups. Rather than taking the time when the LD can be doing something else, written paper work (App10) should be given to the light board operator so that the operator can pre-program the board. Some light board manufacturers have offline software that allows cues to be programmed off site. The director and the rest of the team need to be clear about the time needed to build cues. Depending on the skill of the light board operator, allow at least a minute per cue. While the cues are being entered, the stage floor space is free for others to use. In this case a work light can be kept on. Cues can also be keyed in when the control board is in “blind” mode, i.e., the cues are keyed in without the actual look of the cue on stage.

Ideally the LD should be able to talk to the light operator face to face with the light board console in the middle of the house. Lighting effects can look different from the booth than from the audience’s perspective, and building cues from the middle of the house can ensure the desired artistic vision is available to the audience (Fischer, Interview, January 2006).

A technical table, usually provided by the venue, is a temporary office and is struck before curtain. It is identified as a base and an office for the director, the stage manager and all the designers. For the Dance Showcase of China Dance and Solid Gold of Pam East Dance rehearsals, the row of seats leading to and in front of the table were be

labeled “off-limits” to provide a clean pathway and an unobstructed sightline. The working staff often has to walk between the stage and the production table when the theater is dark. A clear pathway is less dangerous and troublesome (Nothwang, Interview, January 2006). The table should be large enough for placement of all the paperwork, the inter-communication headset, and a microphone for talking to others who may not be on headset, and a lamp with a hood to see notes while the house is dark. Hookups for the inter-communication system and AC power outlets must be available. This base is maintained throughout technical and dress rehearsals with staff likely to spend hours at the table, therefore provide water and coffee if the theater allows. A good LD is organized at the technical table and able to access information quickly (Napoleoi). In the production of Shakespeare in Hollywood, the LD’s technical table was maintained from load-in through the previews.

If placement of the entire lighting console on the technical rehearsal table is not possible, then see if a monitor from the lighting console can be at the table so the LD can see the state of the board. If the LD can only talk to the board operator via headsets, the communication system should be dedicated to the LD and the board operator (Daw, Interview, January 2006).

The LD should be familiar with some basic operation of most common control boards. During the programming of the light board, the ability of the light board operator can be assessed. If the operator is not experienced, consistent reminding of vital actions, like saving copies to a disk, is needed. More complicated cues, like auto-follow or link should be avoided. Remind the operator about the mandatory strokes, like the “clear” or

“rel” key to release channels if necessary. In Seussical by Sunnyvale Community Theater Junior Theater, the LD, Ed Hunter, took the light board operator through each key stroke.

4.2.6 Dry Tech, Cue-to-Cue

Dry Tech is a rehearsal with the crew, director, designers, but no actors; although occasionally technicians are asked to stand in pools of light so effects can be observed. All the cues including light, sound, deck moves, and fly cues are run so that the directors can see the relationship among them (Apperson 43). Cues may be changed, refined or deleted and instruments may have to be refocused and/or colors adjusted. More complicated cues can be practiced before with the cue-to-cue rehearsal: a full technical cue run with actors but with the portions of script without cues skipped. The director and designers further discuss the cues and the looks which they are seeing for the first time. Nonetheless, avoid interruptions to the flow of the cue checking session. If possible take notes and reserve some time later on to deal with problems.

In low budget productions, the performing company rarely pays for this extra rehearsal. The LD should try to find a moment to practice some of the more complex cues, such as the ones with both manual and computer-controlled moves acting simultaneously. Even the simplest show will benefit from a cue-to-cue rehearsal to iron out glitches before the technical rehearsal (Kelly 112).

4.2.7 Technical Rehearsal

The purpose of the technical rehearsal is to add performers to the technical elements (Shelly 248). This rehearsal confirms and integrates all light, sound, special effects, scene changes and flying cues (Stern 188).

For this to be done successfully, a number of elements are needed. The stage must be available for performance lighting, with no interference from extraneous light sources, such as houselights or work lights. If musicians' lights are supposed to be on during the performance, then they should be on during the technical rehearsal. The crew must be in place: board operators, spotlight operators and anyone else who works during the performance. All the light, sound, and special effect cues are ready and all the drapes and scenery and props and in place ready to be integrated. The stage manager should achieve coordination, discipline, and maintain command of the process (McCandless 108). The director or the director should be near the LD to discuss cues at the technical rehearsal desk (Menear 62).

If no cue-to-cue rehearsal takes place, this is the first time the LD presents the design in concrete and visual, rather than in verbal and theoretical terms (Schlaich 88). A natural function of the technical rehearsal is to discover problems and make changes accordingly. The whole process can often seem to function by trial and error (Ionazzi 121), but should not be used to finish a design or devise the effects (Stern 189). It is essential that the crew and the directors understand that the majority of lighting cues will have to be adjusted to a greater or lesser extent. The timing and the intensities will shift or entire cues even deleted. These adjustments should be considered normal, rather than

extraordinary (Gillette 319). The stage manager or the LD must keep things moving during the tech and dress rehearsals. In Shakespeare in Hollywood by Theaterworks, for precise cue timing, the chief LD spent over an hour working with the sound designer, actors and stage manager in order to achieve one desired effect.

The technical rehearsal is a physical production when the whole performance is realized. The ideal situation, such as in student productions is to have a technical rehearsal for each designer. But in real life there may be only one rehearsal for all departments, especially in a union house when there are charges for each rehearsal. Prior ground rules will have to be set and enforced by the stage manager. Each department may have its own agenda: the conductor may want to correct tempo, the director wants to ensure correct blocking, the LD wants to check the timing of the lighting cues and the stage manager may want to ensure and practice the cue sequence. Although all corrections seem to be incredibly important, obstruction to the flow should be avoided and whenever possible, take notes instead.

A cohesive team of cast and crew is absolutely important. Zack Burch, the stage manager of the Dance Festival in the Cabrillo College Theater, started the rehearsal by gathering everyone on stage and introducing the LD and rest of the crew. He talked about the methodology and the technical rehearsal schedule. It is necessary to break down barriers as fast as possible between company members and other personnel who will be working incredibly hard together under a lot of pressure, in close quarters, and, in the end, depending on each other completely for success (Kelly 111). Often the hardest objective is to begin, as everyone seems to be solving some last minute problems. The

stage manager calls out the time until rehearsal is starting, e.g., “ten minutes”, “five minutes” which created an illusion that everyone is almost ready. If the rehearsal is very late from the announced start time, there will be hard feelings which may spark non-cooperation.

Take time to check the inter-communication system. Verifying the ability to talk to the main curtain and fly rail operators, the sound operator, the lightboard operator, and the assistant stage manager backstage (Stern 189). The tone of the LD and SM sets the mood of the technical rehearsal immediately (Kelly 119). The LD must have an even temper and the ability to anticipate and adapt to constant changes. The LD must not lose her sense of humor (Ionazzi 11). Always maintain a positive and pleasant tone, be clear and commanding without being officious, frazzled, or rude (Kelly 119) in the heat of trying to keep a technical rehearsals flowing. Egos are colliding and fatigue puts an edge to everyone’s work. Reflecting on this dictum may help the LD to get through the moment. Remain calm even during an emergency. Nervous energy can be transferred over the inter-communication system and may lead to a negative atmosphere (Shelly 251).

Never think of problems in negative terms. Expect problems and take great pleasure in identifying them and implementing their solution (Ionazzi 11). Be open to alternative solutions but make a decision quickly; the worst choice is to delay making any decision. There is no right or wrong, as long as you accomplish the task, though some decisions are better than others in retrospect (Moody 65). The expression of too many opinions can create a judgmental, confusing, and generally unpleasant environment. This

line will be crossed less often if there are firm policies about who gives notes to whom (Hunter, Interview, January 2006). The LD has to restrain herself from interacting unnecessarily with those who do not belong to the chain the command. Theater is not a democracy and the stage manager is the dictator.

The LD should know when the cues are called, and should give a verbal description together with a paper representation – cue master (Appendix XII) - of when the lighting cues take place to the stage manager (Schlaich 93). The SM is the person calling for the action to start and stop in order to correct problems during the rehearsal. Although the director or the LD may wish to override the SM, the SM's leadership should be respected (Apperson 45). If a sequence is likely to be re-run, tell the crew to hold their positions. When the LD knows that her part is ready, let the SM know (Ionazzi 122). Only when the SM knows that everything is ready should the action start again. The stop and start may be frustrating to other departments who have different agendas; hence keeping everyone informed of what is going on avoids arguments and bad feelings (Ionazzi 122). Be sure that all changes are passed to the SM immediately.

Talk about the priorities, problems and progress with the director and crew during breaks (119). The LD must be up-to-date with the latest version of the script and necessary blocking (Pilbrow 43). Be ready to accommodate changes, but, at the same time, be firm on the limitations and explain when changes may just eat into rehearsal time with little benefit.

Technical rehearsals are not for re-blocking or new choreography. However, since this is the first time the director and the designers are seeing the actual setup on

stage, some changes are unavoidable, e.g., if the director may not want a drop to be used or the set is simply not ready, and re-blocking is unavoidable. Adaptability is always required in dealing with creativity (Kelly 9). The LD must be able to quickly perceive whether any new blocking will be supported by the existing design, and if not, decide quickly if the LD can override last minute changes. This is a time for all the departments to be working together. If the director wants a discussion, the LD should pause at a suitable moment for him. If he interrupts when a cue is imminent, tell the director that a cue is in process; no one should take offense, and the director should understand the importance of testing a cue within correct timing. In Seussical by Sunnyvale Community Theater Junior Theater the start/stop was kept to minimum as such interruption was regarded as confusing to the young actors.

Allocate a certain time to rehearse each scene/song. When the time is up for each, move on to the next one, or at the end the first six segments are beautiful and the rest unfinished (Moody 43). If there is not going to be a dress rehearsal before the performance, physically place the SM in the position of the actual cue calling, the SM's table in the booth, for some of the sequences. The SM has to get the feeling of the difference in her perspective, as effects on stage may look different from the SM's desk than from the technical rehearsal table. It also allows the inter-communication system to be tested out with everyone in place.

4.2.8 Dress Rehearsal

Ideally the dress rehearsal is run as if it is a performance. Nothing is allowed to

interrupt and if a mistake occurs, the play continues and a note session is held after the final curtain. A proper dress rehearsal is a luxury. Most low-budget companies combine the technical and dress rehearsals. If the show is in a union house where there are separate charges for each rehearsal, do not be alarmed that there may not be any rehearsal at all. If the rehearsal is on the same day as the performance, the artists are likely to have to conserve energy. However, all the technical crew should be in their places and fully alert as for any performance.

4.2.9 Performance and Strike

The LD is usually not needed once the dress rehearsal is over and the performance opens. However, for low budget performing companies with only a few performances, the LD's presence is mandatory throughout the production run.

Before the audience is allowed into the auditorium for seating, check the fixtures for operation and focus, and look at a few cues to be sure that the console system is in order (Stern 151). The SM should cue a preshow look on stage or close the main curtain and signal the house manager that everything ready. The LD should establish a firm time, such as thirty minutes before curtain after which no visible lighting change will occur. The house manager, or the volunteer staff should always wait for the SM's consent to open the house (Gruver 97).

During the performance, the director may be looking at the stage from a spot different than where she was when the cues were built. The director may want to alter the look on stage in the middle of the performance. This is never advisable, as it will

confuse the light board operator and producing chaos. Changes should be made only by LD and should be limited only to those that are mandatory and possible. For the success of the performance, the LD should set the limits.

It is not usually the LD's duty to stay behind and strike, i.e., restore the theater to its original state. However, with most smaller companies, and especially when the LD is the master electrician, strike is part of the job. This can be simplified by creating a plan in advance to assure that the required manpower is available and other logistics like truck transportation is ready.

CHAPTER 5

CONCLUSIONS AND FUTURE RESEARCH

5.1 SUMMARY

The purpose of this thesis is to give hints and suggestions for novice LDs starting in professional field. The foundation of this study is literature review, field observation, and interviews. The results obtained are not proved to be the only or the best method of functioning in a given theatre. The effectiveness of comments or actions depends largely on situation and environment. It was expressed by Randy Earle, one of the readers of this thesis, that an analysis such as this will give the novice LD a meaningful start (Earle, Interview, January 2006). Even now when taking on lighting design projects, I find it helpful to read through sections of this thesis to remind myself what is needed.

I find that stage management books, in general, have more relevant information than lighting design books. This is partly because an LD for smaller groups often has to possess management skills. Some areas, such as creating the budget, the architectural factors in lighting design, local union regulations and the timeline of the project, are not described in any scholarship. I began the interview and observation process with skepticism, as I did not know how involved the professionals were in the nitty-gritty of a performance project, but became more positive after a few interviews and observations. Most professionals are eager to share their knowledge and experiences and most groups were happy to allow me to observe. Time and time again, new problems emerged and solutions were found. As I write this conclusion, I am determined to carry on interviewing and observing with enthusiasm. There is no end to gaining more knowledge

and experience in this field of technical stage production.

Different professionals gave different opinions and diverse groups had diverse methods of production. A successful LD is not unlike a superhero - an artist able to create dramatic scenes on stage, an engineer able to manipulate instruments, a politician able to understand the environment and manage the situation, and a businessperson able to produce under high pressure and maintain working relationships. Success in lighting design is not only about one's skill in manipulating light or creating artistic looks, it is also about managing the politics of the situation. The enthusiasm and dedication of the light crew has to be maintained; stability of the crew is necessary for artistic success. The relationship with the producer, the director and other colleagues has to be optimized while knowing that every production is fraught with tensions and frustrations for everyone when it seems problems beset wherever one turns. The LD has to be able to work with other people in such a high-pressure situation. With skillful imagination, patience, flexibility and commitment, the LD can be equipped to successfully produce even under the most difficult situations.

This research tried to provide some formula that LDs can depend on, yet, it was found, as in most professions, people who are successful do not depend on magical intuition powers or formula; they depend on experience and knowledge. A sophisticated LD cannot be created instantaneously. The intricate skills and attributes necessary to execute an artistic look and inspire her production team are developed over time. The LD needs to be able to correct unhealthy and awkward situations using theory and past experience. There is no "best" approach; the LD needs a wide view of the field.

Established LDs are generally respected by the groups that they are work for. The producing groups generally understand as well as have enough resources to support the LD. For example, in Theaterworks, the LD had two assistants and a master electrician, devoted three full days to load-in, three days for technical rehearsals, another three days for previews. Novice LDs usually work for smaller groups with limited sources, such as the Vietnamese Performing Arts and Juipin Dance School. The LD, the master electrician, technical manager, and the stage manger were the same person. There were few hours for both load in and rehearsals. If a novice LD was fortunate enough to work with the resources and environment similar to an established one such as Theaterworks, the novice LD is more likely to have a successful performance.

A new LD may not be ready to lead a lighting team to complete a proper performance without significant study. The performing arts are surrounded by new and changing conditions making what was wise to do yesterday foolish today. Realistically, professional development is half the job; the other half is ability to deal with changes or shortfall.

5.2 FUTURE RESEARCH

This thesis is based on how American theater has been organized and operated with standard management systems to facilitate a particular theater's artistic goals. Nonetheless, with modern communications and technologies spread around the world, American designers and technicians and management often have to work with others from different cultural backgrounds. The political and economic contexts of all societies

change over time, and successful cultural traditions are adaptive. American groups cannot act as though they have the best approach to the performance and have a proven code to maintain. There are important bodies of knowledge about local resources and traditional practices among different people around the world that can be useful to support indigenous values such as mutual support networks and self-determination within the context of performing arts. Sometimes there seems to be a growing disinterest in cultural theater groups that can contribute to leadership, organization skill, and the standard of living enjoyed in western countries. If these institutions are deserted then so is the culture, these institutions have constructed. Each ethnic group expresses its own culture when producing in theater.

It is hoped this project will not only help to prepare an LD for her work, but also serve to provide an impetus for practice of this system by the producing companies. It will be interesting to research further on how to preserve the culture of ethnic groups and at the same time practice within American methodology.

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APPENDIX I

LIST OF PROCEDURES ACCORDING TO TIMELINE

LIST OF PROCEDURES ACCORDING TO TIMELINE

1. Performing date(s) – contact information
2. Obtain general information about the production
3. Production meeting with the directors and designers
4. First Production meeting with the venue
5. Propose initial budget estimate with the company producer
6. First run through - first rehearsal with the actors
7. Production meeting with the director
8. Reserve rental equipment
9. Update/revise the stage design with the director
10. Discuss theater schedule with the company stage manager
11. Review the stage design and schedule with the theater production manager
12. Authorization for expenses
13. Purchase consumables: color media
14. Check on rental of equipment
15. Delivery or pickup from rental shop – person in charge
16. Designers' run-through rehearsal
17. Check with the venue administrative clerk for actual move-in dates and times
18. Dates for paper technical
19. Check with venue technical manager for intended in-theater schedule and crew size
20. On stage cue to cue rehearsal

21. Production meeting with other designers and schedule
22. Distribute in-theater schedule
23. Prepare for load-in/focus
24. Paper work preparation

APPENDIX II

GENERAL INFORMATION NEEDED FROM THE PERFORMING VENUE

GENERAL INFORMATION NEEDED FROM THE VENUE

Contact information for the performing group –

Contact Person:

Telephone:

Cell Phone :

Fax:

Email:

Information of the performing venue

Name Of Theater:

Street Address:

Web Site:

Scheduling Clerk:

Telephone:

Cell Phone:

Fax:

Email:

Technical Manager:

Office Hours:

Telephone:

Cell phone:

Fax:

Email:

Dates booked at the venue

Day and time of curtain

Load in dates load out dates

Some idea on the performing venue

Type of venue – indoor theater, arena, outdoor festival

The dates that the performing group booked with the theater venue

Technical information from the theater – size of audience

Venue rental charges – per performing day, overtime rate

per rehearsal day, overtime rate

A union house? Which union?

Venue steward office phone

Cell phone

Email

Business agent office phone

Cell phone

Email

Can volunteers from the group take part in load-on and run

Non-union house –

Hourly rate for light board operator

Hourly rate for stagehand

What is the minimum labor

Are there any mandatory personnel

Overtime rate

Can volunteers from the group itself take part in load-in and run the show

APPENDIX III

INITIAL MEETING WITH THE PERFORMING GROUP

INITIAL MEETING WITH THE PERFORMING GROUP

I. Areas to be covered when first meeting the performing group

- 1) Intended number of performances
- 2) Curtain time/s
- 3) Load in dates
- 4) Rehearsal dates
- 5) When is the designers' run-through/location?
- 6) On-stage rehearsal schedule/method
- 7) Type of program – dance –
 - i. Drama – type of set involved
 - ii. Orchestra – special lights or location

II. Information needed from the performing company

- a. Contact List
- b. Name of director, stage manager – job description?
- c. Who is the sound person – job description?
- d. Who is calling for the first production meeting
- e. When is the first production meeting
- f. Performing company's expectation of LD?
- g. Lighting design – special effect
- h. Liaison person for the venue
- i. Contact person in the performing group

III. LD's reaction to the budget

APPENDIX IV

FORM FOR RENTING EQUIPMENT

FORM FOR RENTING EQUIPMENT

Vendor Information
Street Address
Mailing Address
Web Site
Office Telephone
Fax No
Day/Hours of Operation

List of Equipment needed

Quantity	List of Items	Rental each per week/weekend	Extension
	Accessories:		
	Adapters		
	Data cables		
	Operation Manual		
	Preset		

	Subtotal		
	For the whole period		
	Tax @8.25%		
	Delivery/pickup		
	Total		

Technical Details

Delivery/pickup details

Pick up/delivery date	
Size of truck needed	
Return/pickup date	
Number of weeks in total	

Payment details

Name of Performing Group	
Name of LD	
LD's cell	

LD's telephone	
LD's fax	
LD's email	
Billing Address	
Payment account/credit/check/cash	

APPENDIX V

FORM FOR PURCHASING CONSUMABLES

FORM FOR PURCHASING CONSUMABLES**Items needed:****Technical Equipment Company** _____**Street Address** _____**Mailing Address** _____**Web Site** _____**Contact Person** _____**Office Phone** _____ **Emergency Phone** _____**Fax No** _____ **Email** _____**Business days and hours** _____**Needed by** _____**Color media** – brand named and number

If not in stock, the substitute is

Number of sheets needed

Sales Total _____

Gobo – Manufacturer _____

Catalogue number _____

Size _____ cost _____

If not in stock, the substitute is

Manufacturer _____ Item _____

Cost _____

Gobo holder needed _____ Cost _____

If not in stock time

Shipping/Freight charge

Customize item – file via email

Email address and format

Via fax

Total cost _____

Sales tax _____

Total _____

Notify by phone when arrived

Any accessories needed

Payment details

Name of Performing Group	
Name of LD	
LD's cell	
LD's telephone	
LD's fax	
LD's email	
Billing Address	
Payment account/credit/check/cash	

APPENDIX VI

SAMPLE OF TECHNICAL REQUIREMENTS

TECHNICAL REQUIREMENTS FOR A DANCE PRODUCTION

Description Of The Program: This is an Indian dance performance with live orchestra of eight people. The orchestra will be stationery at down stage right where the musician will be facing the performers. There will be fifteen professional dancers.

1. Facilities

We will be using the full stage.

The technical table is needed for the technical and dress rehearsals. It should have inter-comm to light and sound booths and microphone to speak to the performers on stage.

The orchestra lift is at the stage level

2. Rigging and Masking

There may be one to two drops (which pipe??)

we will be using the main the upstage black scrim, please confirm the actual position for the scrim

3. Set

Three 4' x 8' platforms at 16" height are needed at stage right.

An alter at stage left

4. Audio

Headset communication to all technical areas.

Lavalier for the narrator

Mics for the musicians and MC

5. Lighting requirements

We will be using the rep plot, with additional fixtures for

Specials for the musicians

Special for the alter

Two specials with fire gobo on the cyc

6. Stage crew size and scheduling

from the theater we need,

one light and one soundboard operator

one person to the rigging

note, we will be providing our own following spot operators

two Deck stagehands

7. Schedule

Saturday

10:00am – load in for light and sound

1:00pm – sound check and light cue building

3:00 – 4:00 dinner break for the whole crew

4:00 – last minute check

4:30 – technical/dress rehearsal

7:00 – close down

Sunday

1:00 crew call and cast call

2:00 house open

3:00 curtain

5:00 strike

APPENDIX VII

INFORMATION NEEDED FROM THE FIRST PRODUCTION MEETING WITH THE
VENUE PRODUCTION MANAGER

**INFORMATION NEEDED FROM THE VENUE PRODUCTION
MANAGER**

Contact Information

Performing Company –

Contact Person

Telephone:

Cell Phone –

Fax

Email:

Name of theater

Address

Scheduling clerk:

Telephone:

Cell phone:

Fax

Email:

Technical manager:

Office hours

Telephone:

Cell phone:

Fax

Email:

Dates booked

Day and time of curtain

Load in dates load out dates

Permanent Features

Width and height of proscenium

Wide, height and depth of performing space

Distance of apron line to plaster line

Distance of plaster line to upstage ground row wall/backdrop

Width of the wing space

Is there an orchestra pit?

How deep is the pit?

What is the accessibility to the pit?

Can the orchestra pit be raised to form part of the stage?

How? By elevator? time and manpower for that to take place?

Can the orchestra pit be lower at same level as the audience?

Is there a wall/fence between the orchestra pit and the audience?

Can the wall be removed if the pit at the same level as the audience?

Is the edge of the stage covered/safely blocked if the pit is lowered to audience level?

How to go on stage from the audience?

Need specialized stairs?

Is there a crossover from one side of the stage to other?

Is it lit during the performance?

Is it always clear?

Onstage soft good

Is there an upstage cyc?

Is there a scrim just downstage of the cyc?

Will gobos form double images on the cyc?

Is there a mid stage black cut off

Is there an upstage black cut off drape? Possibility of changing line set of the cyc and the black cutoff? Operation of these drapes?

Is there border for each electric?

Are there legs to mask the wings?

Can the legs move on/off stage

Is there a main curtain? Travel or guillotine

How/where is the main curtain operated? Stage left or stage right or up on the fly gallery

Is there black and white scrim? if yes, where are they hung?

Is there a projection screen, where is it hung?

Are there any other permanent hangings? What type and where?

Is there any space for the set/scenery shifts and storage?

How big is the space between legs and vertical light boom?

Where are the entrances for the artists ?

Wing facilities

Is there a headset communication system for both sides of the stage?

Where are the cue lights?

TV monitors on both SR & SL?

Where are the work light controls?

Any lights controlled by motions detectors? If yes, how to turn the detector off?

Are there blue lights for the wings ?

Are there any utility 120v receptacles, where are they?

Are there any tables and chairs available?

Is there any quick-change space, and where?

Floor

Type of permanent floor? Surface and color?

Is there vinyl floor available?

Does the venue provide tapes for laying vinyl floor available?

Loading door access

How far is the loading dock from the stage?

How wide and high is the loading door?

How easy for truck load/unloading at the loading dock?

Any stairs needed while loading?

Facilities at the technical rehearsals table

Availability of technical table?

Is power for table lights, and intercom system provided?

Is control input for the light control console available?

Is table big enough for paper work? Monitor from the light control console?

Onstage rigging

Is the theater a full fly house/half fly/dead hung/slide to sides?

Are there any available pipes/flylines?

Type of fly rail system? Manual or electric? Operate on stage level or balcony?

Are all the soft good operated the same way?

What is the space between two pipes?

Stage Lighting Equipment and System

Number of dimmers available, wattage, connectors, same for the whole venue?

Location of dimmer rack/s?

Dedicated pipes – number of pipes available

First electric – number of circuits?

Second electric – number of circuits?

Third electric – number of circuits?

Fourth electric – number of circuits?

Fifth electric – number of circuits?

Distribution boxes –

Number of boxes available?

Number of circuits with each box?

Are there pipes that these boxes already attach to?

How to reach electric pipes?

By lowering to stage level – manual or electric

By climbing on the catwalks?? How to reach the cat walks

Is there a lift/dinosaurs/scaffold/ladder tall enough to reach the pipes?

Is the floor sturdy/fit to support the lift?

Maximum number of instruments on each pipe?

Where is the gallery for loading arbors?

Floor pockets for side lights/drop cables from grid

How many circuits each?

Floor pockets for cyc lights?

How many available?

Is there a black ground row to hide the cyc lights?

Are there more power pockets available on the deck level?

Other places for hanging lights?

Box booms – Juliets – number of circuits available.

Access to these positions.

Front of house pipes

How many front of house pies?

How many circuits available with each pipe?

How to reach these pipes? Are all the pipes by reached by the same manner?

catwalks?

Access to these positions?

If by climbing ladders

Where to position the ladder

Any obstacles underneath, such the audience seats?

Possibility of moving a ladder into the position?

Is the floor slanted or in steps?

How to transport instruments to these pipes – by rope lift?

Lighting Control Board,

what type and where is it placed?

Possibility of moving the control board into the house?

Possibility of mounting additional monitor for the control board into the house?

What is the protocol for data transfer – DMX 512?

Already built in submasters and groups?

How many DMX 512 universe available?

Possibility of adding another system? Availability of cables?

Reperatoryp Plot

Is there a permanent rep plot always focused?

Is there a graphic rep of the plot available?

Other paper work – magic sheet, cheat sheet?

Top light

Number of area across?

Number of planes deep?

Number of washes available?

Are they already colored? What are they colors?

Each area individually controlled?

Back light

Number of area across?

Number of planes deep?

Number of washes available?

Are they already colored? What are the colors?

Each area individually controlled?

Front light

Number of area across?

Number of planes deep?

Number of washes available?

Are they already colored? What are the colors?

Each area individually controlled?

High side

Number of area across?

Number of planes deep?

Number of washes available?

Are they already colored? What are the colors?

Each area individually controlled?

Cyc top row

Number of colors available? What are the colors?

Cyc ground row

Number of colors available? What are the colors?

Black wall available to hide the ground row?

Box boom/Julian

Number of washes available?

What are the colors?

Each area individually controlled?

Balcony Rail

Number of instruments/type of instruments available?

Extra Instruments For Special Pools

For special pools – where are they and what is the instrument?

Size of pools?

Instruments for goboes for the cyc? Where are they what type instrument?

Size of images on the cyc?

What is the spare fixture inventory?

No rep plot

What type of lighting design to expect when moving in?

When is the latest for the design to be submitted?

What type of paper work is need?

Special Effect Equipment

Smoke machine/hazer/fog machine?

Gobo rotator or Twin spin?

Color scroller or fader?

Are there any moving lights? Manufacturer,model and where are they mounted?

Inventory

Number of spare twofers/martinales available?

Length of spare extension cable? Number?

Length of data cable available?

120 v power cable available?

Power strip?

Color frames?

Color media?

Top hats, barn doors,

Drop in iris

Spare goboes

Other accessories:

Spike tapes? Color?

Labor

Any mandatory labor – theater manager

Union houses –

Is the present promoter on general contract?

What is the minimum stage hands

Are non-union labor allowed?

What is the setup of union state hands? Who is the union stewards?

Each department has a head?

Can the department head change their dept?

If given the technical information, would the union head department head be able
to carry out the work?

Confirm labor rate – any holiday and other extras included?

need a paying agency??

Rate if not using a paying agent

Rate for light board operator

Hour rate for stagehands

Straight time/hour

Overtime time/hour

Show call

Extended show call

Minimum hours – at least four per slot, or less/more hours with show call?

Is there any job that can only be done by in-theater staff?

In theater - rehearsal schedule

Tech specification – (should already be in the production manager's possession
beforehand)

Length of performance

How many rehearsals??combine tech and dress?

Time needed for setup/load in

If using work lights only and doing space rehearsal – what is the charge?

Break every five hours? Shortbreak in between?

If work through dinner breaks?? provide meal?

An hour break an hour before house opens

Rules of the house

Maximum day –

Water allowed on stage – for the orchestra

Water allowed at the wings at the booth

Must the crew wear closed toes shoes on stage

Production crew allowed on stage when the venue crew on breaks

Food allowed in green room only?

Rental delivery – rental company contact the in-theater staff directly – any
charges

IN THEATER SCHEDULE

Thursday

7:00-11:00pm	load-in – light, sound, set and dressing room crew
5:00-6:00pm	load the truck with light, sound and set fixtures –
6:00 – 7:00pm	drive to theater
7:00	Arrival of truck at the theater –
7:00pm	mount the moving lights and the top special lights and the sound equipment and setup of the dressing rooms
10:00 to 10:15	coffee break for the light and sound crew
10:00pm	mount the hanging sets
10:15	mount side lights and lights at FOH cat walks
11:30 pm	close down

Friday,

11:00am	focus the top lights and the moving lights
1:00am	cue check with the director
4:00-5:00pm	lunch break for the light crew
5:00-9:00pm	further cue check testing sound level and microphones space rehearsal for the artists

APPENDIX IX

A LIGHTING PLOT

DRAFTING THE LIGHT PLOT TUTORIAL

SAMPLE LIGHT PLOT

APPENDIX X

A PATCH SHEET

patches for West Valley, Sept 2004.

4-Sep-04

channels	dimmers	instrument	purpose
1	28		mountain
2	220		double palm
3	50		house
4	27		firework
5	227		twin
6			logo
7	171		star drop
8	9,16		breakup
9	228		war
10	51		single palm
11	229		shadbuster
12	54		rain - gam
13	55		side light to upstage center sp
14	56		side light to midstage center sp
15	64		side light to downstage center sp
16	66		upstage center sp
17	74		center center sp
18	81		downstage center sp
19	207		red patches
21	11		front light downstage
22	14		
23	17		
24	20		
25	21		
26	41		front light mid stage
27	45		
28	49		
29	53		
30	57		
31	65		top light upstage
32	70		
33	75		
34	80		
35	85		
41	10		front light apron
42	13		
43	15		
44	19		
45	22		
51	61		blue top
52	67		
53	71		
54	77		
55	82		

56	91	mid stage blue top
57	94	
58	98	
59	102	
60	105	
61	113	upstage blue top
62	113	
63	118	

71	63	down no color top
72	69	
73	73	
74	79	
75	84	
76	93	mid no color top
77	96	
78	100	
79	104	
80	107	
81	115	upstage no color top
82	120	
83	124	

91	62	downstage left scroller
92	68	
93	72	
94	78	
95	83	
96	92	mid stage scroller
97	95	
98	99	
99	103	
100	106	
101	114	upstage left scroller
102	119	
103	123	

111	158	down SL side red
112	161	blue
113	160	amber

121	213	mid down SL side red
122	212,211	blue

123	210		amber
124	112		mid downstage high side red
125	110		mid downstage high side blue
126	111		mid downstage high side amber
131	179		mid upstage SL side red
	177,178		blue
	181		amber
141	202,203		upstage Left side red
142	176		blue
143	189		amber
144	126		upstage high side red
145	129		upstage high side blue
146	127		upstage high side amber
151	151		down stage right red
152	153		blue
153	152		amber
161	206	mid	mid down stage right red
162	208		blue
163	207		amber
164	60		downstage right high side red
165	58		downstage right high side blue
166	59		downstage right high side amber
171	166		mid upstage right red
172	168		blue
173	167		amber
181	209		upstage right red
182	170		blue
183	169		amber
184	86		upstage right high side red
185	87		upstage right high side blue
186	99		upstage right high side amber
191	34		SL box boom red
192	33		blue
193	35		amber

201	25		SRbox boom red
202	27		blue
203	26		amber
211	200	ground	ground row red
212	184		
213	191		
214	195		
215	188		
216	134		top row red
217	138		
218	142		
219	146		
221	198		ground row blue
222	182		
223	193		
224	197		
225	186		
226	133		top row blue
227	137		
228	141		
229	145		
231	199		ground row green
232	183		
233	192		
234	205		
235	187		
236	135		cyc purple
237	139		
238	143		
239	147		
241	201		ground row amber
242	185		
243	190		
244	194		
245	189		
246	136		top row yellow
247	140		
248	144		
249	148		
301	301	scroller color	downstage right
302	302		
303	303		

304	304		
305	305		
306	306		mid stage right
307	307		
308	308		
309	309		
310	310		
311	311		upstage right
312	312		
313	313		
314	314		
315	315		
321	89	scroller power	Downjstage right
322			
323			
324			
325			
326	108		midstage right
327			
328			
329			
330			
331	128		upstage right
332			
333			
334			
335			

APPENDIX XI

A CHEAT SHEET

APPENDIX XII

A CUE MASTER

1. Prelude - wishes-

Cue number	Call at	Look on stage	Cue content	Fade time
11	0 Start at 3 43 13 cut previous sound	Light preset First track 2 sec later Scrim, mid traveler and sound together	Gp 71,84 Amber center special Blue mid side Chan 122,162 at 60% Dim blue cyc	
		Scrim up		
12	2'19"	Second track – sound stop Standby to strike the barre	Fade to black in 6 sec	6 SEC
			Strike the barre	
13	11 sec	Third Track Sound first	Cyc - dim Fade pink Bottom red in 15 sec with logo- chan 6	20 sec

13.2 Auto fall Gap 10"		Immediately follow	Gp 19 – all side and high side	10 sec
14	1'25"	X4 Others enter	+gp 54,55 blue and amber top	10 sec
15	2'37	X5 In pyramid to no color	Gp 81,79 – amber center and side Mover to the area H with blue No top light at Amber side at 60%	3 sec
16	2'53"	X6 Three MC enters Blue out	Fade to black Blue out	6 sec

2. - Woman at the Yonder Mountains

21	With sound	X1 Setup already on stage	Gp 24 upstage side Gp 86 pink and 88Center special – dim and side Dim blue gp Gp 4, SR blue side Gp 1 – SL red side	15 sec
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22	1'19"	X2 Music changes	Half blue and half orange Cyc - blue ground row only Kill gp 86 and 88 Gp - 159 alternate red and blue	0 sec
23	3'2"	x3 Groups to upstage left and solo stage right	Cyc red Red patches - chan 19 Area B to O in blue chan 52-63 on Area B to O scroller in blue - chan 12-103 on Area B to O in blue chan 302-313 Movers to red special 19area Scroller 301 in red Upstage right blue side chan 162,172,182, Downstage right red side chan 151 Movers to area A,B in red	9sec
24	3'56	X4 Gets up	Kill the red box boom special - chan 19,chan 201 Kill movers Kill red side - chan 151 Gp 150 stage all blue Gp 29-front lights	Fade 7 sec

25	5'56"	X5 Gather to upstage horizontal	Gp 45 Upstage center special Gp 75 Movers to green on the special Gp 78 - Upstage sp side Scroller 102 in green Kill green special-gp 45,75,78 +gp 16,17,18 blackout	3 sec	
26	6'32	X6 Spread out to full stage		Fade 8 sec	
28	6'44'	X7 Mc TALK		Fade 1 sec	

3. Milk Fragrant

31	0	X1 Light then 3 sec later sound	Cyc - green Upstage amber side Chan 133,143,173,183	Fade 5 sec	
32	56sec	X2 To the front	Gp 18 All amber side Cyc - more green	10 sec	
33	1min 38sec	X3	Gp 17 blue side Scrollers to green - gp 59	11 sec	

34	3 min 17sec	X4 To fast beats	Cyc - ground - red Top amber gp 55,58 Gp 153 – stage alternate colors Orange scroller	9 sec
35	5'49"	X5 Arm up slower music	Kill gp 29, kill gp 153, kill gp 55,58 Gp 77 upstage center to pink Chan 62,82 blue and amber Cyc only	Fade 8 sec
36	6'6"	X6 Sound ends No Mc TALK	Fade to black	2 sec

APPENDIX XIII

MAGIC SHEET

Sept 2005 West Valley Theater

P 304
R 303
A 302
B 301

Red 134,138,142,146 B 133,137,141,145
Gr 135,139,143,147 Am 136,140,144,148

Red 184,188,191,195,200 B 182,186,193,197,198
Gr 183,187,192,196,199 Am 185,189,190,194,201

P 604
R 603
A 602
B 601

P 204
R 203
A 202
B 201

P 504
R 503
A 502
B 501

P 104
R 103
A 102
B 101

P 404
R 403
A 402
B 401

Q Sc 71P 31	B 91 R Sc 72 32 P 51	B 92 S Sc 72 33 P 53	B 93 T Sc 73 34 P 54	B 94 W Sc 74 35 P 55
I Sc 66 21 P 46	B 86 J Sc 67 22 P 47	B 88 K Sc 68 23 P 48	B 89 L Sc 69 24 P 49	B 90 M Sc 70 25 P 50
F Sc 61 11 P 41	B 81 G Sc 62 12 P 42	B 83 J Sc 63 13 P 43	B 84 I Sc 64 14 P 44	B 83 K Sc 65 15 P 45
A 1	B 2	C 3	D 4	E 5

Star
US Center
C Center
Scrollers
89,108,128,
Am 24
P 34
B 35

Logo
Moon
water
Palm
Breakup
Am 24
P 25
B 26

APPENDIX XIV

INSTRUMENT SCHEDULE

The schedule for the side booms

The upstage right tree(SRT 4)

Instrument no	Channel no	Dimmer no	Instrument type	color	focus
High	183		Source 4	64	high
Mid	182		Source 4	332	mid
shin	182		Source 4	16	low

The mid-upstage right tree(SRT 3)

Instrument no	Channel no	Dimmer no	Instrument type	color	focus
high	173		Source 4	64	High
mid	172		Source 4	332	mid
shin	171		Source 4	16	low

The mid down right tree(SRT 2)

Instrument no	Channel no	Dimmer no	Instrument type	color	focus
high	163		Source 4	62	High
mid	162		Source 4	24	mid
shin	161		Source 4	21	low

The down right tree (SRT1)

Instrument no	Channel no	Dimmer no	Instrument type	color	focus
high	153		Source 4	62	High
mid	152		Source 4	24	mid
low	151		Source 4	21	low

The schedule for the stage left side booms

The upstage left tree(SLT 4)

Instrument no	Channel no	Dimmer no	Instrument type	color	focus
High	143		Source 4	51	high
mid	142		Source 4	34	mid
shin	141		Source 4	16	shin

The mid-upstage left tree(SLT 3)

Instrument no	Channel no	Dimmer no	Instrument type	color	focus
High	133		Source 4	51	high
mid	132		Source 4	34	mid
shin	131		Source 4	16	shin

The mid down left tree(SLT 2)

Instrument no	Channel no	Dimmer no	Instrument type	color	focus
High	123		Source 4	44	High
mid	122		Source 4	343	mid
shin	121		Source 4	316	shin

The down left tree (SLT1)

Instrument no	Channel no	Dimmer no	Instrument type	color	focus
High	113		Source 4	44	high
mid	112		Source 4	343	mid
shin	111		Source 4	316	shin

The Schedule for pipe 5E

Instrument no	Channel no	Dimmer no	Instrument type	color	focus
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1	80	193	Par	332	back
2	70	198	Par	62	back
3	234		Cyc amber		
4	224		Cyc green		
5	214		Cyc blue		
6	204		Cyc red		
7	79		Par	332	back
8	69		Par	62	back
9	233		Cyc amber		
10	223		Cyc green		
11	213		Cyc blue		
12	203		Cyc red		
13	78		Par	332	back
14	68		Par	62	back
15	232		Cyc amber		
16	222		Cyc green		
17	212		Cyc blue		
18	202		Cyc red		
19	77		Par	332	back
20	67		Par	62	back
21	231		Cyc amer		
22	221		Cyc green		
23	211		Cyc blue		
24	201		Cyc red		
25	76		Par	332	back
26	66		par	62	back

The Schedule for pipe 4E

Instrument no	Channel no	Dimmer no	Instrument type	color	focus
1	146		Par	332	High wash
2	145		S4 36 degree	343	Near high
3	144		S4 26 degree	343	Near high
4			S4 IQ	33	
5	55		Fresnel	21	top
6	35		Fresnel	62	top
7	54		Fresnel	21	top
8	34		Fresnel	62	top
9	53		Fresnel	21	top
10	33		Fresnel	62	top
11	52		Fresnel	21	top
12	32		Fresnel	62	top
13	51		Fresnel	21	top
14	31		Fresnel	62	top
15			S4 IQ	60	
16	184		S4 26 degree	54	Far high
17	185		S4 36 degree	54	Near high
18	186		par	332	High wash

The schedule for 3E

Instrument no	Channel no	Dimmer no	Instrument type	color	focus
1	75		Par	332	back
2	65		Par	62	back
3	74		Par	332	back
4	64		Par	62	back
5			Par		Not used
6	73		Par	332	back
7	63		Par	62	back
8	73		Par	332	back
9	62		Par	62	back
10	71		Par	332	back

11	61		par	62	back
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The schedule for pipe 2E

Instrument no	Channel no	Dimmer no	Instrument type	color	focus
1	136		Par	332	High wash
2	135		S4 36 degree	343	Near high
3	134		S4 26 degree	343	Far high
4	50		Fresnel	21	top
5	30		Fresnel	64	top
6	49		Fresnel	21	top
7	29		Fresnel	64	top
8	48		Fresnel	21	top
9	28		Fresnel	64	top
10	47		Fresnel	21	top
11	27		Fresnel	64	top
12	46		Fresnel	21	top
13	26		Fresnel	64	top
14	174		S4 26 degree	54	Far high
15	175		S4 36 degree	54	Near high
16	176		par	332	High side

BASIC LIGHTING DESIGNER CONTRACT

YOUR COMPANY NAME makes the following guarantees:

1. SHOW TITLE will run for the following NUMBER OF PERFORMANCES at the VENUE NAME AND LOCATION in MONTH(S) AND YEAR OF SHOW:

LIST OF SPECIFIC SHOW DATES AND TIMES

2. The fee for designing lighting will total DOLLAR AMOUNT and paid on date
3. The undersigned will receive two personal comp tickets throughout the run. An unlimited number of professional comps will also be available for appropriate audience members.
4. A stage manager and electrician/light board operator will be available to assist with the execution of the design.

5. All out-of-pocket expenses by LD for lighting design will be reimbursed up to a maximum of \$_____

The undersigned artist guarantees to YOUR COMPANY NAME:

1. To attend at least one run through between DATE RANGE.
2. To be present for load-in on DATE RANGE.
3. To attend all tech rehearsals from October DATE RANGE.
4. To bear the final responsibility for execution of the design, including meeting all deadlines, as indicated on the production schedule.

_____	_____	_____
Lighting Designer	signature	Date

_____	_____	_____
Artistic Director	signature	Date

(or person authorized to make financial commitment for company)