Repair and Maintenance
Final Design and Rollout Plan

February 1, 1996
Framework for New R&M Structure

Agenda

– Welcome and Introductions - Vicky Sirianni

– Why change? - Bill Dickson

– Working in Teams - Joe Gifun

– The New Organization - Steve Miscowski

– How does this effect us? - Vicky Sirianni

– Questions and Answers
Background

**Mission**

MIT Physical Plant will provide the physical environment, utilities and support services necessary for the educational and research activities of the Institute. This will be accomplished by the Engineering, Construction, Maintenance and Operating Groups of Physical Plant. To ensure *quality service* to the MIT Community, the department will strive to improve coordination and *communication between groups*. Training and *empowerment* of all staff will promote a work environment that encourages employee initiative and development. This employee development will help move Physical Plant into a *customer-oriented* department.

**Vision**

*We will:*

• Stand *“Together in change”* for our true wealth lies in personal pride and empowerment, flexibility, innovative management practices and uncompromising honesty;
• Create an environment that enables us to *exceed our customer’s expectations*;
• Encourage and maintain *total communication* within Physical Plant and with the MIT community;
• Recognize the *people* of MIT's Physical Plant for their dedication, innovation, flexibility, professionalism, reliability and commitment to Customer Service.

**Values**

*We value:*

• Our *customers*; customer service is our number one priority;
• Trust, mutual respect, *relationships* that build confidence and self esteem and individuals for their dedication, attitude, innovation and contributions;
• An *empowered workforce* as it is the surest road to a healthy organization and a satisfied customer;
• Meaningful *employee participation* in the decision making process and teamwork and innovation in problem solving;
• *Leadership* that demonstrates pride, respect and fairness, values and encourages diversity and acts in a responsible and professional manner. All ideas shall be heard, evaluated and responded to without fear of retribution;
• *Opportunities* for personal and professional development and equality in the access to the tools necessary to do our jobs.

From the Physical Plant Strategic Plan - December 31, 1994

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Problems with the Old Work Process

While customers are generally satisfied with the quality of work, they are often dissatisfied with communications and service. In addition, small jobs tend to have slow response and high cost.

- Much time is lost waiting to do work
  - Waiting for parts
  - Waiting for transportation to and from job sites
- Much time is spent on non-trade work (non-wrench-time)
  - Walking to and from the job site
  - Gaining access to rooms (key, alarms, etc.)
  - Gaining access to repair (moving furniture)
- There is significant duplication of work
  - 20% of work orders are duplicates of the same requests, which at times results in two responses to the same job
  - Typically, two trips are needed (MOD and/or assessing problem) before repair work begins
- There are many handoffs and approvals
  - Supervisors need to approve everything (work assignments, stock, tools, non-standard breaks)
  - Little can be done without a work order
  - There is excessive paperwork
- The Operations Center is overloaded
- Work that requires coordination (multi-trade, shutdowns, etc.) is inefficient and often breaks down
- Billing is done by the trade and by the month; the total cost of the work is hard to access and identify by both customer and plant personnel

From the R&M Redesign Report - June 12, 1995
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Old Repair & Maintenance Structure

- Supv.
- Electric Shop
- Ops. Ctr.
- Mech. Shops
- Stock-room
- to 2nd Floor

Struct. Shops
Plan for New Work Areas

To Resource Teams

Emergency Response

Utilities Distribution

Bldg. Mgmt. and Protection

Local Zone Teams

2nd & 3rd Shift Teams

Construction and Renewal

Project Teams

Specialties and Backup

Building Maintenance

Customers

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Plan for New Resource Teams

From Five Work Areas

Technical Team
Clerical Team
Stock Team
External Teams
## Five Major Work Areas

<table>
<thead>
<tr>
<th>Building Maintenance</th>
<th>Construction and Renewal</th>
<th>Emergency Response</th>
<th>Utilities Distribution</th>
<th>Bldg. Mgmt. and Protection</th>
</tr>
</thead>
</table>
| • Building level systems  
  – Electrical, heating, cooling, steam, water, sewerage, elevators, life safety, security, etc.  
  • Structure  
  – Building envelope and interior  
  • Preventive Maintenance  
  • Specialties and Local Zone backup  
  – Lock, paint, boiler, generator, glass, etc.  
  • 7 day 2nd and 3rd shift coverage  
  • Exterior Lighting  
  • Work tracking and scheduling  | • New utility systems  
  – ie: Electrical, heat, fire alarm, FCS, etc.  
  • Customer requests  
  – Renovations & improvements  
  • System upgrades and building renewal  
  – ie: MRO and capital projects (R&M)  
  • Special events  
  – ie: Commencement, conferences, support to CAC  | • First line life safety response  
  • Coordination with Fire Dept, EMS, Campus Patrol, and other agencies  
  • Confined Space Rescue  
  • Knowledge of buildings and systems  
  • Enforcement - ie: Welding Permits  
  • Emergency planning - ie: evacuation drills  
  • Permits  
  • Training  | • Repair and maintenance of:  
  – Electrical, steam, water, sewerage, gas, chilled water, compressed air, etc.  
  • Meter reading  | • Fire alarm monitoring and dispatch  
  • Building climate monitoring and dispatch  
  • Test and repair systems - life safety, FCS, toxic gas, etc.  
  • Equipment monitoring  
  • Building environment  
  – Short term adjustments  
  – Special events needs  
  • Systems programming and data backup  
  • Diagnose system problems |
## New Structure (cont.)

### Resource Teams

<table>
<thead>
<tr>
<th>Clerical Team</th>
<th>Technical Team</th>
<th>Stock Team</th>
<th>External Teams</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Responsibility - support work areas and Technical Team</td>
<td>• Design review</td>
<td>• Best price and availability</td>
<td>Management Information Systems (MIS)</td>
</tr>
<tr>
<td>• Interact with Stock Team</td>
<td>• Codes and regulations</td>
<td>• Staging stock for pickup</td>
<td>Human Resources</td>
</tr>
<tr>
<td>• Process information – Electronic Clipboard</td>
<td>• Write and interpret standards</td>
<td>• Deliveries to Local Zones and job sites</td>
<td>Accounting</td>
</tr>
<tr>
<td>– Work request coordination</td>
<td>• Identify and prioritize system upgrades and building renewals</td>
<td></td>
<td>Etc. ...</td>
</tr>
<tr>
<td>• Customer communications and coordination – Internal and external</td>
<td>• Develop technical info</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Back-up Building Management &amp; Protection</td>
<td>• Engineering - for R&amp;M and other parts of Plant</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Shutdows</td>
<td>• Training and skill review</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Purchasing</td>
<td>• Prequalify contractors/ vendors</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Records - eg: project and PM docs, codes, CAD drawings
- Environmental engineering
Building Maintenance - Local Zones
Rollout Plan

- Information sessions 2/5 through 2/9
- “Open House” sessions 2/12 through 2/23
- Interview for Maintenance Mechanics Positions 2/28 through 3/8
- Finalize team assignments 2/26 through 3/8
- Training Starting 3/11
- Local Zone D team begins 4/22 (Tentative)
- Local Zones A, B, C teams begin May through August
- Other teams begin April through August
- Renovate E18/E19 space March through May
### Additional Information Sessions

<table>
<thead>
<tr>
<th>SHOP/SHIFT</th>
<th>DATE/TIME</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>3rd shift</td>
<td>Mon. 2/5/96 5:45AM-6:45AM</td>
<td>Electric Shop</td>
</tr>
<tr>
<td>Electrical</td>
<td>Mon. 2/5/96 7:00AM-8:00AM</td>
<td>Electric Shop</td>
</tr>
<tr>
<td>Mechanical</td>
<td>Mon. 2/5/96 8:00AM-9:00AM</td>
<td>E18-021</td>
</tr>
<tr>
<td>Electrical 1st shift</td>
<td>Tues. 2/6/96 7:00AM-8:00AM</td>
<td>Pipe Shop</td>
</tr>
<tr>
<td>Mechanical 1st shift</td>
<td>Tues. 2/6/96 3:00PM-4:00PM</td>
<td>Pipe Shop</td>
</tr>
<tr>
<td>2nd shift</td>
<td>Wed. 2/7/96 7:00AM-8:00AM</td>
<td>Carpenter Shop</td>
</tr>
<tr>
<td>Electrical</td>
<td>Wed. 2/7/96 2:00PM-3:00PM</td>
<td>NW62</td>
</tr>
<tr>
<td>Mechanical</td>
<td>Thurs. 2/8/96 6:00AM-7:00AM</td>
<td>10-250</td>
</tr>
<tr>
<td>Structural 1st shift</td>
<td>Thurs. 2/8/96 8:00AM-9:00AM</td>
<td>B/S Training rm</td>
</tr>
<tr>
<td>Grounds</td>
<td>Thurs. 2/8/96 4:00PM-5:00PM</td>
<td>4-163</td>
</tr>
<tr>
<td>Bldg. Svcs 3rd shift</td>
<td>Fri. 2/9/96 7:00AM-8:00AM</td>
<td>24-115</td>
</tr>
<tr>
<td>Bldg. Svcs 1st shift</td>
<td>Fri. 2/9/96 9:30AM-10:30AM</td>
<td>E25-202</td>
</tr>
<tr>
<td>Bldg. Svcs 2nd shift</td>
<td>Fri. 2/9/96 2:00PM-3:00PM</td>
<td>24-115</td>
</tr>
<tr>
<td>Mail Services</td>
<td></td>
<td></td>
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<tr>
<td>DSC, SEG, UTL, MIS, Admin.</td>
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</tbody>
</table>

*Ops. Center and CUP*  
Please attend any meeting that fits your schedules.
Questions?

We plan to answer all questions we receive. We may be able to answer some of them at one or several of the scheduled follow-up meetings. If you prefer a personal and private answer, please indicate your name and how we can contact you. If you prefer to submit anonymous questions the answers will be posted. You may also send electronic mail to rep-maint@MIT.EDU. Or use the WWW comment form - http://web.mit.edu/reeng/www/rep-maint/.

Please write your question here, fold, and mail to E18-260.

Name:_______________________________________________, Telephone No.____________,

Building and Room No.______________, Email Address_________________________________