



**LPMEOH™  
Demonstration  
Plant Availability**

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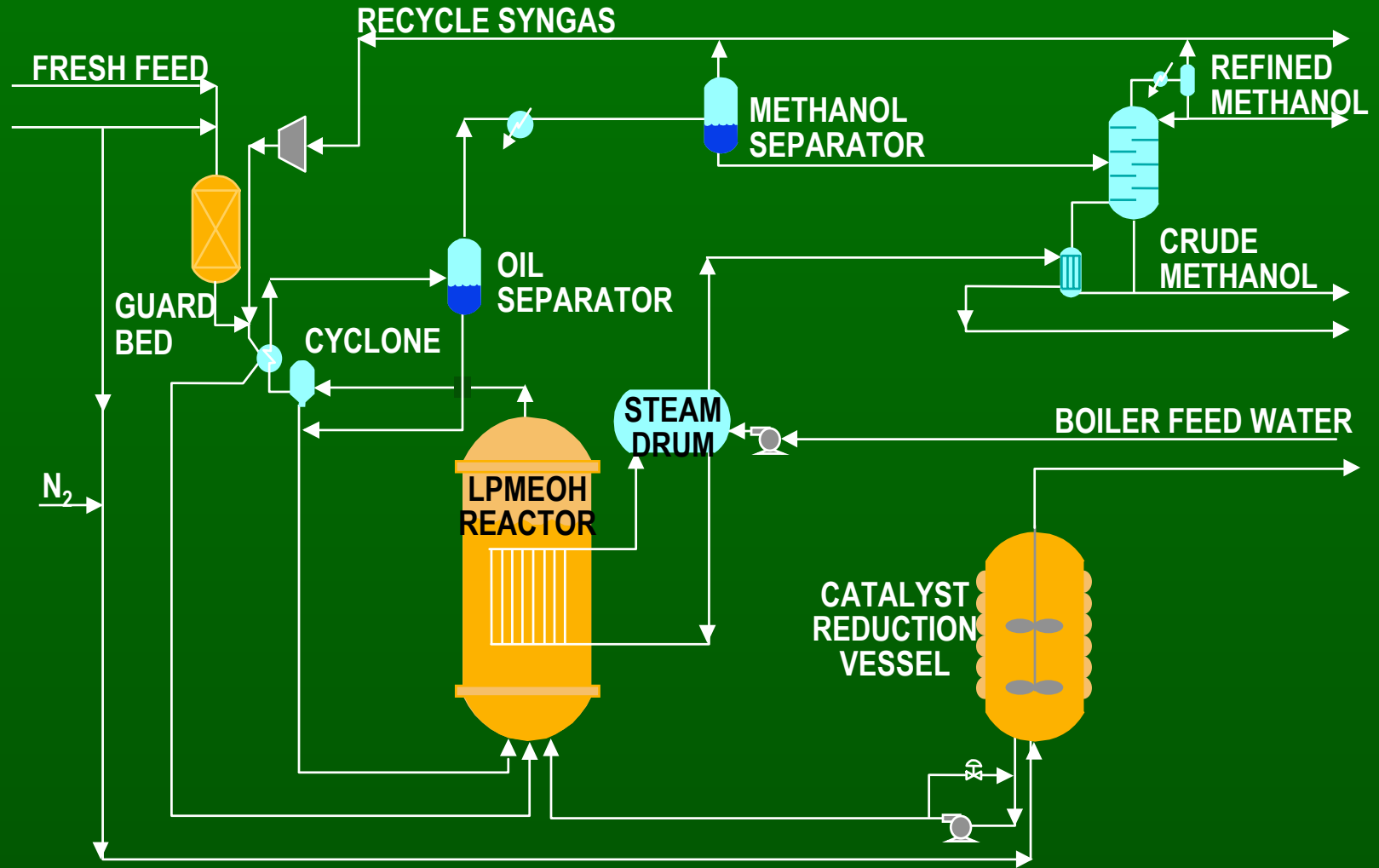
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San Francisco, CA**

## **High Reliability Starts in Design**

- **Team approach, cooperation between APCI/Eastman Chemical Corporation/DOE**
- **Recognition of needed Reliability given Eastman current operations record**
- **Operations Involvement in the Design Process**
- **Deliberate use of Proven Components**
- **Minimized Usage of Rotating Equipment**
- **Cost Effective Redundancy**
- **Rigorous Owners Engineer Review**
- **Management of New Technology**

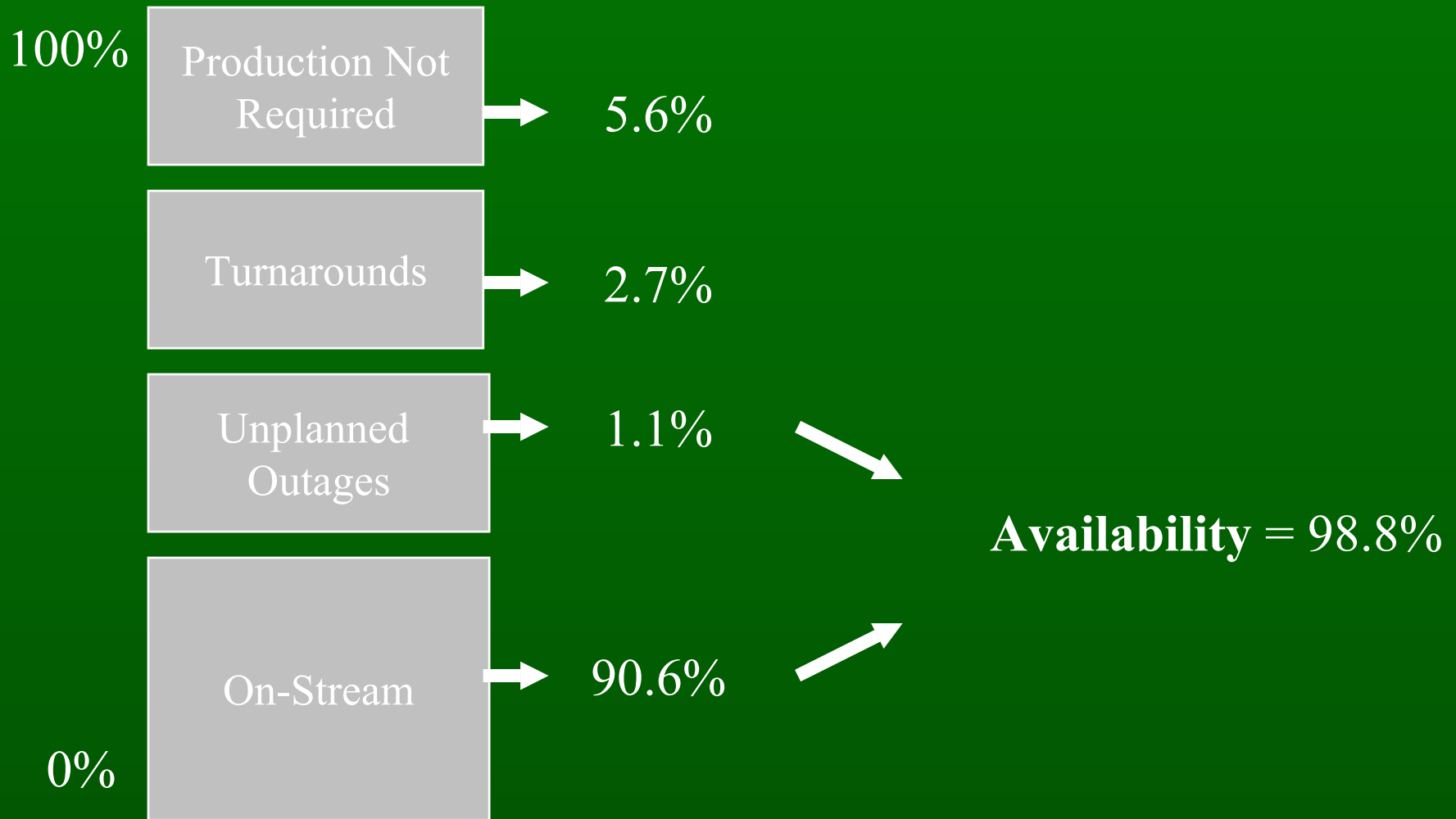
# LPMEOH™ Demonstration Plant PFD



## **High Reliability Focus Continues throughout Construction and Start-Up**

- **Vendor Selection – high on experience**
- **15 month Construction Schedule**
- **4 Months post-construction commissioning**
- **Remote and On-Site Supervision**

# LPMEOH™ Process Availability 1998 - 2000



# LPMEOH™ Facility Performance

## Unplanned Outages Summary

(Hours of Downtime by Cause)

Operating Year	1997	1998	1999	2000	2001
<b>Total</b>	<b>324.7</b>	<b>26.4</b>	<b>19.6</b>	<b>240.6</b>	<b>4.7</b>
<b>Catalyst</b>	<b>149.3</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>	<b>0.0</b>
<b>Electrical</b>	<b>20.7</b>	<b>5.0</b>	<b>19.6</b>	<b>42.3</b>	<b>0.0</b>
<b>Instrum.</b>	<b>4.0</b>	<b>2.0</b>	<b>0.0</b>	<b>0.0</b>	<b>4.7</b>
<b>Mech.</b>	<b>150.7</b>	<b>19.4</b>	<b>0.0</b>	<b>198.3</b>	<b>0.0</b>

## **Project Management Continues Focus**

- **Eastman Chemical Operations Department Builds upon its own strong record**
  - Little APCI involvement Day to Day
  - Syngas delivery continues at very high reliability
- **DOE continues to be supportive of reliability enhancements**
- **Basic research into reactor and process dynamics continues**

## **In Conclusion**

- **LPMEOH™ Facility Continues to Demonstrate Superior Reliability**
- **Reliability is a Team Responsibility**
  - **Design Philosophy**
  - **Operations Input**
  - **Licensors Review Protocol**
  - **Technology/Procurement Decisions**
- **Reliability enhanced by Continuous Operations Improvement**
- **Operating Lessons now being incorporated into Future Designs.**



**On Behalf of the Team, Thank You!**

