



Knowledge 2007

Case Study: How CPS Energy Optimized Labor Planning

Ken Lamour

CPS Energy

■ What We'll Cover ...

Introduction

About CPS Energy

SAP implementation

Corporate planning process / need for change

Why SEM (Strategic Enterprise Management) and BPS (Business Process Simulation)

The project

Project summary / Wrap-up

■ What We'll Cover ...

Introduction

About CPS Energy

SAP implementation

Corporate planning process / need for change

Why SEM-BPS

The project

Project summary / Wrap-up

■ About CPS Energy

- **Located in San Antonio, Texas (7th largest city in US*)**
- **Company Founded in 1860**
- **> 600K electric customers**
> 300K gas customers
- **Nation's largest municipally-owned energy company, providing both natural gas and electric service**



“Benefiting our Community by improving the quality of life of the people we serve”

– CPS core purpose statement



Earned highest ranking in the national JD Powers residential and customer satisfaction survey among Gas utilities

*US Census Bureau, 2005

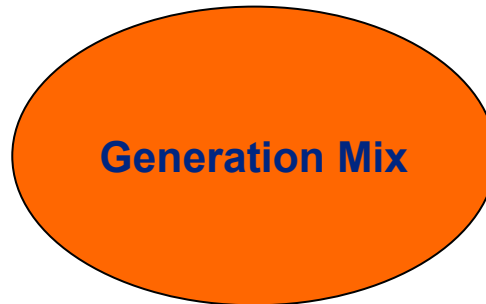
© SAP Value Engineering, 2007-08 graphics library / 3

■ CPS Energy: Diverse Generation Mix

Coal



Nuclear



Wind and Landfill



Gas/Oil



■ What We'll Cover ...

Introduction

About CPS Energy

SAP implementation

Corporate planning process / need for change

Why SEM-BPS

The project

Project summary / Wrap-up

■ SAP Implementation

Go-live December 4, 2001 (three-year lifespan)

Two-phase implementation

SAP R/3 Release 4.6C

- **FI, CO, MM, PS, PM, IM, PCA, HR Cross-Application Time Sheets (CATS)**

Industry solutions:

- **Industry Solution-Customer Care System (ISU-CCS)**
- **Federal Energy Regulatory Commission (FERC)**



■ SAP Implementation (cont.)

SAP Business Warehouse 3.5

Other reporting used:

- **SAP R/3, ABAP, Crystal**

Later functional implementations:

- **TR-TM, HR (PM, TM, PY, TEM, OM)**

Upgrades In Process:

- **R/3 4.6C => ERP 2005 / ECC 6.0**
- **BW 3.5 => Business Intelligence 7.0**



■ What We'll Cover ...

Introduction

About CPS Energy

SAP implementation

Corporate planning process / need for change

Why SEM-BPS

The project

Project summary / Wrap-up

■ Planning — Simple or Difficult?

Corporate planning processes

- Can be easy or difficult, depending on corporate policy and budget practices

A planning cycle can become long and labor-intensive

- Depending on the level of granularity and output required and planning method used: bottom up, top down, middle out

Bottom up had been the CPS method, and it tended to be a granular and iterative process

■ An Effective Planning Process

SAP R/3 provides a blank canvas

- **Multiple modules (CO, PS, IM, CO-PA, PCS, etc.), tools, reports, and extended functionality (e.g., integrated Microsoft [MS] Excel)**

Key to a successful planning process

- **Harness the tools and functionality in the most effective and efficient manner**

Easier said than done!

■ CPS Energy's Planning Process

For CPS Energy, SAP planning tools were effective, but did not provide much flexibility / efficiency

- **Historically, this limitation led to custom programs to satisfy customer needs**
 - **Custom is good, but limited speed to change**

New Developments:

SAP introduced SEM-BPS, and it became more robust in BW release 3.5

CPS converted to SAP's HR-Payroll module

■ Planning Phases and Tools

Four main phases

■ Staffing and labor

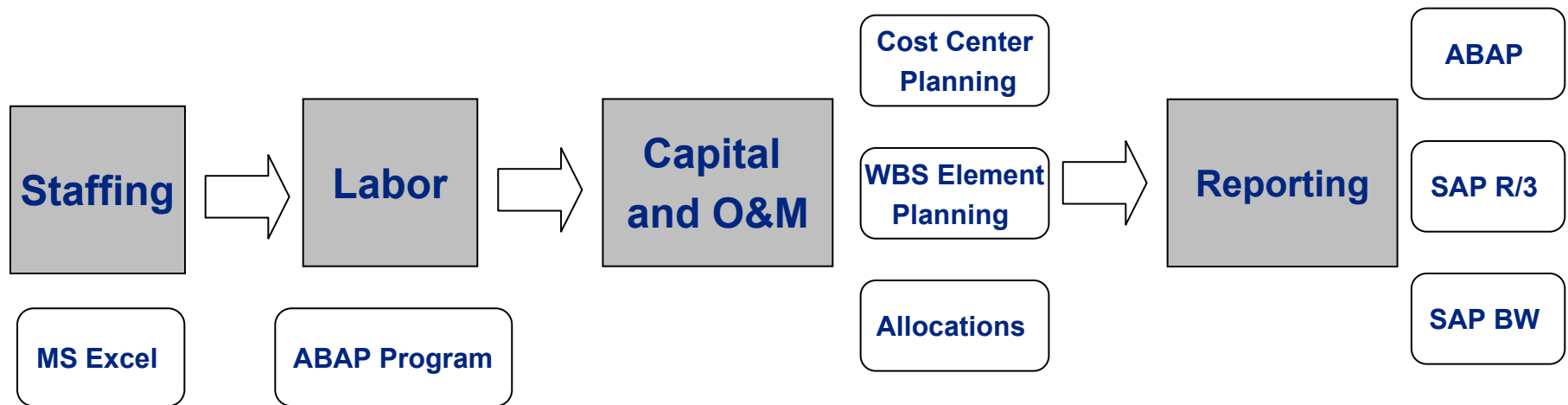
- Activity-dependent and independent planning
- Corporate allocations
- Corporate Report Out / Review and Approval

Plan on cost centers, internal orders, and Work Breakdown Structures (WBS) elements

Modules used: Controlling and Project Systems

Reporting: Standard SAP R/3, SAP BW, Crystal, ABAP

■ Annual Process Before SAP BPS-SEM



■ Need for Change

External integration dependencies / disparate tools

Limited flexibility

High Customization

Resulted In:

A Time- and labor-intensive process

*******Users becoming more mature on SAP and more than ready for increased productivity*******

■ Need for Change (cont.)

Also.....reporting

- SAP R/3 reports do not satisfy decision-making needs
 - Resulted in excessive report customization
 - Duplication of data (multiple reports reporting same data in different formats)
- Limited SAP BW use for planning



How did CPS Energy leverage new technology to improve a part of the corporate planning process?

■ What We'll Cover ...

Introduction

About CPS Energy

SAP implementation

Corporate planning process / need for change

Why SEM-BPS

The project

Project summary / Wrap-up

■ Research SEM-BPS as Alternative

Fall 2005 — initiative started to research SEM-BPS as the alternative (newer release of BW - 3.5)

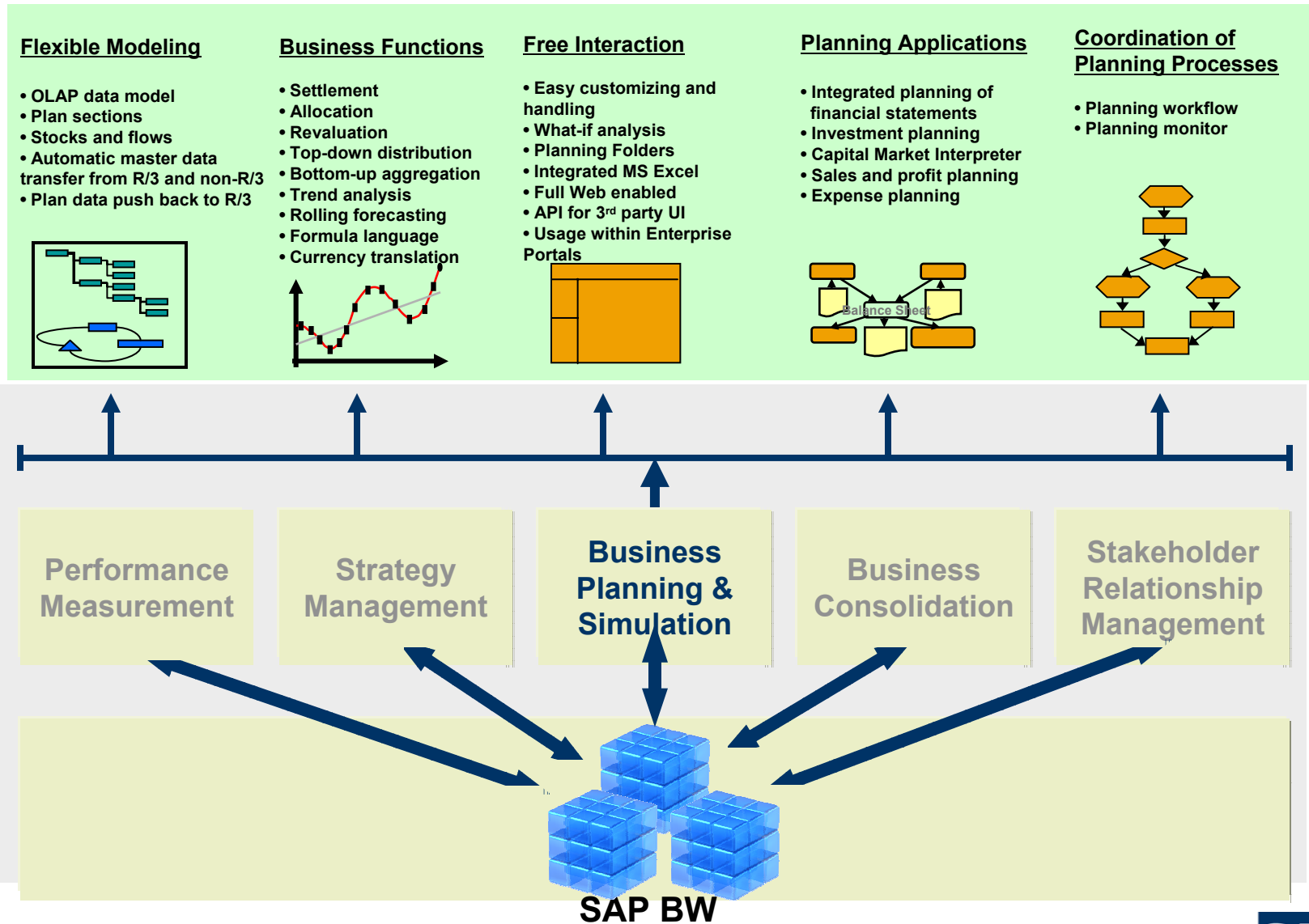
- **Attended SAP Financials Conference**
- **Internal review of business processes**
- **Needs assessment conducted (functional, technical, versioning, etc.)**
- **Opportunities and benefits identified**
- **Engaged Integration Partner**
 - **Workshop for needs assessment**
 - **Demonstration of tool**

■ Decision to Implement SEM-BPS

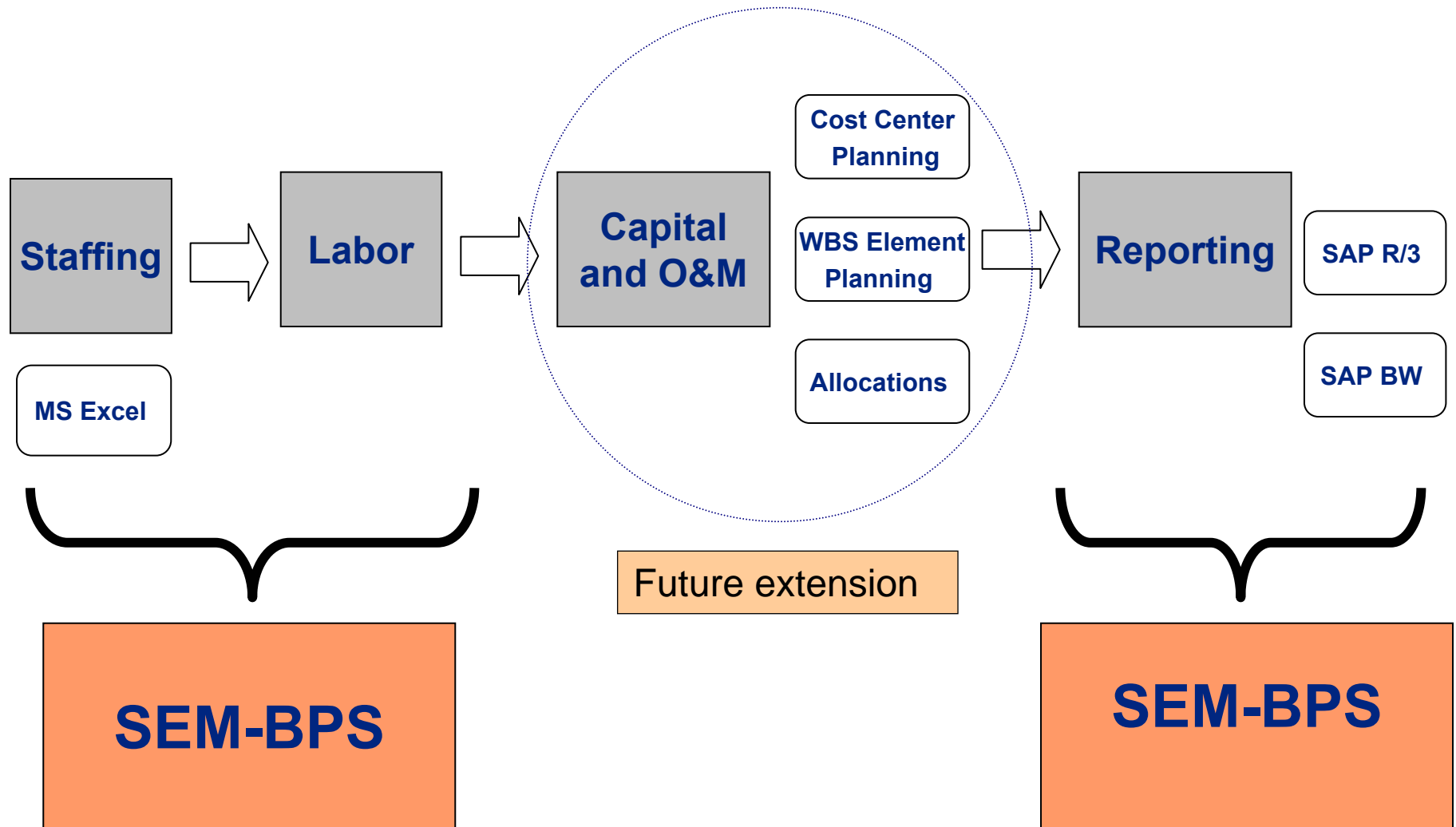
January 2006 — decision made to implement SEM-BPS 4.0 (BW 3.5)

- **Leverage existing CPS Energy investment**
- **Business owners recognized power of SAP BW for planning (when combined with monthly reporting of actual results already in BW)**
- **Flexibility and functionality provided**
- **Aligned with CPS Energy's business information strategy**
- **Timing of SAP BW upgrade to Release 3.5**

SEM Business Planning and Simulation: Overview



Where SEM-BPS Fits Into the Corporate Planning Process Today



■ What We'll Cover ...

Introduction

About CPS Energy

SAP implementation

Corporate planning process / need for change

Why SEM-BPS

The project

Project summary / Wrap-up

■ Project Overview

Four-month implementation

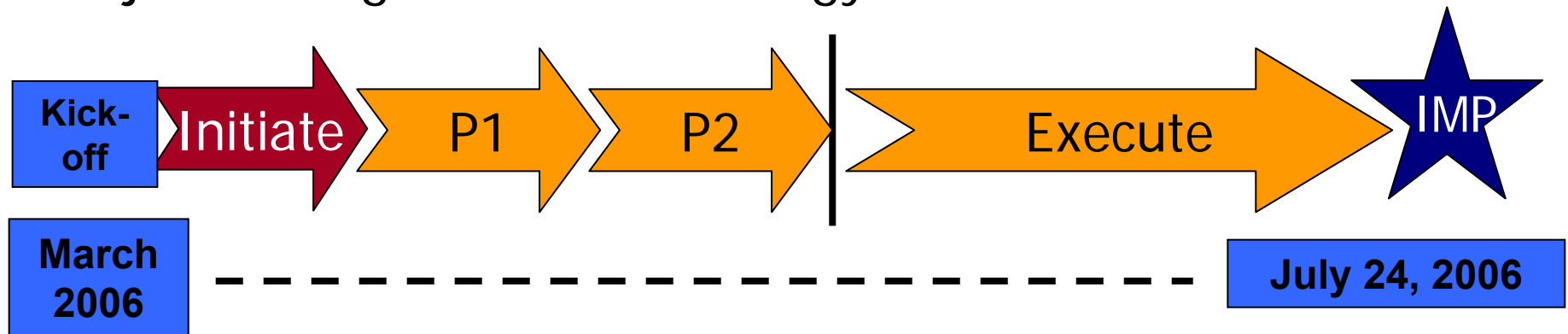
- **March to July, 2006**

Project setup

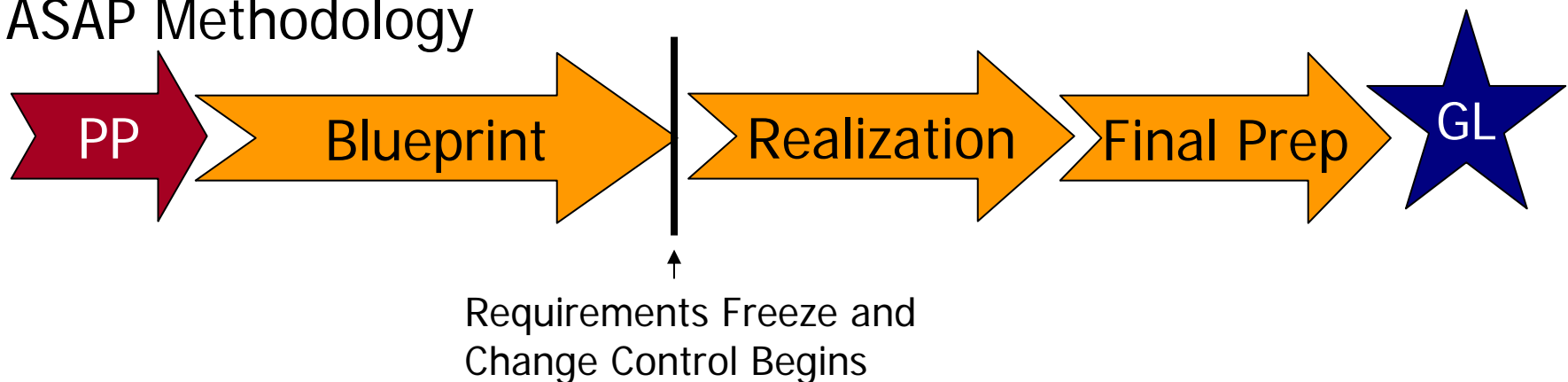
- **Program Management Office**
 - **Project management methodologies per the Project Management Institute**
 - **Accelerated SAP (ASAP) methodology**

Project Management

Project Management Methodology



ASAP Methodology



PD = Project Definition, PP = Project Preparation, IMP = Implementation, GL = Go-Live

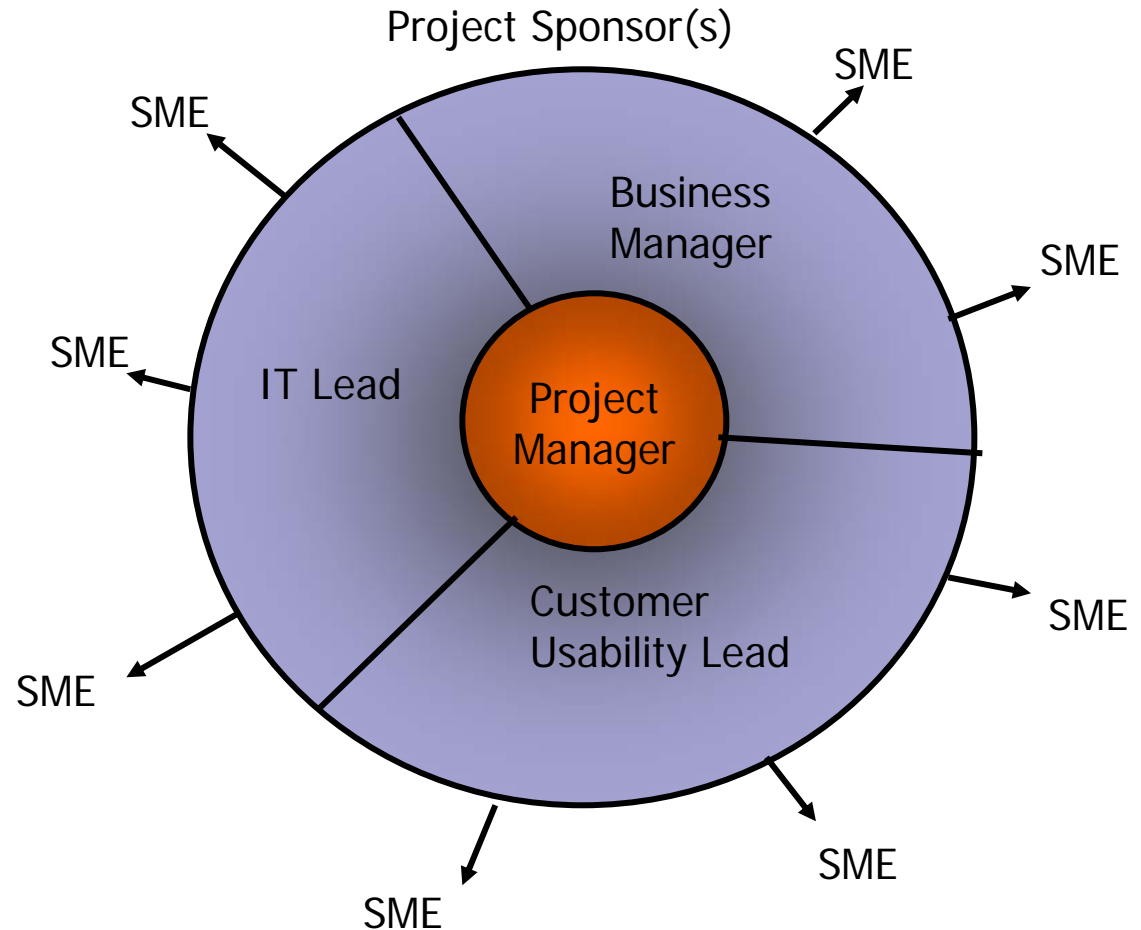
© SAP Value Engineering, 2007-08 graphics library / 23

Project Team Makeup

**Three full-time CPS
Energy employees**

Consultants

- One functional
- One technical
- One SAP BW
- One security
- Part-time project planner



SME = Subject Matter Expert

© SAP Value Engineering, 2007-08 graphics library / 24

■ Project Standards

Microsoft project plan

Daily team meetings

Continuous timeline or project plan review

Co-located project team

Mandatory documentation requirements

- **Project scope determination (in scope/out of scope)**
- **Business plans**
- **IT plans**
- **ASAP documentation (business procedures, functional business flow, specs, development unit test, system integration test, etc.)**

Testing procedures

Change request procedures



Checklist

THE BEST-RUN BUSINESSES RUN SAP™



■ Project Accomplishments

Web-based front end

- **Usability very important**
 - Obtain customer feedback of look and feel throughout blueprint and development
- **Use of SAP BW hierarchies online**
- **User and Admin pages — friendly!**
 - Straightforward naming conventions for buttons, tool tips

User-exit planning functions

- **Majority of planning functions are user-exit based**
- **User and Admin functions**

■ Project Accomplishments

Sophisticated security measures

- Organizational-based security roles
- Discrete authorization and privacy agreements
- Approval for access

MS Excel integration

- Program to upload and download plan data to and from MS Excel worksheets, directly into BPS (online, real-time)



■ Project Accomplishments

Enhanced SAP BW retractor

- Extended standard retractor
- Functionality incorporated by SAP



Reduced elapsed time for labor planning from one month to two weeks (lowered to one week this year)

Provided actionable labor reporting where actual results versus plan could be readily evaluated without frequent manual intervention / manipulation

Enhanced reporting through SAP BW => Single Point of Truth!

Project Accomplishments — Forecasted Staffing

Utilized SAP BW hierarchies to effectively organize data

Version 2

Forecasted Staffing

Refresh Exit Save Undo

Forecast Staffing

Organizational Unit Hierarchy

CPS Org Unit Hierarchy

- ROOT
 - 77000604 City Public Service
 - 77000001 Board of Trustees
 - 77000001 Board of Trustees (Leaf)
 - 77000002 CEO & General Manager
 - 77000603 Non Employee
 - 77000629 The OM Team (JDS and E)
 - 77000683 Company One
 - 77000684 Company Two
 - 77000706

Organizational Unit	Pay Scale Level	Pay Grade Level	Planned Hourly Rate	% Planned Activity
77000003 Audit Services			0.00 USD	2,800.000 %
77000004 General Auditing			0.00 USD	4,200.000 %
77000005 Information Systems Auditing			0.00 USD	2,800.000 %

Number of New Lines: 1 Insert

Enter


Project Accomplishments — Yearly Labor Planning

Yearly Labor Planning

Year

Cost Center Group Hierarchy

- ▼ CPS1CPS16 BPS Labor Planning
 - ▼ CPS1CPS08-ORIG Originating
 - ▶ CPS1CPS08-11 CEO & General Manager
 - ▶ CPS1CPS08-12 SVP for Energy Delivery Services
 - ▶ CPS1CPS08-13 SVP for Energy Supply
 - ▶ CPS1CPS08-14 SVP for Information Mgmt & Shared Svcs
 - ▶ CPS1CPS08-15 SVP for Financial Services
 - ▶ CPS1CPS08-16 SVP for General Counsel

 **Key Feature**

Refresh Exit Save Undo Monthly Planning Multipliers

Calc All Multipliers - 5Yrs Calc Year All Multipliers Calc All Labor - 5Yrs Calc Year All Labor Calc Activity Rates - 5Yrs

From Year From Version To Year To Version Copy All Copy Line

Non-productive Overtime Other Compensation Cost Splitting

Cost Center	Activity Type	Employee Group	Training (500180)	Rainy Day (500090)	Safety Mtg (500080)	Hog Law (500100)	Light Duty (500110)
6954 General Counsel Expense	700001 FLSA - Executive	4 Executive	<input type="text" value="0"/> HR	<input type="text" value="0"/> HR	<input type="text" value="0"/> HR	<input type="text" value="0"/> HR	<input type="text" value="0"/> HR
5177 Legal Services	700001 FLSA - Executive	4 Executive	<input type="text" value="0"/> HR	<input type="text" value="0"/> HR	<input type="text" value="0"/> HR	<input type="text" value="0"/> HR	<input type="text" value="0"/> HR

User-exit planning functions galore!

Project Accomplishments — Running Totals

This output section allows users to view progress of their data entry without having to exit application and run a report

Excellent usability feature



Yearly Dollar Totals

Base Labor		Non-Productive Labor		Other Compensation		Overtime		Labor Adjustments		Overheads		Cost Splitting		Total Labor Dollars		Capacity Hours		Activity Rates	
Cost Center				2008	2009	2010	2011	2012											
Overall Result				0	0	0	0	0											
▼ 5153	Elec Transm & Distr System Expense			0	0	0	0	0											
▼ 700003	FLSA - Non Exempt			0	0	0	0	0											
3	Salaried	500012	Regular Labor-Wage Scale Employees	0	0	0	0	0											
		500013	Regular Labor-Salaried Employees	0	0	0	0	0											
		500014	Regular Labor-Executive Employees	0	0	0	0	0											
		500019	Regular Labor-Temporary Employees	0	0	0	0	0											
		500049	Storm Duty Regular Portion of OT Pay	0	0	0	0	0											
		501100	Vacation Pay	0	0	0	0	0											
		501110	Holiday Pay	0	0	0	0	0											
		501120	Sickness Pay	0	0	0	0	0											
		501130	Injury Taxable Pay	0	0	0	0	0											
▶ 5769	Transmission Business Systems			0	0	0	0	0											

■ What We'll Cover ...

Introduction

About CPS Energy

SAP implementation

Corporate planning process / need for change

Why SEM-BPS

The project

Project summary / Wrap-up

■ Resources

Help.sap.com

- **mySAP ERP → SAP Strategic Enterprise Management → SEM-Strategic Enterprise Management → Release SAP SEM-BW 4.0 → SEM – Strategic Enterprise Management → Business Planning and Simulation (BW-BPS)**
- **SAP Netweaver → BI Content → Release SAP NetWeaver 2004s BI Content Add-On 3 SP04 > Financials → Strategic Enterprise Management → Business Planning and Simulation (SEM-BPS)**

Training courses

- **BW305: Business Information Warehouse (BW) — Reporting & Analysis**
- **WNABPS: Advanced Topics in SEM-BPS**

Project Management Institute

- **www.pmi.org**

■ 7 Key Points to Take Home

Define project scope

- **Specific scope determined from needs requirements**

Project management methodology adherence

- **Following the project phases and not moving forward until project phase completion keeps everyone and the project on the same page and maintains expectations**

Executive Management Support

- **Continuous communication ensures continuity of execution**
- **Executive management support encouraged buy-in**

■ 7 Key Points to Take Home (cont.)

Very Good Change control

Project team member preparation

- **Assigning roles and responsibilities ensures that everyone knows what is expected of them**

Make User Training Required

Documentation and knowledge transfer

- **A detailed technical specification is vital**

■ Your Turn!

Questions



How to contact me:
Ken Lamour: krlamour@cpsenergy.com