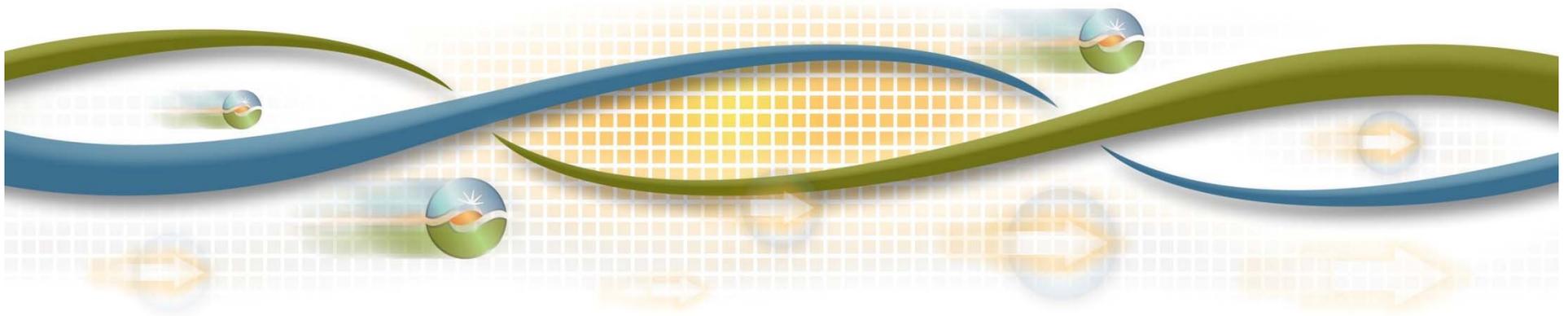




# Briefing on 2016 Cost of Service Study and 2018 GMC Update

Ryan Seghesio  
CFO

Stakeholder Meeting  
May 24, 2017



# Agenda

## TOPIC

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**2016 Cost of Service Study Overview**

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**2018 GMC Update**

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**Impacts to the EIM Fee**

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**Impacts to the TOR Fee**

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**Key Calendar Dates and Next Steps**

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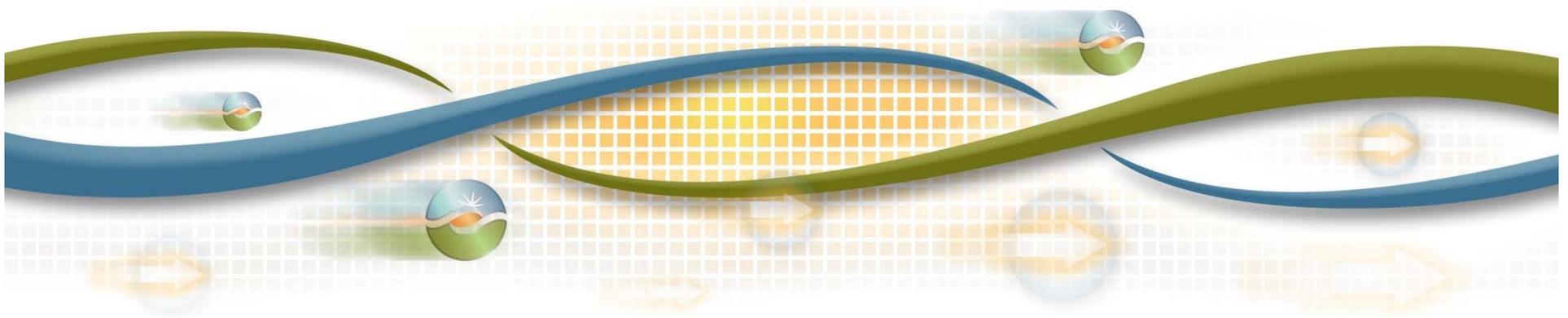
**Stakeholder Feedback and Discussion**

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# 2016 Cost of Service Study Overview



## What is the cost of service study?

- A tri-annual study in which activity based costing (ABC) and the revenue requirement components are used to set forth the cost category percentages used to calculate the annual grid management charge (GMC).
  - Updated percentages are applied to:
    - Market services
    - System operations
    - Congestion revenue rights services (CRR services)
    - Fees
      - » EIM Fee
      - » TOR Fee
  - Percentages set forth in the study are used for a period of 3 years until the next cost of service study is conducted

## What steps are involved?

- Update business process framework
- Map hours and costs to GMC cost categories
- Allocate revenue requirement components to GMC cost categories
- Aggregate revenue requirement into GMC cost categories and new GMC cost category percentages
- Calculate rates using new GMC cost category percentages
- Apply similar methodology to EIM to determine new real time activity percentages used to calculate annual fee
- Apply similar methodology to TOR to determine new TOR Fee

## What is the business process framework?

- High level view of ISO activities
  - Groups tactical core processes into strategic groupings
  - Illustrates high-level information streams
- Diagrams provide a visual representation of the work
- Demonstrates flow of 'work' through different business processes and business units

# ISO Mapping of Core Business Processes

ABC Code	Level 1 ABC Activity	Number of Level 2 Activity Tasks	Number of Non-Administrative 2016 Hours Reported
<b>Direct</b>			
80001	Develop Infrastructure	9	85,174
80002	Develop Markets	9	61,237
80004	Manage Market & Reliability Data & Modeling	17	103,931
80005	Manage Market & Grid	11	203,020
80007	Manage Operations Support & Settlements	16	91,830
80010	Support Customers & Stakeholders	8	70,178
<b>Indirect</b>			
80003	Manage Human Capabilities	8	28,137
80008	Plan & Manage Business	16	63,648
80009	Support Business Services	46	448,587
<b>Totals</b>			
9		140	1,155,742

## Activity based costing overview

- Same process as previous cost of service studies
- Segregated 2016 O&M into payroll and non-payroll costs
- Used 2016 hours to allocate cost center costs to activities
- Resulting activity costs then mapped to 3 GMC cost categories or indirect
- Mapped non-payroll costs to 3 service categories or indirect

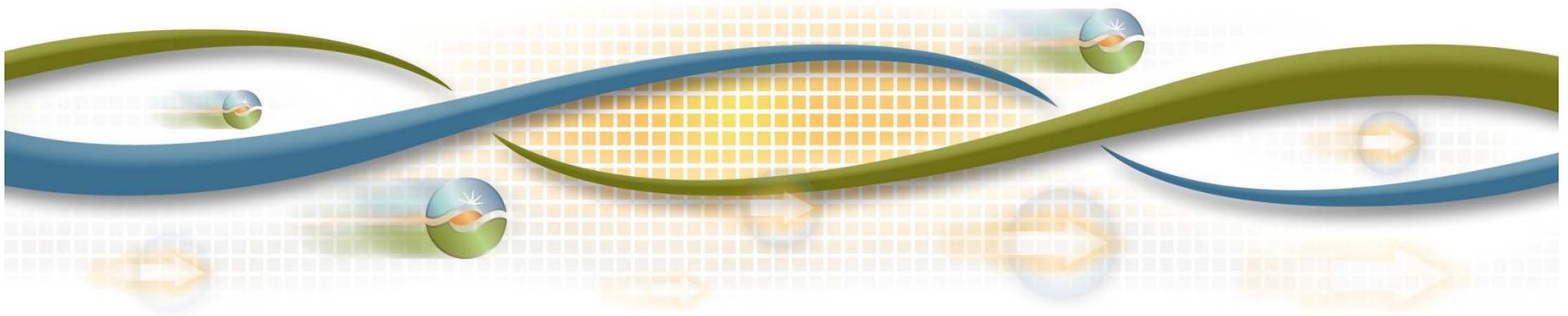
## Activity based costing overview continued

- Mapped activities using the following rules:
  - 100% or 0% if entirely in one category or not
  - 50% / 50% if supports both market services and system operations
    - or its split after 10% went to CRRs thus 45% / 45%
  - 80% / 20% if partially in one activity or the other



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# 2018 GMC Update



# Cost Category Percentages Changes

Cost Category	2013 Study	2016 Study	Change
	Effective for 2015	Effective for 2018	
Market Services	27%	32%	5%
System Operations	70%	66%	-4%
CRR Services	3%	2%	-1%

## Market Services Shift

- Primarily driven by the addition of 15-minute market and reallocation of resources to create real time market desk (24x7)

## System Operations Shift

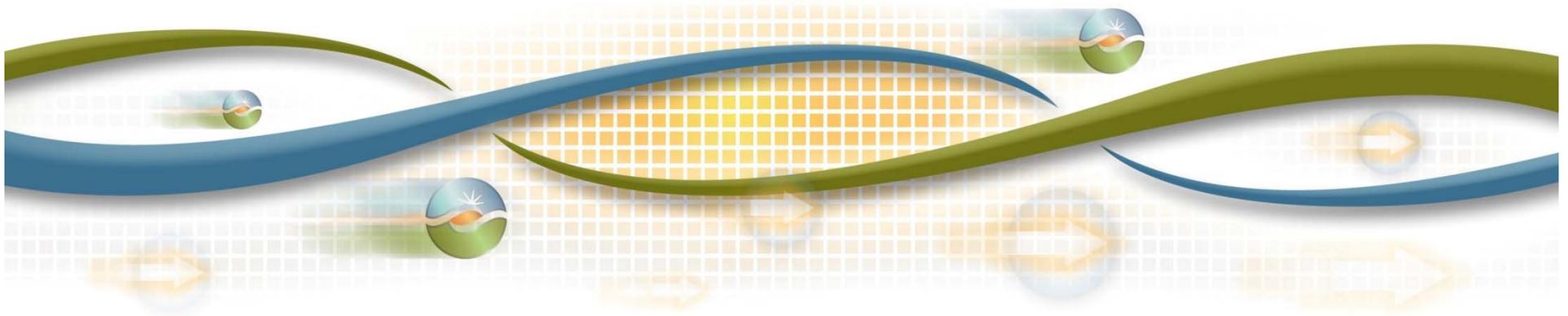
- Primarily due to process efficiencies implemented since the last cost of service study

# Pro Forma 2016 GMC Rates Compared to Current Rates

<b>Cost Category</b>	<b>Percentage Share of Costs</b>	<b>Pro Forma 2016 Rate</b>
Market Services	32%	\$ 0.1038
System Operations	66%	\$ 0.2781
CRR Services	2%	\$ 0.0034

<b>2017 Rate</b>	<b>Increase / (Decrease) in Rates</b>
\$ 0.0854	\$ 0.0184
\$ 0.3025	\$ (0.0244)
\$ 0.0059	\$ (0.0025)

# Impacts to the EIM Fee



## What is EIM and which services contribute to it?

- Energy imbalance market (EIM) provides entities with the opportunity to leverage the ISO's existing real-time market platform to facilitate 15-minute and 5-minute economic dispatch.
  - Provides reliability and economic benefits to both existing market participants and new EIM entities
  - Participants will pay the same rate as existing customers but only for the real time market and real time dispatch activities specifically related to EIM
- The following ISO services are required for EIM:
  - Market services real time market
  - System operations real time dispatch

# Comparison of EIM Percentages and Costs

Cost Category	Real Time Activity	2013 Study	2016 Study	Amount	2013 Study	2016 Study	Amount
		Effective for 2015	Effective for 2018	Over / (Under) Since Last COSS	Effective for 2015	Effective for 2018	Over / (Under) Since Last COSS
(amount in thousands)							
Market Services	Real Time Market	61%	79%	19%	\$ 28,911	\$ 45,482	\$ 16,571
System Operations	Real Time Dispatch	45%	39%	-6%	\$ 60,932	\$ 49,762	\$ (11,170)

## Market Services Shift

- Primarily driven by the addition of 15-minute market and reallocation of resources to create real time market desk (24x7)

## System Operations Shift

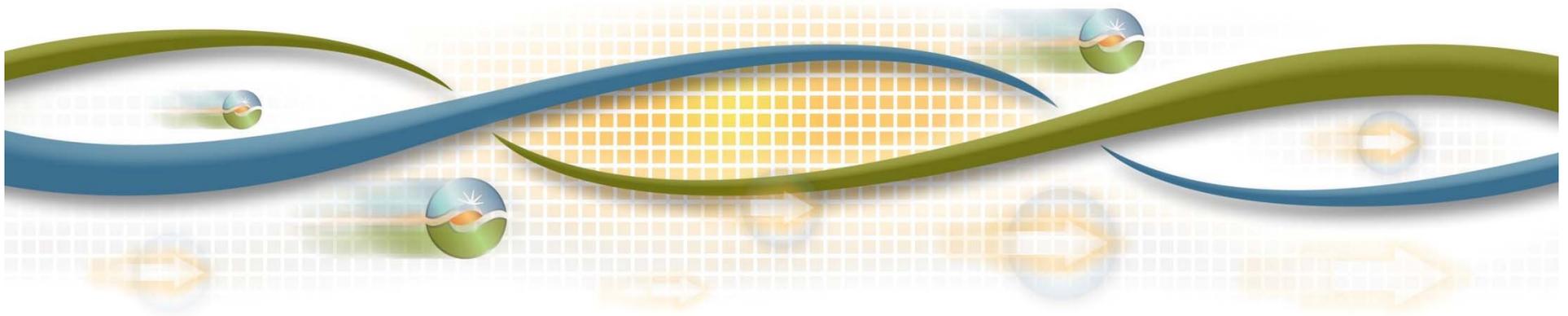
- Primarily due to process efficiencies implemented since the last cost of service study

# Calculation of the EIM Components

Cost Category	Pro Forma 2016 Rate	EIM Real Time Activity	EIM Percentage Share of Costs	EIM Pro Forma 2016 Rate
Market Services	\$ 0.1038	Real Time Market	79%	\$ 0.0823
System Operations	\$ 0.2781	Real Time Dispatch	39%	\$ 0.1078

EIM 2017 Rate	Increase / (Decrease) in Rates
\$ 0.0521	\$ 0.0302
\$ 0.1361	\$ (0.0283)

# Impacts to the TOR Fee



## What is TORS and which services contribute to it?

- Transmission ownership rights (TORs) represent transmission capacity on facilities that are located within the ISO balancing authority area that are either wholly or partially owned by an entity that is not a participating transmission owner.
- The following ISO services are required for TORs:
  - **Real-Time Operations** – The ISO provides support on an emergency basis for flows on TORs, in a manner similar to standby service
  - **Scheduling** – The ISO provides check-outs with neighboring balancing authorities (BA) in order to schedule flows across boundaries
  - **Outage Management** – The ISO provides for the scheduling and coordination of outages across the BA

# Calculation and comparison of TOR Rates

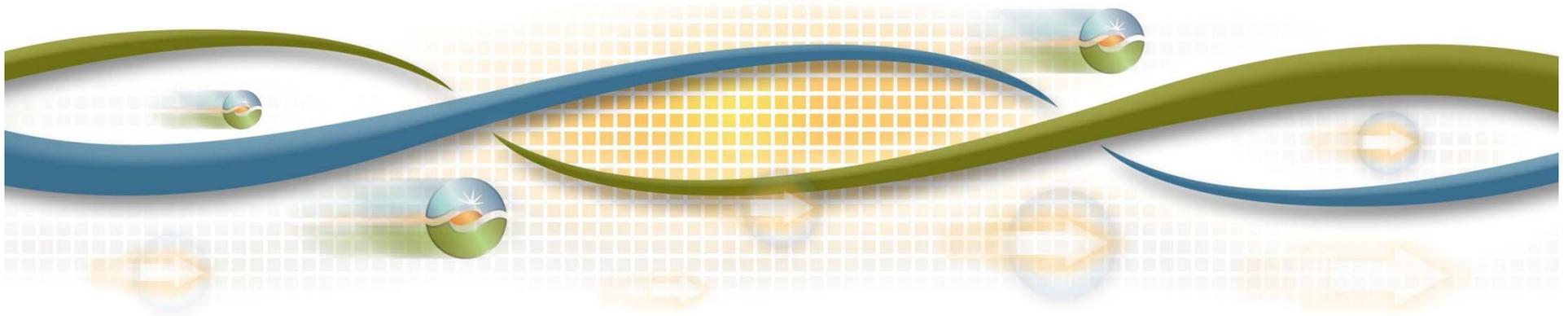
Transmission Owner Rights (TOR) Fee		Per 2016 COSS	Per 2013 COSS	Amount Over / (Under) Since Last COSS
<b>TOR Fee Calculation</b>				
		<b>Amount</b>	<b>Amount</b>	<b>Amount</b>
	Total TOR Related Costs	\$ 61,961,200	\$ 44,121,880	\$ 17,839,320
	TOR as a Percentage of Gross Volume	1.00%	1.69%	
	TOR Costs to Collect	\$ 619,612	\$ 745,660	\$ (126,048)
	TOR MWh for 2016 (min. of supply and demand)	2,627,260	3,162,319	(535,059)
	TOR Updated Rate per MWh	\$ 0.24	\$ 0.24	\$ -

- The 2016 TOR related costs increased \$17.8 million
- The TOR percentage of gross MWh volume decreased
- The TOR rate remaining at \$0.24 cents per MWh



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# Key Calendar Dates and Next Steps



# Key Calendar Dates\* and Next Steps

Key Date	Effort	Event
May 31, 2017	2018 GMC Update	Stakeholder comments due
June 7	2018 GMC Update	Post Stakeholder meeting minutes and Stakeholder comments (with replies) to website.
July 13	2018 GMC Update	Present 2018 GMC update to EIM Governing Body
July 25	2018 RR	Conduct 2018 Revenue Requirement (RR) Stakeholder kickoff meeting (on-site)
July 26 - 27	2018 GMC Update	Present 2018 GMC update to Board of Governors for approval
August	2018 GMC Update	Amend Tariff
September	2018 GMC Update	File amended Tariff with FERC
October 12	2018 RR	Present Preliminary 2018 Revenue Requirement to the Board of Governors for review and consideration
November 13	2018 RR	Conduct 2 <sup>nd</sup> 2018 Revenue Requirement Stakeholder meeting (call)
Early December	2018 GMC Update	Target date in which Tariff changes will be approved
December 13 -14	2018 RR	Present 2018 Revenue Requirement to Board of Governors for approval
Jan 1, 2018	2018 RR	New GMC Percentages and Fees go into effect

\*Dates are subject to change

## Stakeholder Feedback and Discussion

- Comments? Questions?
- Please submit follow up comments and / or questions to [initiativecomments@caiso.com](mailto:initiativecomments@caiso.com) by close of business May 31.
- The discussion paper is available on the ISO website at <http://www.caiso.com/informed/Pages/StakeholderProcesses/Budget-GridManagementCharge.aspx>.