

Capacity Market Rules Set 2 Consultation Session

Agenda

Time	Agenda Item
8:30 – 9:00	Welcome, Introductions and Housekeeping
9:00 – 9:15	Revisions to Set 1 rules for Comprehensive Market Design Sections 2, 5 and 6 <ul style="list-style-type: none">- Capacity Market Participant Registration- Qualification of Capacity- Capacity Market Clearing- Offers and Bids for the Capacity Market- Self-supply Configuration
9:15 – 9:45	Q&A on revisions to Set 1 rules
9:45 – 10:15	Comprehensive Market Design Section 3 rule & definitions: discussion re: purpose and structure of proposed ISO rule <ul style="list-style-type: none">- UCAP
10:15 – 11:00	Q&A on Comprehensive Market Design UCAP rule
11:00 – 11:15	Break

Agenda continued

Time	Agenda Item
11:15 – 11:45	Comprehensive Market Design Section 2 rule & definitions: discussion re: purpose and structure of proposed ISO rule <ul style="list-style-type: none">- Delisting
11:45 – 12:30	Q&A on Comprehensive Market Design Delisting rule
12:30 – 1:30	Lunch
1:30 – 2:30	Comprehensive Market Design Sections 8 and 9 rules & definitions: discussion re: purpose and structure of proposed ISO rules <ul style="list-style-type: none">- Forward Period Milestone Assessment- Performance Obligations- Asset Substitution- Volume Reallocation- Financial Settlement- Financial Security
2:30 – 2:45	Break
2:45 – 4:00	Q&A on Comprehensive Market Design Sections 8 and 9 rules
4:00 – 4:15	Request for Reconsideration rule: discussion re: purpose and structure of proposed ISO rule.
4:15 – 4:30	Q&A on Request for Reconsideration rule

Market Transition Engagement Timeline



CAPACITY
MARKET RULES

DEMAND
CURVE RULES

COST ALLOCATION TARIFF DESIGN

FILING Q1 2019



AUC DECISION

MARKET ROADMAP – stage 1

stage 2

Market Transition Engagement Timeline



2018

2019

Q3

Q4

Q1

Q2

Q3

Q4

**CAPACITY
MARKET RULES**

**DEMAND
CURVE RULES**

FILING Q1 2019



AUC DECISION

COST ALLOCATION TARIFF DESIGN

MARKET ROADMAP – stage 1

stage 2

ISO Capacity Market Rules – High Level Timeline



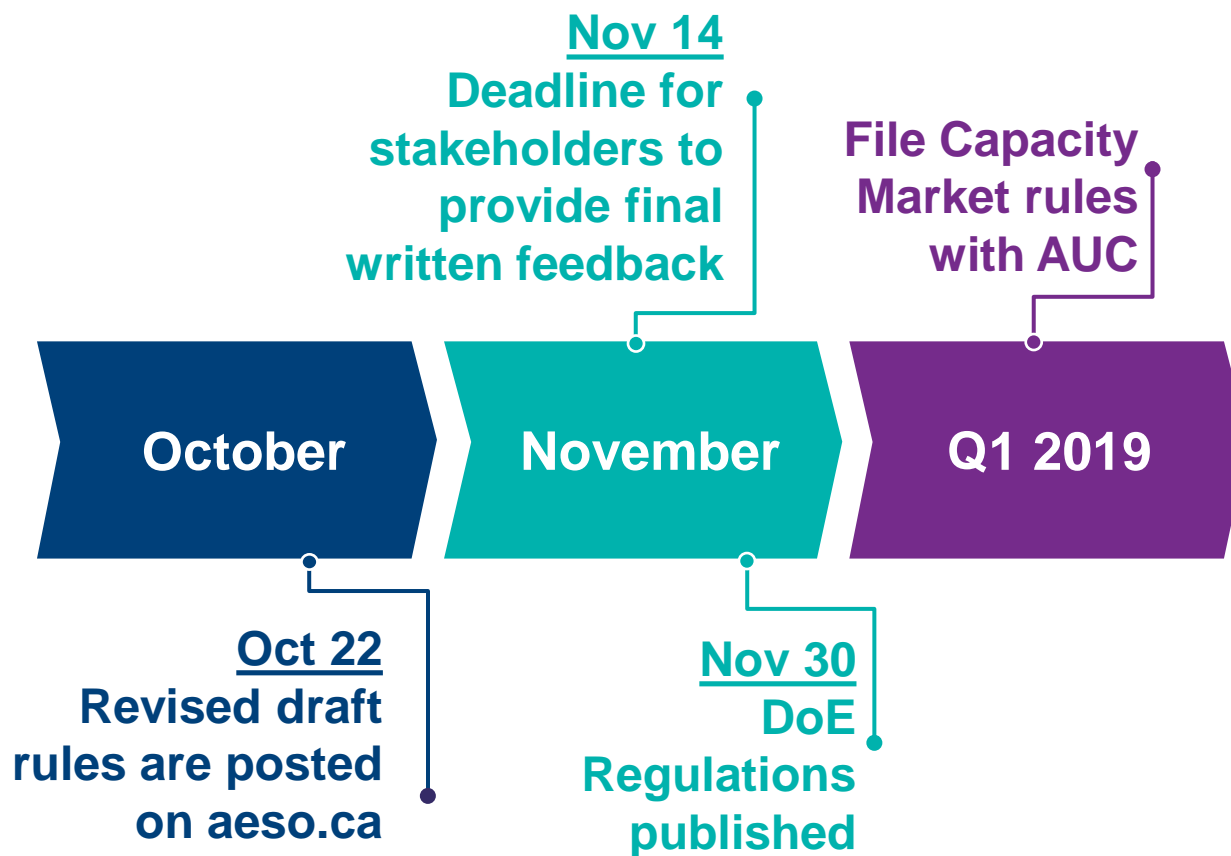
Set 2



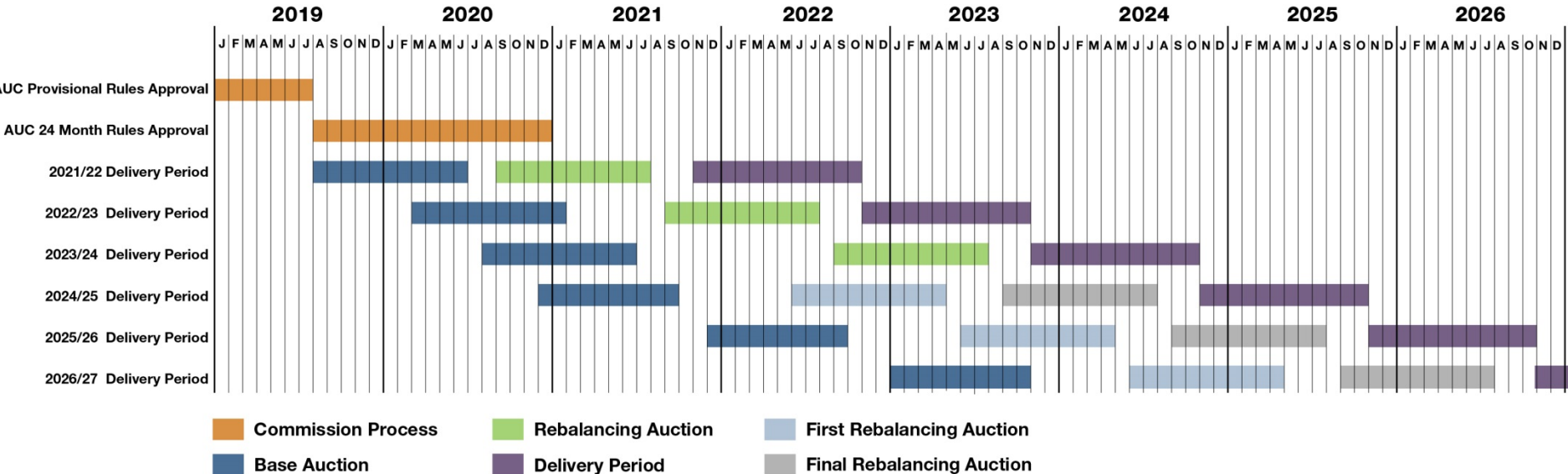
Set 3



All sets – Timeline



Capacity Market Auction Timeline



Additional Notes

- Today's Session
- Information Documents
- Important Dates

Questions?

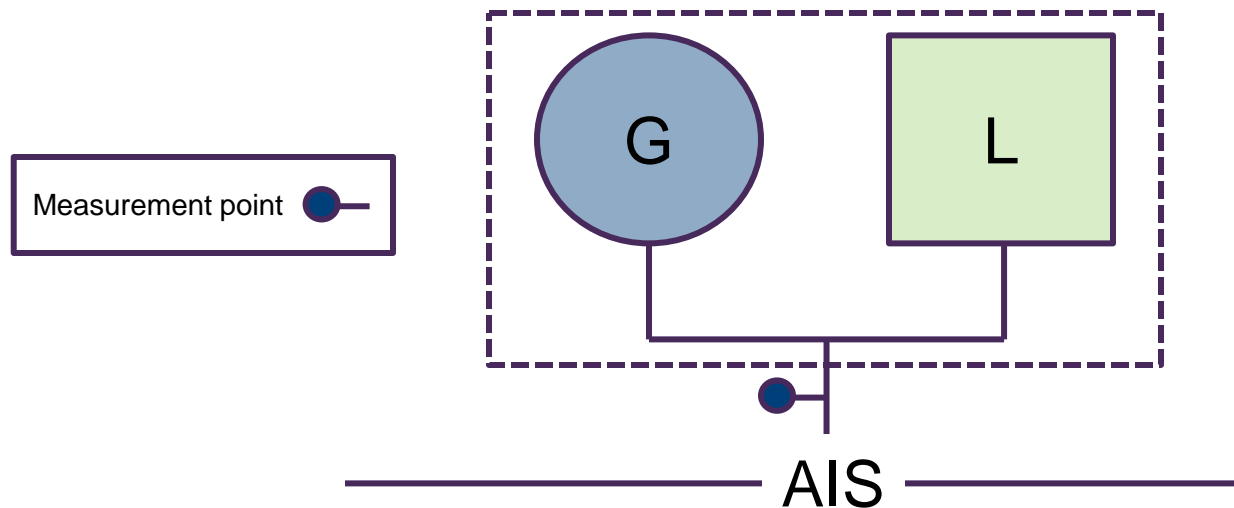
Revised Set 1 ISO rules

- Section 201.10, Capacity Market Participant Registration was revised:
 - to incorporate a new subsection 5, Timely Information from Legal Owner, and incorporate legal owner into the applicability section; and
 - to reflect administrative amendments.
- Section 206.1, Qualification of Capacity was revised:
 - to incorporate declaration requirements for new capacity, load assets and import assets;
 - to provide clarification regarding aggregations of load assets in subsection 7(1)(i)(iii); and
 - to reflect administrative amendments.
- Section 201.13, Capacity Clearing was revised:
 - to provide further details on clearing equivalent blocks submitted at the clearing price; and
 - to reflect administrative amendments.

- **Section 206.4, Offers and Bids for Capacity** was revised:
 - to correct the incremental capacity scenarios in Appendix 1;
 - to align subsection 7, Bid Content to Section 206.5 of the ISO rules, Forward Period Milestone Requirements; and
 - to reflect administrative amendments.

- **Section 206.2, Self-Supply** was revised:
 - to incorporate the legal owner of a generating unit and aggregated generating facility that self-supplies capacity for one or more onsite load assets, and an exclusion for sites where load is exclusively station service in the Applicability section;
 - to remove subsection 3, Option to Self-Supply (please note, the intent of the rule has not changed and the option to self-supply remains); and
 - to remove subsection 7, Changes in Self-supply Status and replace this subsection new subsection 5, Changes in Self-supply Configuration.

Net Configuration (self-supply)

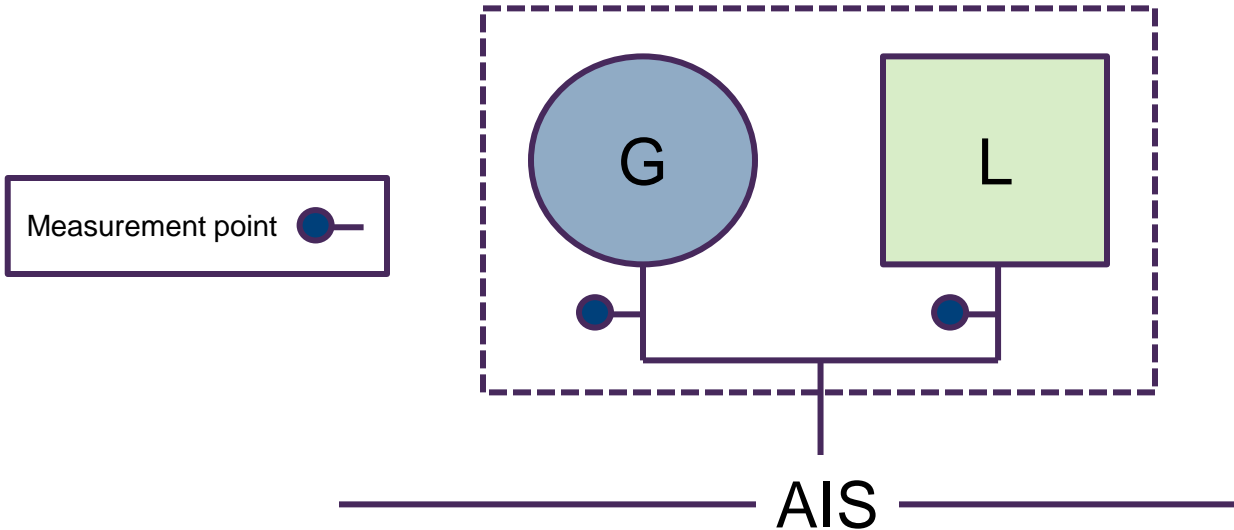


Metering

G	L
10	0
10	0
0	10
0	10
10	0
0	10

Load and generation on the same site but the measurement point is the same.

Gross Configuration (not self-supplying)



Metering

G	L
20	10
15	5
0	10
0	10
20	10
0	10

Load and generation on the same site but the measurement points are separated.

Questions on Set 1 Revisions?

- Comprehensive Market Design Section 3 rules & definitions:
 - UCAP
- Comprehensive Market Design Section 2 rule & definitions:
 - Delisting
- Comprehensive Market Design Sections 8 and 9 rules & definitions:
 - Forward Period
 - Financial Settlement
 - Financial Security
 - Performance obligations
 - Asset substitution

Comprehensive Market Design

Section 3: ISO rules & definitions

CMD Section 3: Calculation of Unforced Capacity (UCAP)

FINAL CMD PROVISION	RULE
Section 3.1 Calculation of UCAP	Section 206.3, Uniform Capacity Value Determination

206.3 Uniform Capacity Value Determination

- The purpose of this ISO rule is to:
 - Describe the ISO responsibilities and methodologies for calculating the uniform capacity value for an asset in the capacity market.
- Associated definitions:
 - “uniform capacity value”
 - “firm consumption level”
 - “guaranteed load reduction”
- Information Document content:
 - Example calculation for:
 - Import asset
 - self-supply site using linear regression methodology
 - load asset providing a firm consumption level using look back baseline methodology
 - Example calculation of the maximum upper and minimum lower limits of the range
 - Class-average performance factors
 - Details of how to apply for a variance to a uniform capacity value

Questions?

Comprehensive Market Design

Section 2: ISO rules & definitions

CMD Section 2: Supply Participation

FINAL CMD PROVISION	RULE
Section 2.3 Delisting	Section 201.15 Delisting

- The purpose of this ISO rule is to:
 - Establish the requirements of market participants and the ISO when a market participant wishes to temporarily or permanently remove an asset from the capacity and energy markets for economic or physical reasons
- Associated definitions:
 - “delist outage”
- Information Document content:
 - Reasons for economic temporary delist request with required information
 - Reasons for operational or physical temporary delist request with required information
 - Reasons for a permanent delist

Questions?

Comprehensive Market Design

Sections 8 and 9: ISO rules & definitions

CMD Section 8: Supply Obligations and Performance Assessments

FINAL CMD PROVISION	RULE
Section 8.1 Assessment prior to commencement of obligation period	Section 206.5, Forward Period Milestone Requirements
Section 8.2 Assessment during obligation period	Section 206.8, Obligation Period Performance Assessments
Section 8.3 Ex ante asset substitution and volume reallocation	Section 206.9, Asset Substitution Section 206.10, Volume Reallocation

Section 206.5 Forward Period Milestone Assessment

- The purpose of this ISO rule is to establish:
 - The critical milestones by which the AESO will assess new, incremental, and refurbished capacity assets
 - Visibility to the development of new, incremental, and refurbished capacity assets
 - Risk mitigation for new supply offered into capacity market auctions

Information Document content:

- **Critical Milestones for:**
 - existing asset classes
 - unique asset classes
 - for the transition period
 - for the regular course after the transition period
- **Target completion dates for various asset classes**
 - Specific number of months prior to the start of the obligation period
- **Critical Milestones being considered include:**
 - Regulatory Permitting & Licensing
 - Final Notice to Proceed
 - Major Equipment Procurement Agreements
 - Delivery of Major Equipment to the Site
 - Commissioning & Start-up
 - In-service Date

Section 206.8 Obligation Period Performance Assessments

- The purpose of this ISO rule is to establish:
 - The approach the ISO will use to verify that an asset with a capacity commitment has met availability and delivery requirements and describe the financial payment adjustments that may be applied to assets that over or underperform relative to their capacity commitment.

- Information Document contains:
 - Example of firm consumption level (FCL) baseline
 - Example of guaranteed load reduction (GLR) baseline
 - Information related to the selection of the default penalty rate
 - Example of assessment with asset substitution

CMD Payment Adjustment Approach

- In the CMD, the penalty rate for delivery and performance was based on the “Obligation Price per MW” for each asset:
 - CMD 4: “Tying the payment adjustment to the capacity asset-specific capacity payments (i.e. obligation price per MW) ensures that the payment adjustment level is consistent with each asset's maximum revenue from the capacity market.”
- However, an asset may be in a situation where the asset-specific capacity payments are a negative value:

	Cleared (MW)	Clearing price (\$/kW-year)	Capacity payment (\$)
Base	10	\$60.00	\$600,000.00
Rebalancing	6	\$110.00	-\$660,000.00
Capacity Commitment	4		-\$60,000.00

Rules Payment Adjustment Approach

- The AESO will maintain the link between the payment adjustment balance to the capacity asset-specific capacity payment while fixing the issue when the asset specific revenue from the capacity market is negative
- For assets with a negative or low asset specific capacity payment, an under delivery adjustment rate will be set at \$1000/MWh prior to the 1.3 multiplier
 - \$1000/MWh is the opportunity cost of not delivering in the energy market, a penalty rate at this level essentially doubles the cost of under delivery
- Delivery adjustment makes up 60% of the payment adjustment structure and 20 hours is the floor of energy shortfall hours
 - The asset specific penalty rate amount will be set as:
$$\$1000/\text{MWh} / 60\% = \$1666.66/\text{MWh}$$
 - Implying a \$33.33/ kw-year value for the default rate for the annual capacity payment amount
$$\$1666.66/\text{MWh} * 20 \text{ hours} = \$33,333.33/\text{MWyear} \text{ or } \$33.33/\text{kWyear}$$

Rules Payment Adjustment Approach

Availability Penalty Rate

- For assets with a negative or low asset specific capacity payment an asset specific availability penalty rate will be established at \$133/ MWh
 - Default annual capacity payment of $\$33,333/\text{MW} / 250 \text{ hours} = \$133/\text{MWh}$

CMD Payment Adjustment Approach

Asset Specific Rates Under Different Scenarios

Base Auction Clearing Price	Asset specific delivery rate – through auction activity	Asset specific delivery rate – Adjusted rate (10.2)	Asset specific availability rate - Adjusted rate (6.2)
Greater than \$33.33/kWyear	Less than \$1667/MWh	\$1667/ MWh	\$133/MWh
Less than or equal to \$33.33/kWyear	Less than \$0/kWyear	\$0/ MWh	\$0/ MWh
		For all other scenarios the penalty rate will be the asset specific rate through its auction activities	For all other scenarios the penalty rate will be the asset specific rate through its auction activities

206.9 Asset Substitution

- The purpose of this ISO rule is to:
 - Provide a risk mitigation approach that will be available to the capacity market participant in addition to the option of participating in the rebalancing auctions to adjust or buy back such asset's capacity commitment.
 - Allow a capacity market participant to engage in asset substitution with a qualified but non-committed or partially committed capacity asset (substitute asset) commencing after the last rebalancing auction and until the start of the energy market settlement interval.

- The purpose of this ISO rule is to:
 - Allow a capacity market participant that delivered metered volumes greater than expected delivery under its capacity commitment during a delivery assessment period to sell its excess positive delivery volume to another capacity market participant whose asset with a capacity commitment that did not deliver sufficiently to meet its entire obligation
 - Allow only those assets with a capacity commitment to participate in volume reallocation

Questions?

CMD Section 9: Settlement and Financial Security Requirement

FINAL CMD PROVISION	RULE
Section 9.1 Capacity market statements	Section 103.9, Capacity Market Financial Settlement
Section 9.2 Settlements applicable to capacity assets	Section 103.9, Capacity Market Financial Settlement
Section 9.3 Calculating capacity payment adjustments	Section 103.9, Capacity Market Financial Settlement
Section 9.4 Capacity cost allocation settlements	Section 103.9, Capacity Market Financial Settlement
Section 9.5 Net settlement instructions (NSI)	Not applicable
Section 9.6 Financial security requirements for capacity assets	Section 103.11, Capacity Market Financial Security Requirements

- The purpose of this ISO rule is to:
 - Establish the process and calculations for financial settlement of the capacity market

- Information Document content:
 - Examples of settlement calculations
 - Settlement timing

Settlement Example



Asset "A" Payment Adjustment Balance Settlement (\$)

Settlement Month No.	Capacity Payment	Step 1 - Penalties		Step 2 - Bonuses		Net Payment	Cummul. PAB (Settle)
		Delivery	Availability	Delivery	Availability		
1	\$ 40,000	\$ (70,000)	N/A	\$ -	N/A	\$ -	\$ (30,000)
2	\$ 40,000			\$ -		\$ -	
3	\$ 40,000			\$ 80,000		\$ 80,000	
4	\$ 40,000					\$ 80,000	
5	\$ 40,000	\$ -		\$ 30,000		\$ 70,000	
6	\$ 40,000	\$ (120,000)		\$ 30,000		\$ -	
7	\$ 40,000					\$ -	
8	\$ 40,000					\$ 30,000	
9	\$ 40,000	\$ (10,000)				\$ 40,000	
10	\$ 40,000					\$ 40,000	
11	\$ 40,000					\$ 40,000	
12	\$ 40,000			\$ (200,000)		\$ -	\$ (160,000)
Total	\$ 480,000	\$ (200,000)	\$ (200,000)	\$ 150,000	\$ -	\$ 390,000	

	Cap
Monthly Cap Under-Delivery:	\$ (120,000)
Annual Cap Under-performance:	\$ (624,000)
Annual Cap Over-performance:	\$ 480,000

103.11 - Capacity Market Financial Security Requirements

- The purpose of this ISO rule is to:
 - Define the security requirements for new, incremental and refurbished capacity
 - Define the security requirements for existing capacity

- Information Document content
 - Security calculation example

Questions?

CMD Section 5: Settlement and Financial Security Requirement

FINAL CMD PROVISION	RULE
Section 5.3 Dispute Resolution	Section 103.13 Request for Reconsideration

103.13 Request for Reconsideration

- The purpose of this ISO rule is to:
 - allow stakeholders to request reconsideration of AESO decisions related to the pre-auction time period and auction results through an expedited process
- ID Content
 - Submission form
 - Submission email address

Questions?

Thank you