Firm Consumption Level (FCL) Capacity Committed Loads (CCL)[1]

This summary is for information purposes only and is intended to provide guidance. In the event of any discrepancy between this summary and the latest iteration of the Comprehensive Market Design [2], the Comprehensive Market Design takes precedence.

Context:

- CCL clear on the supply side of the capacity market. Any consideration of CCL on the demand side of the capacity market is not currently in the CMD.
- CCL have an obligation to deliver capacity product in the energy market.
- CCL can be offered into the market in two forms; firm consumption level (FCL) (i.e. "down to" a MW level) or guaranteed load reduction (GLR) (i.e. "down by" a MW volume). The level or volume must be offered into the energy market.
- When requesting an asset, the CCL must identify which type of CCL it will be, either a FLC - dispatched "down to" or a GLR - dispatched "down by" CCL.
- Load with on-site generation that chooses to self-supply may only offer their net load as CCL. Net load is measured at the point of connection to the transmission or distribution system, where the positive power flow to toward the site.

CCL in the energy market:

CCL must submit offer prices and volumes into the energy merit order at some price from $0 to $999.99.

FCL CCL must be offered into the market as a level that the CCL, upon dispatch, will not consume above the level reflected in the dispatch.

~~CCL can be submitted into the market in two forms; firm consumption level (FCL) – "down **to**" a MW level or guaranteed load reduction (GLR) - "down **by**" a MW volume. The level or volume must be submitted into the energy market.~~

When a FCL ~~"down to"~~ CCL receives a dispatch, the FCL CCL energy consumption ~~load above the dispatch level~~ must be reduced ~~in order to comply with the dispatch (i.e. volume consumed will be reduced~~ to the offered ~~submitted~~ MW level or less ~~value)~~. For

[1]Note, the CCL Customer Sheet from the May working group has been divided into FCL and GLR specific documents.

[2] https://www.aeso.ca/market/capacity-market-transition/comprehensive-market-design/

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example, if a FCL CCL is offered ~~submitted~~ into the energy market at a level of 40 MW at $35, when the SMP reaches $35, the FCL CCL will be dispatched to 40 MW, and the energy consumption ~~load above this level~~ must not exceed ~~be reduced down to~~ the 40 MW level~~. The load cannot exceed 40 MW~~ until the asset ~~it~~ receives another dispatch. FCL ~~"Down to"~~ CCL must have real time telemetry in place so the System Controller will be able to calculate how much load will be reduced when the CCL is dispatched.

In the event of equal priced offers or bids and a CCL offer ~~submissions~~ at any price, the CCL asset will be dispatched last in the group, for example last of the $999.99 bids and offers. For example energy offers will be dispatched and exports bids would be dispatched at $999.99 before CCL are dispatched (pending AESO tool change requirements).

CCL does not get additional payments for reducing load however avoid the energy costs by not consuming energy (i.e. CCL receive capacity payments however do not receive additional payments for curtailing their loads).

ISO Tariff Rate DTS (Demand Transmission Service) are applicable to CCL. Further consideration of changes to tariff design would be part of a separate process.

CCL are eligible to provide ancillary service products, including load shed service for imports (LLSi).

Capacity Offer Obligations

Delist would apply to CCL. Once a CCL is prequalified and clear an auction then they will have a must offer requirement in the capacity market (just like all other capacity resources) until they go through the delist process. Dispatchable loads that do not go through the qualification won't have a must offer requirement (same for external resources).

Capacity Market Availability and Performance Assessment

For an availability assessment, FCL CCL assets are considered in compliance with an availability assessment if~~:~~ they have an offer in the merit order, net of operating reserves and LSSi arming, up to their obligation volume. For firm consumption level (FCL) assets, availability will be measured by the difference between a look back baseline less the firm consumption level. For purposes of the foregoing, "look back baseline" means the recent load profile used to assess the availability of firm consumption level assets. The look back baseline will be calculated by averaging the 5 highest load observances over the immediately preceding 10 days. ~~In terms of availability performance assessment, CCL assets are considered in compliance with an availability assessment if they have an offer in the merit order and/or are providing Operating Reserves and/or are armed for LLSI up to their obligation volume.~~

For a performance assessment, FCL CCL assets are considered in compliance with a~~n~~ performance ~~availability~~ assessment if~~:~~

the energy ~~For a firm~~ consumption of the ~~level (FCL) capacity~~ asset minus~~, metered volume~~ load providing ~~not reduced due to~~ operating reserves and/or LSSi (armed ~~arming~~) ~~will be deducted from the metered volume of the asset. This difference must be~~is equal to or less than the firm consumption level.

Appendix for FCL CCL offer structure and dispatch expectations

Offer Example

This load has a peak consumption of 200 MW; it has a capacity market qualified baseline of 150 MW; and a firm consumption level (FCL) of 20 MW. In other words this load can consume at a maximum of 200MW and has a minimum "must consume" requirement 20 MW and has sold 130 MW of capacity into the capacity market.

50	200 MW peak consumption
130	130 MW of committed capacity
20	20 MW of must run consumption

The FCL asset must offer its capability into the energy market, in this example 130 MW.

The offer structure is below:

In this example the FCL asset offers 3 blocks into the energy market. In this case the asset maximum capacity (MC) is 130 MW and the available capacity (AC) will also be 130 MW (asset is capable of reducing 130 MW of consumption).

	$ offered	MW	The block sizes
Block 2	999.99	130	40 MW
Block 1	200.00	90	60 MW
Block 0	80.00	30	30 MW

Prior to any of the offer blocks being dispatched the assets could consume any number of MW right up to its peak value (200 MW in this example)

	$ offered	MW	The block sizes
Block 2	999.99	130	40 MW

Block 1	200.00	90	60 MW
Block 0	80.00	30	30 MW

Block 0 - When the SMP reaches $80 the first FCL asset block (Block 0) is dispatched (30 MW offered @ $80.00/MW). When Block 0 gets dispatched the FCL asset must reduce its consumption down to 30 MW below the 150 MW base (in other words down to 120 MW (150 - 30) consumption or less).

Block 1 - When the SMP reaches $200 the second FCL asset block (Block 1) is dispatched (90 MW offered @ $200.00/MW). When Block 1 gets dispatched the FCL asset will reduce consumption down to 90 MW below the 150 MW base (in other words down to 60 MW (150 - 90) consumption or less).

Block 2 - When the SMP reaches $999.99 the third FCL asset block (Block 2) is dispatched (130 MW offered @ $999.99/MW). When Block 2 gets dispatched the FCL asset will reduce consumption down to 130 MW below the 150 MW base (in other words down to 20 MW (150 – 130) consumption or less). The last block of the offer will take the asset consumption level down to it's FCL.

Availability Restatements

Now if for some reason, prior to dispatch, the asset cannot reduce consumption down to the assets FCL (20 MW in this case) the asset must restate its capabilities.

For example in the above case if the asset cannot reduce its consumption below 70 MW for some reason. The asset will have to restate in the energy market. The MC will remain at 130 MW however the AC will get restated from 130 MW to 80 MW. In this situation the asset would be non-compliant for an availability assessment or a performance assessment.

50	200 MW peak consumption
80	80 MW of available capacity
70	70 MW of must run consumption

In this case the restated merit order offer structure would look like this:

	$ offered	MW	The block sizes

Block 2	999.99	0	0 MW
Block 1	200.00	80	50 MW
Block 0	80.00	30	30 MW

Block 0 - When the SMP reaches $80 the first FCL asset block (Block 0) is dispatched (30 MW offered @ $80.00/MW). When Block 0 gets dispatched the FCL asset must reduce its consumption down to 30 MW below the 150 MW base (in other words down to 120 MW (150 - 30) consumption or less).

Block 1 - When the SMP reaches $200 the second FCL asset block (Block 1) is dispatched (80 MW offered @ $200.00/MW). When Block 1 gets dispatched the FCL asset will reduce consumption down to 80 MW below the 150 MW base (in other words down to 70 MW (150 - 80) consumption or less).

Block 2 - When the SMP reaches $999.99 the third FCL asset block (Block 2) has no energy reduction available so the block will not be dispatched and the FCL asset consumption will remain no higher than 70 MW.

When the SMP drops back to $200, Block 1 will be dispatched off and the FCL asset can increase consumption back up to the block 0 level, 120 MW in this example.