

This document was originally posted on March 24, 2021 and will be updated as additional questions and answers are available. New questions and responses are indicated in blue text.

March 24, 2021

FFR Pilot Competition

1. What is Fast Frequency Response (FFR)?

In the event of a sudden loss of imports over the B.C. and Montana interties, Fast Frequency Response (“FFR”) is a type of fast-acting transmission reliability service used to quickly arrest and recover from frequency decay and preserve electric system stability. This service manages frequency risk on the grid, allowing additional scheduled imports to access the Alberta market without compromising system reliability. FFR service providers need to respond within 12 cycles (0.2 seconds) when a system frequency of 59.5 Hz is detected. FFR service of this nature is currently provided by loads participating in Load Shed Service for imports (“LSSi”).

2. Why is the AESO conducting an FFR Pilot competition?

Load has traditionally been the only feasible technology able to provide a response fast enough to arrest and recover from frequency decay due to an intertie trip. However, due to recent technological advancements, the AESO is exploring the opportunity for new technologies to provide FFR. The AESO is procuring capacity from new technology capable of quickly responding to an underfrequency event resulting from a sudden loss of imports flowing into Alberta across the interties. The key objectives of the FFR Pilot are to validate the technical capability of new technology to provide FFR, and to gather key learnings to determine how to remove barriers to new technology and advance the AESO’s Energy Storage Roadmap. FFR will support the long-term design and implementation of future frequency response services.

3. What are the timelines of the FFR Pilot?

On March 24, 2021, the AESO launched an FFR from new technology pilot project (“FFR Pilot”) procurement competition, which is targeting existing new technology facilities capable of meeting the eligibility and technical requirements to provide FFR for a one-year term, expected to commence in Q3, 2021. The proposal submission deadline is May 3, 2021. A detailed timetable for the Request for Proposals (“RFP”) is available in the RFP competition document.

4. How do we communicate with the AESO regarding the FFR Pilot procurement competition?

General enquiries can be sent to FFRPilot@aeso.ca. The RFP opened on March 24, 2021 and to maintain the integrity of the competition, those parties interested in participating in the RFP as proponents will be required to communicate with the AESO utilizing the communication protocol that is outlined in the RFP document. The RFP is being managed through a procurement site called Bonfire (“Bonfire Site”), which can be accessed using a web browser, and proponents in the RFP are required to communicate with the AESO using the Bonfire Site.

5. What is the Bonfire Site being used for and how can I access it?

Interested parties wishing to participate in the RFP will need to obtain access to the Bonfire Site to view the RFP documents and be able to participate in the RFP.

To obtain access to the Bonfire Site, interested parties will need to register and execute an access agreement. The registration process for the Bonfire Site opened on March 16, 2021 and the access agreement is made available to interested parties. Further information regarding accessing and using the Bonfire Site will be posted on the AESO's FFR webpage (link [here](#)).

6. Is the AESO seeking a preferred number of FFR service providers or contracts?

The AESO has identified a need to procure a target volume of 20 MW and may procure up to 40 MW of FFR, as is further described in the RFP document. Through a fair and transparent evaluation process, the AESO aims to retain one or more Service Providers to provide all or a portion of the volume of FFR for the service term.

7. Can more than one proponent sign up under the same account on the Bonfire site in order to participate in the FFR Pilot competition?

No. Each party that would like to participate as a proponent in the FFR Pilot RFP will require a separate user account for the Bonfire Site. Further information about obtaining access to the Bonfire Site is available on the AESO's FFR webpage (link [here](#)) including the Bonfire Site Access Instructions, Access and Participant Agreement, and Frequently Asked Questions.

8. What are the next steps of the procurement competition?

The FFR Pilot RFP opened on March 24, 2021. The Bonfire Site is being used for the FFR Pilot competition RFP. Registration is open for interested parties to gain access to the Bonfire Site and participate in the RFP. The RFP document and draft Import Fast Frequency Response Agreement ("IFFRA") are posted on the Bonfire Site, which provide further information on the RFP and the FFR requirements. The proposal submission deadline is May 3, 2021 at 3:30 p.m. MDT. Any further updates to the competition will be posted on the AESO's FFR webpage (link [here](#)).

9. Will the AESO provide historical Load Shed Service for imports (LSSi) available, armed and trip data for reference?

The AESO has posted historical aggregated hourly data on available, armed and tripped volumes of LSSi from the period of January 2013 to August 2020 on its website (link [here](#)).

10. How many LSSi trip events have occurred historically?

During the entire LSSi service period (January 1, 2012 through to March 15, 2021), there have been five underfrequency trip events, and these occurred in 2012, 2013, 2015, 2020 and 2021. Past performance is not, however, an indicator of future need.

11. How will the FFR operational arming merit order be set?

The AESO will maintain one arming merit order for all fast frequency response service providers, including the FFR Pilot and LSSi. The arming merit order is set from the lowest arming priced volumes to

the highest arming priced volumes. When arming is necessary, the AESO will dispatch Service Providers of LSSi and FFR based on the merit order of the available volumes and each Service Provider will be armed based on their offered volume.

Eligibility, Requirements and Evaluation

12. What technology is eligible to participate?

Any new technology that forms all or a part of a generating Source Asset, that is capable of complying with the FFR Pilot Eligibility and Requirements, including the 12 cycle (0.2 second) response time when a system frequency of 59.5 Hz is detected due to the sudden loss of the BC and Montana inerties, is eligible to participate. More detailed information is provided in the RFP document, including the FFR Eligibility and Requirements which is Schedule “B” of the Draft IFFRA and is included as Appendix F to the RFP.

13. What are the eligibility criteria of a facility?

The RFP document provides further detail on the Eligibility Criteria.

14. Can a Proponent submit more than one Proposal for more than one FFR Facility, or propose a facility in more than one proposal?

A proponent may only submit one proposal which will include one facility providing FFR, and a facility may only be proposed in a single proposal. Please consult the RFP document for further detail.

15. What is SCADA used for in the context of FFR Pilot?

SCADA is the primary communication means for service providers to submit offers, communicate with the AESO, and receive dispatches and directives. SCADA data is also used for both compliance assessment to the terms of the IFFRA and the FFR Eligibility and Requirements as well as for settlement.

16. Are there any unique considerations for the FFR Pilot with a generating source asset for the energy market?

Service Providers in the FFR Pilot that offer capacity (in MW) from the generating source asset to provide FFR, will have the available MWs attributed to the energy market reduced by the AESO to allow for FFR participation similar to the approach employed for concurrent participation in the energy market and in operating reserves. This reduction will be applied by the AESO based on the offered volume for FFR (and reflecting any FFR arming commitments). Once the FFR Service Provider’s generating source asset is no longer offering FFR (and is not subject to any FFR arming obligations), the AESO will remove any reduction to available MWs in the energy market. There is further detail provided in the draft IFFRA which is included with the RFP as Appendix F.

17. Do ISO rule requirements still apply for the FFR Pilot?

Yes, all ISO Rule requirements still apply while participating in the FFR Pilot. For further background, the AESO has coordinated with the MSA regarding the FFR Pilot taking place within existing ISO Rules. Additional information with respect to the coordination framework between the AESO and the MSA is posted on the AESO’s website (link [here](#)).

Offers and Arming

18. Can a Service Provider offer a portion of their generating source asset's available capability to be armed and to provide a response?

A Service Provider can offer a portion of their capacity (MW), up to and including their IFFRA contract volume, which becomes the Service Provider's offered volume. When a Service Provider is armed by the AESO, the armed volume is based on the offered volume. When armed, the Service Provider must provide a Response of at least 95% of the armed volume for up to 60 minutes. Further information is provided in the draft IFFRA which is included as Appendix F to the RFP.

19. Are there circumstances when an FFR Pilot Service Provider is not paid for offering capacity to provide FFR?

A Service Provider is not entitled for FFR hourly payments when the combined British Columbia and Montana interconnection import Total Transfer Capability is less than or equal to sixty five (65) MW, which is detailed in the draft IFFRA that is included as Appendix F to the RFP.

20. Do offers need to be made for every hour? I.e., Does a Service Provider's offer expire every hour, or does the value of a previous offer carry through until a new offer is submitted?

A Service Provider may submit an offer in MW (to one decimal place) and up to the contract volume in any given hour. Once an offer is submitted by a Service Provider, it remains active until it is amended and resubmitted. The last offer value received by the AESO by the offer submission time before the next hour becomes a commitment of offered volume for the next scheduling hour. Further detail is provided in the draft IFFRA that is included as Appendix F to the RFP.