Against What Liquidity Risks should a Bank Self-insure?

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INTRODUCTION

One of the defining questions for a liquidity regulation is: "Against what liquidity risks should a bank self-insure?" Self-insuring against a liquidity risk means having the resources to meet liquidity demands in a given situation, without making use of funding from the central bank.

In "Why do we need liquidity regulation when we have a lender of last resort?" Carlson, Duygan, and Nelson (2015) analyzed this question. They concluded that banks should insure against idiosyncratic risk (risk resulting from troubles at the bank) but should be able to count on the central bank to handle systemic risks (severe market illiquidity or broad runs on commercial banks). In this note, we propose a different answer, albeit one that can accommodate the view of Carlson and colleagues. The answer distinguishes between types of central bank lending rather than between types of situations.

Although the term "central bank lending" conjures up images of financial crises and massive loans to prevent disorderly failure of financial behemoths, most central bank lending takes the form of unremarkable daily transactions from credit facilities that the central bank wants eligible counterparties to use freely and to see as reliable. In many cases, access to a facility requires meeting specific financial soundness conditions.

Regulations require many different assessments of a bank's liquidity condition, but they all ask essentially the same question: In a situation with a specified set of characteristics, would the bank be able to meet its payment obligations?

In this note, we propose a simple and reasonable way to incorporate access to regular central bank credit into liquidity assessments: In a scenario where a bank remains qualified for a specific type of central bank credit, the bank's liquidity should be evaluated under the assumption that it will be able to use the credit on the terms the central bank is offering.

Indeed, it is not clear that a bank is not, in fact, self-insuring against the liquidity risks of a contemplated situation if it is planning on making use of regular and reliable central bank credit as one component of its plan for such a scenario. As illustrated with some examples we will discuss, forcing the bank to assume that it would not have access obscures the nature of the liquidity risk. Consider another form of government-provided liquidity support: deposit insurance. Should a bank plan for its liquidity needs in a situation in which its deposits remained insured by the FDIC, under the assumption that its deposits were no longer insured? Not only would such an assumption be nonsensical, but it would reduce the incentive for the bank to prepare for the situation. Why pay for deposit insurance if you have to assume that you won't have it?

WHAT TYPES OF CREDIT DOES THE FEDERAL RESERVE PROVIDE?

The Federal Reserve provides five types of credit on a regular basis and one type (with many, many variants) in emergencies. Three types of discount window credit—primary, secondary and seasonal credit—are offered to insured depository institutions (DIs): commercial banks, U.S. branches and agencies of foreign banks, thrifts and credit unions. The Fed also provides daylight credit (intraday account overdrafts) to those same institutions.[1] In addition, the standing repo facility (SRF) provides collateralized overnight credit to primary dealers (the broker-dealers authorized to do business with the Fed) and to some large DIs. In some circumstances, the Fed can also give emergency credit to any type of institution or to individuals.

Three of these sources of credit are provided to eligible institutions on essentially an unrestricted basis. The Fed is eager for the counterparties to see the sources as dependable and to feel free to use them: primary credit, collateralized daylight overdrafts and the SRF.

Primary credit is offered on a no-questions-asked basis to financially sound DIs. For domestically chartered DIs, financially sound is defined as at least adequately capitalized and CAMELS-3 rated. DIs pre-position large pools of collateral including loans and securities at their Federal Reserve Bank and keep it there continuously so that it is available if the DI needs to borrow. The Fed applies conservative haircuts to the pledged assets to determine lendable values. These are calculated under the assumption that it would take time to sell the collateral and that the sales would take place in illiquid conditions. Primary credit loans are provided with initial maturities of up to 90 days and are "repayable and renewable" on request. For example, if the loan has an initial maturity of 90 days and a current maturity of 35 days, the bank can repay the loan and get a new one with a maturity of 90 days.

In general, DIs that meet the financial soundness criteria for primary credit also have access to daylight credit. That is, they are allowed to run an overdraft in their account at the Fed that is resolved by the end of the day. Collateralized daylight overdrafts are free.

The standing repo facility was established only recently and is available to primary dealers and qualifying DIs. The facility provides counterparties with overnight cash loans against Treasuries and agency MBS. To date, only GSIBs and U.S. branches and agencies of FBOs have established access (in addition to primary dealers who got access automatically). There are no financial soundness requirements or restrictions on use.

Three types of credit have restrictions on use: seasonal credit, secondary credit and emergency credit. Seasonal credit is provided to very small insured DIs to meet seasonal swings in their funding needs. Secondary credit may be offered to DIs that do not meet the financial soundness criteria for primary credit. Reserve Banks may provide secondary credit to help a troubled depository institution get back on its feet or as a bridge to resolution. Emergency credit may be offered in unusual and exigent circumstances to non-DIs. In addition to several other restrictions, emergency credit can only be provided through a broad-based program that the Treasury secretary approves. Such credit cannot be designed to assist an individual institution.

[1] Another way the Fed extends credit is through overnight overdrafts. However, these are strongly discouraged. The overdrafting bank must pay a stiff penalty, and repeat offenders can lose their accounts. If a bank with collateral pledged to the discount window ends the day in overdraft, the overdraft is not converted into a discount window loan unless the bank asks for the loan.

WHY DOES THE FED WANT BANKS TO SEE SOME TYPES OF CREDIT AS RELIABLE AND AVAILABLE?

As we will discuss, according to its public communications, the Fed wants financial institutions to see primary credit, collateralized daylight credit and the SRF as available and reliable. It also wants there to be no stigma attached to such borrowing. For simplicity, we focus here on primary credit and discuss collateralized daylight overdrafts in an appendix; the SRF was discussed in a recent note, available here.

Primary credit is largely intended to be a monetary policy tool, putting a ceiling on the overnight federal funds rate, the interest rate at which banks lend on an unsecured basis to each other, and the FOMC's target rate. In theory, banks should be unwilling to pay more than the primary credit rate to borrow in the federal funds market. Why pay more when primary credit is available? In practice, using primary credit carries severe stigma, and the primary credit rate does not put a ceiling on the federal funds rate.[2]

Although an effective ceiling is not that important in the Fed's current "abundant reserves" monetary policy implementation framework, the lack of an effective ceiling has had material consequences. For example, the lack of an effective ceiling is one reason why the Fed adopted its large balance sheet approach to implementing policy in the first place. It is also one of the reasons why the Fed recently opened the SRF, which it designed to look and feel different from primary credit so it might be free of stigma, even though it serves essentially the same function.

Primary credit is also available to qualified banks to meet liquidity needs and is the Fed's frontline tool for stopping a liquidity crisis. During periods of market-wide liquidity strains, banks become less certain of their access to market sources of liquidity, and it becomes extremely costly to appear illiquid. As a result, banks will hoard their liquidity resources by ceasing to lend at term and possibly selling assets into illiquid markets to raise cash. Both such actions would have repercussions for other institutions and could turn liquidity strains into a liquidity crisis. If banks can count on primary credit and are willing to use it, they should be more willing to continue to extend credit to others.[3] For this reason, often the very first step the Fed takes in response to a financial shock is to remind banks that the discount window (that is, primary credit) is available to meet banks' funding needs.

As discussed in Madigan and Nelson (2002), primary credit was created as a replacement for the adjustment credit program, with the intent of fostering banks' willingness to borrow. Adjustment credit, which had been the main type of discount window credit until it was replaced by primary credit in 2003, was offered at a below-market rate, so there were rules about banks' ability to borrow. Those rules were subjective. Banks often cited their uncertainty about whether they were allowed to borrow as a reason for their reluctance to use the facility. Primary credit, by contrast, is provided at an above-market rate to financially sound banks, essentially eliminating the need for any additional rules.

Madigan and Nelson (2002) state that "The main purpose of the proposed primary credit program is to make short-term credit available as a backup source of liquidity to generally sound institutions." In support of that purpose, the five federal agencies that regulate DIs jointly issued the "Interagency Advisory on the Use of the Federal Reserve's Primary Credit Program in Effective Liquidity Management" (Federal Reserve Supervision and Regulation letter 03-15). The advisory states:

[2] As discussed in "Discount Window Stigma: We Have Met the Enemy, and He Is Us," the Fed's mixed and time-variant feelings about discount window lending since its founding have been a key reason for the stigma associated with borrowing.
[3] Stigma also cripples primary credit as a tool for preventing a liquidity crisis. See "A Major Limit on the Fed's Crisis Toolkit: Shame."

> By enhancing the availability of discount window credit, the new primary credit program offers depository institutions an additional tool for managing short-term liquidity risks. . . . Since primary credit can serve as a viable source of back-up, short-term funds, supervisors and examiners should view the occasional use of primary credit as appropriate and unexceptional.

One of the ways that the Fed seeks to limit stigma becoming associated with primary credit is by keeping borrowing secret from bank examiners, unless there is a reason to be concerned about the borrower's condition. In particular, the Fed's FAQs about primary credit note:

> Question: Does the Federal Reserve share information about institutions' use of the discount window with bank regulators?
>
> *Answer: [T]he Federal Reserve does not routinely share information about institutions' borrowing with regulators. Regulators may, however, obtain information about an institution's borrowing history when they are investigating a potential supervisory problem.*

Interviews with bank treasurers indicate that the Fed policy is now essentially irrelevant, as any treasurer would be compelled to inform the examiners if the bank borrowed:

> All the treasurers noted that if they borrowed, they would immediately inform their bank supervisors, and in most cases this notification would occur prior to borrowing. One bank relayed that the notification of their supervisor would be automatic, because borrowing is one of their "early warning indicators." Another emphasized that if she did not tell her examiner, the examiner would be "furious."

HOW IS PRIMARY CREDIT INCORPORATED INTO BANKING AGENCIES' LIQUIDITY ASSESSMENTS?

Banks must satisfy three types of liquidity requirements for which the ability to borrow primary credit is relevant: the liquidity coverage ratio (LCR), internal liquidity stress tests (ILSTs) and resolution liquidity requirements.

The LCR is a 30-day metric that compares a bank's high-quality liquid assets (HQLA) to its projected net cash outflows under stress, using conservative assumptions set by regulators. The LCR is intended to measure a bank's ability to withstand a period of idiosyncratic and market stress, including a three-notch public-rating downgrade. In the United States, a bank would not be allowed to count its capacity to borrow primary credit (the lendable value of pledged collateral) as HQLA or as a cash inflow. In the unlikely event that the bank had a discount window loan outstanding and that loan was maturing within the 30-day window, the maturing loan would count as a cash outflow (because the loan would be assumed not to roll over).

However, during the COVID crisis, the Fed extended the initial allowable maturity of primary credit loans to 90 days, "repayable and renewable" on the borrowing bank's request. Consequently, a bank could borrow at a term that extended beyond the LCR's 30-day window and then repay and renew the loan before its maturity reached 30 days, perpetually boosting its LCR either by investing in HQLA or repaying a shorter-term liability. That change remains in effect.

Separately from the LCR, banks are required under Regulation YY to perform internal liquidity stress tests at least monthly across several time horizons: overnight, 30 days, 90 days, one year and any other time horizon relevant to their liquidity risk profile. The results are then shared with examiners. These liquidity stress tests must include (1) a scenario with adverse market conditions; (2) a scenario with an idiosyncratic stress event; (3) a scenario with combined market and idiosyncratic stress; and (4) any other appropriate scenario based on a BHC's financial condition, size, complexity, risk profile and scope of operations or activities. Banks are permitted to make their own cash flow projection assumptions and own determinations of "highly liquid assets." However, they are subject to annual supervisory horizontal liquidity reviews that often lead to changes in those assumptions to make them more consistent with the LCR construct.

Unfortunately, the details of internal liquidity stress test requirements are secret. The regulation states that banks cannot count on lines of credit for liquidity within 30 days, so it is a safe guess that they would also be unable to anticipate borrowing from the discount window. In any case, banks indicate that they are unwilling to propose a plan that involves borrowing primary credit, in part because examiners would disapprove.

Two liquidity requirements are included in resolution planning for those banks that need to submit a living will: the Resolution Liquidity Adequacy and Positioning (RLAP) requirement, and the Resolution Liquidity Execution Need (RLEN) requirement. RLAP is an estimate of the liquidity needed to cover liquidity stress that may arise during resolution, such as ringfencing by foreign jurisdictions. RLEN is an estimate of the liquidity that the affiliates of the holding company need to execute the resolution. The agencies have issued instructions regarding incorporation of the discount window into their resolution liquidity plans. The instructions are clearer about ways that primary credit cannot be included than about ways that it could be:

> The firm may assume that its depository institutions will have access to the Discount Window only for a few days after the point of failure to facilitate orderly resolution. However, the firm should not assume its subsidiary depository institutions will have access to the Discount Window while critically undercapitalized, in FDIC receivership, or operating as a bridge bank, nor should it assume any lending from a Federal Reserve credit facility to a non-bank affiliate.

OTHER CENTRAL BANKS

European Central Bank

In Europe, banks are allowed to plan on using regular central bank funding, and ECB supervisors consider unencumbered high-quality central bank collateral a source of liquidity. However, banks are expected to maintain diversified sources of funding and not rely too much on any one source, including the central bank.

Bank of England

The Bank of England has no formal liquidity requirements other than the LCR, but it does assess each bank's ability to monetize its HQLA. In those assessments, the banks are allowed to plan on using regular BoE lending facilities to monetize their assets.

The Bank of England also created a new repo facility (the "Short-term Repo Facility or "STR") as part of its QT plan, describing it in terms similar to those used in the primary credit SR letter-0315:

> The Bank intends that the STR should be used freely from the point of introduction, as a way for counterparties to access reserves as necessary. The [Prudential Regulation Authority] would judge use of the STR as routine participation in sterling money markets and intends that it should be seen as such by bank boards and overseas regulators.

In 2019, the BoE also conducted the first part of a one-time liquidity stress test that resembled the ILSTs that U.S. banks are required to conduct. The pandemic prevented the completion of the test, but some observations are included in the Bank of England's recent discussion paper on HQLA usability. In the test, the BoE simulated a system-wide severe liquidity stress event and examined how banks would respond, including their use of BoE credit facilities (described here). The guidelines for the test stated:

> Banks may also seek to use the Bank of England's liquidity insurance facilities to generate liquidity, drawing down pre-positioned collateral in some cases. Banks will be guided to base their initial assumptions about these facilities on the Bank's published material covering the Sterling Monetary Framework.

One of the test objectives was noted:

> . . . to improve public understanding about the role of the Bank in mitigating liquidity risk to the UK financial system. The [Biennial Exploratory Scenario] will help to raise awareness of how the Bank's liquidity facilities—which include the ability to lend to banks in all major currencies—operate in a liquidity stress, and how they interact with the PRA's regulatory framework.

THE PROPOSAL

Our proposal is simple, in line with the practice in other jurisdictions, and consistent with federal banking agency guidance. A liquidity assessment of a commercial bank should allow the bank to assume that it will make use of an existing central bank credit facility available to the bank in the liquidity stress situation envisioned. In particular, in a liquidity stress test of a scenario in which a bank remains at least CAMELS-3 rated and adequately capitalized, the bank should be allowed to assume that it will borrow primary credit for 90 days, repayable and renewable on request, in an amount up to the lendable value of the collateral it has pledged.

The same should be true in a resolution liquidity requirement for the new institution, if it has been recapitalized sufficiently to be adequately capitalized and CAMELS-3 rated. Of course, if the Fed changes the terms on primary credit, the assumptions about use of primary credit should change as well, just as they would if a market for an asset the bank planned on liquidating became less or more liquid.

Note that the proposal in general would establish tougher financial soundness criteria for *planning* on using primary credit than for simply having contemporaneous access. Most liquidity stress scenarios (although not all) include a deterioration in the bank's financial condition. As we saw, for example, the LCR is intended to replicate a

3-notch credit rating downgrade. On the other hand, the ILST scenario encompassing just systemic risk would not include a downgrade. In this sense, the different treatment of idiosyncratic risk versus systemic risk recommended by Carlson and colleagues would be followed.

The bank would also be required to demonstrate that it would actually borrow primary credit in the circumstances. If a bank's liquidity plans entailed borrowing primary credit, but it proved unwilling to do so in the event, the systemic consequences would be effectively the same as if the bank lacked the resources available to meet its liquidity needs. In particular, the bank would have an incentive to pull back from lending to other banks at term and sell assets at fire-sale prices. One way the Fed could help ensure that banks would actually be willing to borrow would be to conduct a horizontal liquidity stress test like the Bank of England's, designed to increase awareness of and encourage use of primary credit, collateralized daylight credit and the SRF.

This proposal presents several benefits. Most importantly, liquidity stress tests and resolution requirements would be more accurate and therefore create the right incentives. A bank with collateral pledged to its central bank is better prepared for contingencies than one that doesn't have collateral pledged; and if more banks pledge collateral and are willing to use primary credit, then the financial system is more resilient.[4] But if a bank does not benefit from pledging collateral to its Federal Reserve Bank, it has little incentive to do so.

Moreover, if banks and bank examiners were trained to "view the occasional use of primary credit as appropriate and unexceptional," as indicated in SR-0315, then, over time, the stigma currently associated with primary credit should be reduced. As a result, primary credit would be a better monetary policy tool as well as a better financial stability tool.

In general, we do not propose that the Fed change the LCR, because most of its terms are established in an international standard. However, the U.S. implementation departs from the international standard in requiring banks to have sufficient HQLA to meet liquidity needs *over* 30 days, not just *at* 30 days. As recommended in "Give Banks Credit For Robust Contingent Liquidity Arrangements," the Fed should allow banks with collateral pledged to anticipate covering liquidity needs within 30 days using discount window credit, as long as the bank would remain eligible for primary credit in the hypothetical LCR stress scenario. Doing so would bring the Fed into accord with the Basel standard.

Going further, the United States should seek to have the LCR revised so that Committed Liquidity Facilities (guaranteed lines of credit from the central bank) with reasonable terms count as HQLA. Such an approach would allow access to central bank liquidity to be recognized in a uniform way across jurisdictions. More information on CLFs is available here.

SOME EXAMPLES

On September 11, 2001, the terrorist attacks on the World Trade Center shut down the interbank market. But banks retained access to their accounts at the Federal Reserve Banks, and the discount window continued to operate. Many banks ended the day in overdraft, and those with collateral pre-positioned borrowed from the discount window. The Fed were exposed to uncollateralized credit risk to the banks that had not pledged collateral but ended the day in overdraft, and as a result, taxpayers were as well.

[4] Similarly, if a bank can assume SRF use in its liquidity stress test, the bank will have a stronger incentive to establish SRF access.

What would it mean for a bank that was making contingency plans to *self-insure* against that risk today? Indeed, what, exactly, is the risk? Is it the risk that the same event would happen but there was no discount window, no primary credit? The Fed does exist and is offering primary credit to commercial banks, and it purports to want them to see it as available and reliable. Why would it be desirable for banks to hold additional HQLA on their books, rather than loans to businesses and households, to insure against hypothetical risk that doesn't exist? If a bank was required to self-insure against that risk, why would it have an incentive to pledge collateral to the discount window?

Cost to the FDIC

There is a common misconception that requiring a bank to "self-insure" would reduce risk to the FDIC insurance fund. The costs to the FDIC can be increased if a bank borrows from the discount window against collateral to repay uninsured creditors for a period before its failure. There would be fewer creditors to the bank to share losses with the FDIC, and fewer good assets to defray costs. However, exactly the same is true if the bank uses its HQLA for a period to repay uninsured creditors. The only effective approach in such a situation is to close the institution quickly.

At the other end of the spectrum, consider a scenario in which a bank endures massive losses that leave it less than adequately capitalized. The bank would be unable to anticipate borrowing primary credit to cover its liquidity needs in that circumstance, and it would need to self-insure for those liquidity risks.

Those are easy cases, though. Consider a bank that held a lot of highly rated asset-backed securities, where those securities made up the bulk of its collateral pledged to the discount window. If the bank were planning for liquidity needs that arose because another institution failed as a result of losses on similar securities, should the bank be able to plan on using primary credit?

Under our proposal, the bank would be able to plan on borrowing primary credit if it remained eligible, although its borrowing capacity would be reduced by the reduced market value of the ABS. The Fed's published terms indicate that it would be willing to lend in such circumstances. Indeed, this is a classic situation where central bank lending could prevent a liquidity crisis. If the Fed is sincere in wanting banks to see primary credit as an available and reliable source of contingency funding, then the bank should be able to count on using primary credit in such circumstances. Conversely, if the Fed would not want the bank to count on primary credit in such circumstances, then the Fed needs to revisit its lending terms, financial soundness criteria or procedures for calculating collateral haircuts.

All of these situations stand in contrast to what most people think of when they think of Fed lending: the Fed acting as a lender of last resort. For example, the Fed lent emergency credit to money market mutual funds in 2008–2009 and in 2020–2021. Should money funds be able to count on such credit in the future? No, because the Fed does not intend such funding to be seen as available and reliable.

Conclusion

Although most people equate central bank lending with the central bank acting as a lender of last resort, most central bank lending takes the form of unremarkable daily transactions from credit facilities that the central bank wants eligible counterparties to use freely and to see as reliable.

Liquidity regulations and examiner assessments of bank liquidity should assume that a bank is able to continue to make use of such ordinary central bank credit, on the terms the central bank is offering in situations where the bank continues to have access. The proposed treatment would improve the accuracy of regulatory assessments of bank liquidity, create beneficial incentives to prepare for liquidity strains and be consistent with the procedures of the BoE and ECB.

Appendix: Collateralized Daylight Overdrafts

As we noted, in addition to primary credit, the Fed regularly offers two other types of credit that it wants financial institutions to use freely and see as reliable: collateralized daylight overdrafts, and the Standing Repo Facility. Just as with primary credit, the Fed should allow financial institutions with access to these two types of credit to assume that they may make use of them in stress scenarios in which they would continue to have access. A recent BPI blog post discussed the logic for allowing those institutions with access to the SRF to assume that they may make use of it to monetize eligible collateral at the facility: "Two Important Fed Programs that Should Be Mutually Reinforcing Are in Conflict. Why?" This appendix briefly makes the case for collateralized daylight overdrafts.

Insured DIs—commercial banks, thrifts, credit unions and U.S. branches and agencies of foreign banks—are eligible to have deposit accounts at Federal Reserve Banks. Transfers between those accounts are the backbone of the payment system in the United States, and the Federal Reserve Board's Payment System Risk policy establishes rules for account use. In particular, the PSR policy establishes the conditions under which the DIs can have an intraday or "daylight" overdraft in their account, and the fees for the overdraft.

Starting in 2006, the Board engaged in a multiyear effort to revise its PSR policy. As noted in the request for public comment on policy changes that the Board published in 2008 (available here), the prior policy was built on a premise that overdrafts were "necessary but undesirable." For one thing, the Fed charged a fee for all daylight overdrafts and did not distinguish between an overdraft that was collateralized and one that wasn't. The Board concluded that the existing policy "encouraged DIs to delay sending Fedwire payments until later in the operating day, creating added operational risk for the markets."

The revised policy was intended to reduce systemic risk and increase taxpayer protection against losses. It communicated to the public that the Fed has a constructive role providing collateralized daylight overdrafts to "healthy" DIs, reducing the fee on collateralized overdrafts to zero, and raising the fee on uncollateralized overdrafts. A "healthy" DI means, essentially, one that "has access to primary credit." The new policy was implemented in 2011.

The Federal Reserve and FDIC's guidelines for resolution plans are consistent with the principle that institutions should be able to count on Fed credit for which they would remain eligible:

> **Question 16**: Access to Reserve Bank Daylight Credit Q. What assumptions can firms make regarding access to Federal Reserve daylight credit?
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> **Answer**: Access to daylight credit is governed by the Federal Reserve Board's Policy on Payment System Risk (PSR Policy) and generally is provided only to institutions that are in sound financial condition based on their capital ratios and supervisory ratings and subject to the discretion of the Reserve Bank. For the purpose of Section 165(d) resolution plans only, firms may assume that subsidiary depository institutions that are at least adequately capitalized will have access to fully collateralized daylight credit even in cases where the supervisory ratings of the parent assumed in the exercise fall below fair as a result of the condition of the parent firm or an affiliate. However, the plan should not assume depository institutions will have access to intraday credit while undercapitalized, in FDIC receivership, or operating as a bridge bank. This guidance applies only to the Section 165(d) resolution plans and does not modify the PSR Policy.

How use of collateralized daylight credit is treated in ILSTs remains unknown.

Daylight credit used to be common, but its use plunged when the Federal Reserve began to saturate the financial system with reserve balances, as a consequence of emergency lending and asset purchases after the GFC. This situation continues. Reportedly, because daylight credit is now rare, some stigma is developing toward its use, partly because examiners have begun to see it as a sign of liquidity stress. If so, the Fed may want to offer the public more clarity about its willingness to provide collateralized daylight credit.