California ISO

California Independent
System Operator

SC Credit Policy Review

November 30, 2004

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Agenda

I. Current Practices

II. Opportunity for changes

III. Process Overview

IV. Report on Issues

V. Next Steps

I. Current Practices

- Credit standard
  - “Approved Credit Rating” (ACR)>> unlimited security.
  - No ACR >> post collateral for 100% of maximum financial obligations.
- Calculate liability estimates
- Enforcement
  - Requests, reject schedules, terminate SC agreement

II. Why Change?

- Objectives
  - Enforce credit equitably
  - Ensure confidence of sellers and buyers in the market
  - Ensure adequate supply of power at reasonable cost

Why Change?

- Experience of energy crisis
  - Unlimited credit >> financial consequences
  - Enforcement tools lacking
- Participant concerns
  - Transparency, fairness, reduction of credit risk, minimize collateral obligations
  - Views of sellers / buyers differ
- FERC Order
  - Current approach not consistent with PL05-3-000 “POLICY STATEMENT ON CREDIT-RELATED ISSUES” issued 11/19/2004

November 19 FERC Order

- Consider qualitative and quantitative factors
  - "applicant's history; nature of organization and operating environment; management; contractual obligations; governance policies, financial and accounting policies, risk management and credit policies; market risk including price exposures, credit exposures, and operational exposures; event risk; and the state or local regulatory environment"
- No ACR >> applicant *not necessarily* less than creditworthy
- Adopt shorter payment cycles
- Consider credit insurance
- Stakeholder process
- Written analysis of how policies applied

III. Process Overview

- Posted draft credit policy April 2003 and potential changes summer 2003
- Internal process to consider changes from fall 2003 to fall 2004
  - Listed issues
  - Benchmarked current policy
  - Developed recommendations
  - Internal review process
- Stakeholder Process (starts today)

Process Overview (2)

- Future Steps
  - Review/revise recommendations
  - Develop Tariff Language
  - Bring to ISO Board for Approval
  - File Tariff Language
  - FERC Process
  - Changes Become Effective

IV. Issues Under Consideration

1. Creditworthiness
   a) Credit Limits
   b) ISO Approved Agreements
   c) Credit Insurance
2. Liability Obligation Calculations and Security Posting Requirements
   a) New SCs
   b) SCALE Process
   c) Posting Requirements-Other
3. Enforcement
   a) Unsecured Obligations Penalties
   b) Late Payment Penalties, and
   c) SC Suspension, Disconnection and Termination

1a. Credit Limits

- Current Approach
  - Entity with ACR receives unlimited credit
  - Entity without ACR provides financial collateral for maximum outstanding liability
- Why Change?
  - Energy crisis of 2000-2001 demonstrated risk
  - Increased risk has reduced depth of market
- Recommendation
  - Establish tiered limits on unsecured credit
  - Based on entity's tangible net worth
  - Consistent with approach used by ERCOT, IMO, NYISO and PJM

1a. Credit Limits (2)

- Proposed Approach
  - 50% Agency Rating, 50% rating implied by Moody's KMV default probability
    - Use of third-party credit assessment
      - Moody's KMV or others
  - Could be further adjusted to limit credit concentration
    - Example: no entity may represent more than X% of market's total unsecured credit
  - Eliminate separate standards for market & GMC

Example – Credit Limits

ABC Trading Company

- Moody's long-term rating of A
- Standard & Poor's long-term Rating of BBB+
- A1 Moody's KMV Rating
- Total Assets - $192 million
- Total Liabilities - $38 million

Example – Credit Limits

Step 1: Apply Agency Rating

Short-Term Debt

S&P / Moody's/ Fitch	Score
A-1 / P-1/ F-1 or higher	2
A-2 / P-2 / F-2	4
A-3 / P-3 / F-3	6
Less than A-3 / P-3 / F-3	6 + 1 for each notch

Long-Term Debt

S&P, Moody's, Fitch	Score
AA- / Aa3 or higher	1
A+ / A1	2
A / A2	3
A- / A3	4
BBB+ / Baa1	5
BBB / Baa2	6
Less than BBB / Baa2	6 + 1 for each notch

Example – Credit Limits

- Moody's LT rating of A1 >> Score of 2
- S&P LT rating of BBB+ >> Score of 5
- Average >> 3.5

Example – Credit Limits

- Step 2 – Moody's KMV Default Probability

Moody's KMV Rating	Score
Aa3 or higher	1
A1	2
A2	3
A3	4
Baa1	5
Baa2	6
Lower than Baa2	6 + 1 for each notch lower

Example – Credit Limits

- Step 3: Calculate Combined Numeric Rating Score from Agency Rating and Moody's KMV scores
  - Agency rating score of 3.5
  - Moody's KMV of A1 >> Score of 2
  - Combined rating = 50% (3.5) + 50% (2) = 2.75

Example – Credit Limits

- Step 4: Use Combined Numeric Rating Score to determine percentage of net worth allowed as unsecured credit

Combined Numeric Rating Score	% of Net Worth in Initial Unsecured Credit
< 1.5	7.5%
1.5 ≤ score < 2.5	6.5%
2.5 ≤ score < 3.5	5.0%
3.5 ≤ score < 4.5	4.0%
4.5 ≤ score < 5.5	2.5%
5.5 ≤ score < 6.5	1.5%
Over 6.5	0%

Combined Numeric Rating Score of 2.75 >> Initial Unsecured Credit of 5.0% of Net Worth

Example – Credit Limits

Step 5: Calculate Tangible Net Worth and Initial Unsecured Credit Limit

Total Assets:	$192.1 million
Total Liabilities:	38.0 million
Tangible Net Worth:	$154.1 million

Initial Unsecured Credit Limit

5% X $154.1 million = $7.7 million

Example – Credit Limits

Step 6 (optional): Apply credit concentration limit

- Suppose total ISO Accounts Receivable = $136 million and credit concentration limit is 35% of Accounts Receivable
- Limit = .35 X $136 million = $79 million
- ABC Trading Company's unsecured credit = $7.7 million (lesser of initial limit or credit concentration limit)

1a. Credit Limits

- Benefits of Change
  - Limits risk from entities with acceptable credit
  - Extends some credit to entities with lower ratings reducing security posting burden
  - More consistent with other ISOs' credit policies
- Issues / Challenges
  - Effect of FERC Nov. 19 Policy Statement - PL05-3-000

1a. Credit Limits - Discussion

- Tiered Approach – agree or disagree?
- Allow some credit to entities with lower ratings?
- Is % of tangible net worth reasonable?
- Apply same approach to municipal utilities & other governmental entities?
- Consideration of factors other than national credit ratings
  - Moody's KMV or alternative: GlobalCreditServices
  - Per FERC, need to consider qualitative factors
- Apply limit to credit concentration *i.e.* no entity may have more than X% of market's total unsecured credit?
- Eliminate separate security posting requirement for Market and GMC charges?

1b. ISO Approved Agreements

- Current Approach
  - Recommended pre-approved forms
  - SCs may submit alternates for approval
  - Agreements remain in effect until expiration date
- Why Change?
  - Some forms subject to laws of other states
  - Could increase enforcement costs
  - Could prevent enforcement of collateral
  - Increased risk to market participants

1b. ISO Approved Agreements (2)

- Recommendation
  - Require ISO-approved forms for letter of credit, guaranty, escrow
  - Consider others forms of security on a case-by-case basis
  - Security agreements reach $0 value 30 days before expiration date
  - Review by ISO Legal Department
- Issues / Challenges
  - Should ISO require use of standard forms?
  - Should exceptions be allowed?
  - Should agreements reach $0 30 days before expiration?

1c. Credit Insurance

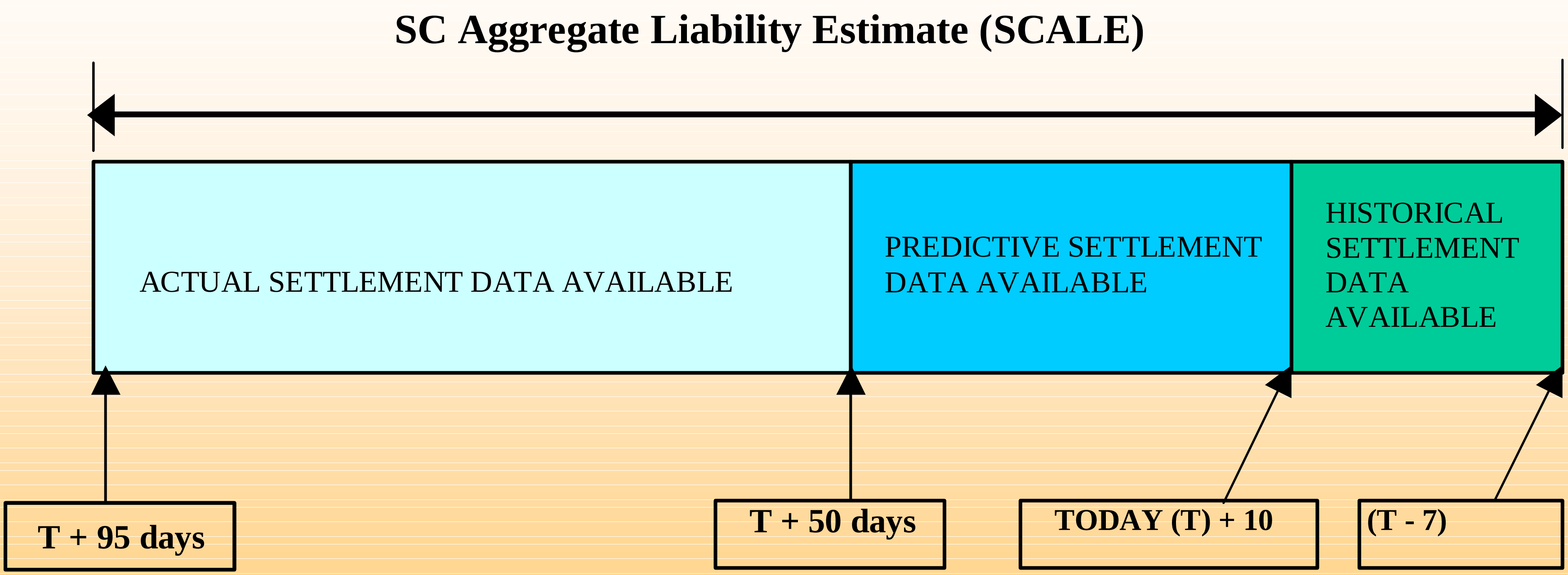
- Current Approach
  - Credit insurance not used
- Why Change?
  - November 19 FERC Order
  - “Best practice” used or considered by other ISOs.
- Alternatives
  - Receive proposals from Aon & share with market participants
    - Several approaches:
      - 1. Additional form of security like L/C……but at reduced cost to SC
      - 2. Pool coverage: additional assurance against defaults.
- Issues / Challenges
  - For pool coverage: cost recovery

2a. Liability Obligation Calculations

Requirements for New SCs

- Current approach:
  - SC determines own liability estimate
  - Can use ISO simplified spreadsheet
- Recommendation
  - Allow use of simplified spreadsheet
  - Require initial 14 days of security
  - Evaluate weekly
- Comments?

2b. SCALE Process Overview



2b. SCALE Process (2)

- Implemented earlier this year
- Based on data from market and operational systems
- Incorporates:
  - Outstanding obligations
  - Actual settlement charges
  - Predictive obligations
  - Historical data
- Recommendation: continue using SCALE

2b. SCALE Process (3)

Refinements to SCALE

- Load adjustment percentages: daily to hourly
- Generation adjustment percentage: hourly adjustment equal to historical generation variance
- Intertie MWh adjusted to reflect variance between scheduled and actual
- No further refinements planned, but will review as necessary.

2b. SCALE Process (4)

Accuracy of SCALE

- Issue: avoid potential underestimation of charges
- Recommendation: develop “unadjusted” and “adjusted” values for SCALE
  - Based on variance between SCALE and actual settlements
  - Use higher of two values to establish posting requirement

2c. Security Posting Requirements

Number of Days in Liability Calculation

- Days of liability varies over the month
- Options:
  - Require level posting for entire invoice-to-invoice payment period
  - Allow variable posting during the month
- Recommendation: allow SCs to choose desired method
  - Require level posting if SCs do not respond timely to requests for increased posting

2c. Security Posting Requirements (2)

Price volatility and forecasted liabilities

- Issue: SCALE uses estimated data for period where operational data is unavailable
  - Price volatility can occur during this period—consider using historical measure of volatility to adjust prices.
- Recommendation: maintain current practice
  - Prices are fairly stable
  - Revisit as necessary

2c. Security Posting Requirements (3)

Special Circumstances - Issues:

- SCALE does not “see” certain charges not yet settled (adjustments, refunds, disputes, GFN)
- SCs leaving the market may continue to have obligations due to potential adjustments.

2c. Security Posting Requirements (4)

- Special Circumstances -Recommendation
  - Include the following in SCALE and require security accordingly:
    - Daily adjustments and disputes
    - Refund orders – if they can be reasonably calculated and collected prior to settlement
    - Good Faith Negotiations
    - Debtor/Creditor SCs leaving the market or with substantial activity changes
      - Upon exit, require posting of 5% of net charges during period of ISO market participation for one year or as otherwise warranted.
- Comments?

2c. Security Posting Requirements (5)

Requirements by individual Trade Months

- Current procedure: net creditor and debtor months
  - Issue: During a "net creditor" month, ISO may not be able to clear the market
- Recommendation: Maintain current practice
  - Risk of non-payment is fairly low
  - FERC Policy statement promotes "netting" of products.

2c. Security Posting Requirements (6)

Impacts of new settlement system

- SaMC specifications:
  - Estimated liability run at T+2 - replace the SCALE process
  - New credit management tools integrated with the settlement and accounting functionality
  - A new web interface to access all credit requirement information
- Recommendation: ISO Finance Department to ensure that SaMC project reflects changes from this credit policy review

2c. Security Posting Requirements (7)

Impacts of Payment Acceleration

- Implementation Fall 2005
- Unsettled days reduced from 65-95 to 30-50
- Recommendation: revisit posting requirements upon implementation of Payment Acceleration

3a. Unsecured Obligations Penalties

- Current Approach
  - SC has primary responsibility to determine posting requirement, but currently has little incentive to do so accurately.
  - Inadequate tools for enforcement of posting obligations
    - Tariff allows/requires suspension of Scheduling privileges
- Why Change?
  - Cases of:
    - Lack of responsiveness to ISO requests for security
    - Frequent adjustments without leaving “margin for error”
    - Exceeding limits based on review of collateral vs. actual settlements data

3a. Unsecured Obligations Penalties (2)

- Recommendation
  - Penalty for exceeding allowable credit
  - Based on difference between posted security and actual (settlement-based) obligation:

Daily Unsecured Charges Penalty = (Period Charges - Posted Security) X Daily Penalty Rate

  - “Safe Harbor” for SCs that comply timely with ISO requests for additional security postings (90% utilization)

Example – Unsecured Obligations Penalty

Trade Month	Unsecured Credit Granted	Security Posted	Total Security	Settlement Charges	Unsecured Charges (Basis for penalty)
Jan 04	$300,000	$300,000	$600,000	$750,000	$150,000
Feb 04	$300,000	$300,000	$600,000	$750,000	$150,000
Mar 04	$300,000	$300,000	$600,000	$725,000	$125,000

Period Unsecured Charges: Jan $150,000 Feb $150,000 Mar $125,000

Daily Penalty Rate: FERC Interest Rate 4.22% + 5% = 9.22% / 365 = 0.025%

Penalty: Jan $150,000 X 0.025% X 31 days = $1,162.50

Feb $150,000 X 0.025% X 29 days = $1,087.50

Mar $125,000 X 0.025% X 31 days = $1,162.50

Total = $3,412.50

3a. Unsecured Obligations Penalties (3)

- Issues / Challenges
  - Amount of penalty:
    - FERC rate plus 5% calculated daily on unsecured charges.
    - Appropriate penalty amount?
  - Safe harbor?
    - No penalty assessed if SC relies on and complies with ISO posting request
      - FOR: may be difficult for SC to calculate some charges.
      - AGAINST: SC has primary responsibility to determine sufficient collateral
  - Alternate approaches to encourage compliance?
    - Posting names of under-secured SCs?

3b. Late Payment Penalties

Current Approach

- Payments due by 10:00 a.m. on payment date
- Late payments can delay distribution to creditors
- Interest on late payments calculated at FERC interest rate
- Late payments can lead to SC being required to post security for one year

Why Change?

- 2000/2001 energy crisis – continued lack of compliance with payment requirements
- Interest charges on late payments insufficient incentive
- Lack of “progressive discipline” approach

3b. Late Payment Penalties (2)

Recommendation – tiered approach

- First violation in calendar year: warning letter
- Second and subsequent violations in calendar year: Fine of 1% per day of late payment (minimum $100, maximum $10,000)
- Third violation:
  - SC must post appropriate collateral equal to late payment amount
  - Loses Approved Credit Rating for one year

Example – Late Payment Penalty

Invoice: $750,000

Payment is three days late

- First violation
  - Warning letter
- Second and subsequent violations
  - Penalty = 3 days X 1% X $750,000 = $22,500 (min. of $100/day, max of $10,000/day)
- Third Violation
  - Additionally, SC must post $750,000 in cash and lose ACR for one year

3c. SC Suspension, Disconnection and Termination

Current Provisions

- Tariff section 2.2.7.4, the ISO has the right to reject an SC's schedule in the event that the SC does not provide adequate security.
  - SCAP 7.2.3 "will reject" schedules from insufficiently collateralized SCs.
  - FERC Orders on Creditworthiness require the CAISO to reject an SC's schedule if the SC has failed to post adequate security. "Order Addressing Creditworthiness Tariff Provisions Proposed by the California Independent System Operator Corporation and California Power Exchange," California Independent System Operator Corporation, 94 FERC 61,132 (Feb. 14, 2001).

3c. SC Suspension, Disconnection and Termination

Current Provisions (continued)

– Tariff sections 2.2.4.5 through 2.2.4.7.2, deal with termination of an SC's Service Agreement and is directed primarily at SCs with retail customers (i.e. Energy Services Providers or "ESPs") in locations served by the state's IOUs as it deals with transferring a terminated SC's eligible customers to other SCs that have been placed on list that is developed and maintained by the ISO.

3c. SC Suspension, Disconnection and Termination

Deficiencies

- Tariff section 2.2.7.4 does not include mandatory language requiring ISO to reject schedules consistent with FERC orders on creditworthiness.
- Tariff does not distinguish between LSEs that are default providers (“POLRs”) and LSEs that are ESPs.
- Tariff language requiring the ISO to maintain a list of ESPs and allowing SC’s customers to select a new SC, is anachronistic.

3c. SC Suspension, Disconnection and Termination

Recommendation

Amend Tariff to:

- Reflect FERC Orders requiring the ISO to reject an SC's schedule to the extent the SC is inadequately secured and suspend the SC from participating in the ISO's markets until adequate security has been provided.

- Require the ISO to transfer load of under-secured SCs that are ESPs to the relevant IOU by informing the CPUC and relevant IOU. Delete anachronistic tariff provisions.

3c. SC Suspension, Disconnection and Termination

Recommendation (continued)

Amend Tariff to:

- Provide that suspension may result in termination.

- Provide that SC obligations under the SC Agreement remain (e.g. obligation to pay any amounts due under SC agreement and/or Tariff) even if the SC is suspended or terminated.

Next Steps

December 17	Deadline for written comments on proposed changes
December 30	Revised draft proposal
January 2005	Internal review of draft recommendation
January 27, 2005	Recommendation to ISO Governing Board
February – March 2005	Prepare Tariff language
Second Quarter 2005	File Tariff language
Third Quarter 2005	Implement changes to ISO Credit Policy