

130 FERC ¶ 61,163  
UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Jon Wellinghoff, Chairman;  
Marc Spitzer, Philip D. Moeller,  
and John R. Norris.

Florida Blackout

Docket No. IN08-5-000

ORDER APPROVING STIPULATION AND CONSENT AGREEMENT

(Issued March 5, 2010)

1. The Commission approves the attached Stipulation and Consent Agreement (Agreement) between the Office of Enforcement (Enforcement), the North American Electric Reliability Corporation (NERC) and the Florida Reliability Coordinating Council, Inc. (FRCC). This order is in the public interest because it resolves on fair and reasonable terms the investigation of FRCC conducted by Enforcement, the Commission's Office of Electric Reliability and NERC into possible violations of Reliability Standards associated with the Bulk Electric System (BES) load loss event in the State of Florida on February 26, 2008, more commonly referred to as the "Florida Blackout."

2. FRCC has agreed to pay a civil penalty of \$350,000 to be divided equally between the United States Treasury and NERC. Also in the Agreement, FRCC has committed to undertake numerous specific reliability enhancement measures including: meeting its staffing commitments regarding the Reliability Coordinator (RC) position; utilizing dynamic load modeling for system stability analysis across Florida; and enhancing its planning assessment process. FRCC will also make semi-annual compliance reports to Enforcement and NERC staff for a period of up to two years.

**Background**

3. FRCC is a not-for-profit company incorporated in Florida. Along with serving as a "Regional Entity" responsible for proposing and enforcing Reliability Standards within its region, FRCC also performs various member services, including functioning as the RC under the Reliability Standards. As a RC, FRCC has the responsibility and authority for the reliable operation of the BES within FRCC and compliance with associated Reliability Standards. FRCC performs this function through a contract with Florida Power & Light Company (FPL), by which FPL executes the RC function through FPL

control room personnel. Beginning in 2005, it was FRCC's policy to staff the RC position with a dedicated operator from June to September on weekdays during peak hours. During all other times, October to May and all evenings and weekends, the FPL System Operator also fulfilled the responsibilities of the RC. FRCC also serves as a Planning Authority for the FRCC region and as such has responsibility for reviewing certain system assessments conducted within FRCC.

4. On February 26, 2008, portions of the lower two-thirds of the State of Florida experienced a loss of load event more commonly referred to as the Florida Blackout. The event led to the loss of 22 transmission lines, 4,300 MW of generation, and 3,650 MW of customer service or load.

5. The event originated at the Flagami Substation on the FPL system when a field engineer was diagnosing a piece of BES transmission equipment that had previously malfunctioned. In the process, he disabled two levels of protection on equipment energized and connected to the BES and a "fault" (short circuit) occurred that resulted in transmission outages in the vicinity of the fault as well as generation and distribution outages across portions of the southern two-thirds of the state. The disabling of protection introduced the potential for much more significant contingencies within the FRCC footprint, but the operator fulfilling the RC function was not informed that any protection had been disabled and therefore could not and did not operate the system recognizing these contingencies.

6. At the time of the event, the FPL System Operator was also acting as the RC. Immediately after the event, he delegated his RC responsibilities to a NERC-certified operator present in the control center, but who was not involved in operations that day. The original operator maintained responsibility for the FPL system. The new operator performing the RC function then had to assess the extent of the impacted load and canvass the system operators state-wide in order to initiate restoration. During the event, when issuing directives, the RC operators did not use the three-step communication process, direct-repeat-acknowledge. Nonetheless, restoration of the system occurred in a relatively reliable and expeditious manner.

7. We previously resolved alleged violations of the Reliability Standards by FPL in relation to the same event.<sup>1</sup>

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<sup>1</sup> *In re* Florida Blackout, 129 FERC ¶ 61,016 (2009).

### **Applicable Reliability Standards**

8. On March 16, 2007, the Commission approved the first Reliability Standards,<sup>2</sup> submitted by NERC, pursuant to section 215 of the Federal Power Act.<sup>3</sup> Those categories of Reliability Standards applicable to the Agreement are described below:

9. The Communications (COM) group of Reliability Standards requires adequate internal and external telecommunications facilities and that these communication facilities be staffed and available to address real-time emergencies and that operating personnel carry out effective communications.<sup>4</sup>

10. The Interconnection Reliability Operations and Coordination (IRO) group of Reliability Standards detail the responsibilities and authorities of a RC and are intended to facilitate a RC's ability to perform its responsibilities and ensure the reliable operation of the interconnected grid.<sup>5</sup>

11. The Personnel Performance, Training and Qualifications (PER) group of Reliability Standards are intended to ensure that suitably trained and qualified personnel are in positions that can impact the reliable operation of the BES.<sup>6</sup>

12. The Transmission Operations (TOP) group of Reliability Standards ensure that the transmission system is operated within operating limits and specifically cover the responsibilities and decision-making authority for reliable operations, requirements for operations planning, planned outage coordination, real-time operations, provision of operating data, monitoring of system conditions, reporting of operating limit violations and actions to mitigate such violations.<sup>7</sup>

### **Investigation**

13. In response to the event, the Commission publicly announced a formal non-public investigation into the cause and events surrounding the blackout.<sup>8</sup> At the conclusion of

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<sup>2</sup> *Mandatory Reliability Standards for the Bulk-Power System*, Order No. 693, FERC Stats. & Regs. ¶ 31,242 (2007).

<sup>3</sup> 16 U.S.C. § 824o (2006).

<sup>4</sup> *Mandatory Reliability Standards for the Bulk-Power System*, Order No. 693, FERC Stats. & Regs. ¶ 31,242, P 472 (2007).

<sup>5</sup> *Id.* P 888.

<sup>6</sup> *Id.* P 1324.

<sup>7</sup> *Id.* P 1567.

<sup>8</sup> *Order of Non-Public, Formal Investigation*, 122 FERC ¶ 61,244 (2008).

the investigation, Enforcement and NERC allege that FRCC violated PER-004-1 (R1), IRO-002-1 (R1), and IRO-001-1 (R9). In staff's view, FRCC did not staff the RC position and its associated independent communications systems during off peak hours and months with a dedicated operator. In addition, the RC operator was in a position where he chose to retain control over the FPL system and assign FRCC restoration responsibilities instead to a NERC-certified operator who also had served as an FRCC RC from time to time prior to the event and was present in the control center but not directly involved in operations on the day of the event.

14. Enforcement and NERC also allege that FRCC violated COM-002-2 (R2) because it did not at all times utilize three-step communication processes during the restoration as required by the standard.

15. Lastly, Enforcement and NERC allege that FRCC violated IRO-003-2 (R1), IRO-003-2 (R2), IRO-005-2 (R5), IRO-005-2 (R13), and TOP-006-1 (R5) because the RC operator was not aware of the disabled protection at the Flagami substation and hence the resulting system conditions and therefore permitted the operation of the system in an unknown state. In addition, during the restoration the RC had limited visibility of the systems affected by the event, and therefore could not directly monitor the status of some facilities.

### **Stipulation and Consent Agreement**

16. Under the Agreement FRCC agrees to pay a \$350,000 civil penalty. This amount is to be paid in a manner that reflects the dual nature of this investigation which both the Commission and NERC conducted. Accordingly, the penalty shall be paid equally between the United States Treasury and NERC. FRCC does not admit or deny that its actions constituted violations of the Reliability Standards or that it committed any violations of the Reliability Standards.

17. Since the event, FRCC undertook several steps to improve reliability including: improving communications protocols; reinforcing to its members procedures relating to disabling protection; and implementing dedicated staffing of the RC position on a 24/7/365 basis. It also independently created an FRCC position to oversee the RC function. Under the Agreement, FRCC will continue to meet these commitments. FRCC has also agreed to undertake additional reliability enhancement measures including utilizing dynamic load modeling for system stability analysis across Florida and enhancing its planning assessment process. FRCC shall also make semi-annual reports to Enforcement and NERC staff for one-year on its compliance with the agreement and the Reliability Standards, with the option of a second year at Enforcement and NERC's discretion.

18. In consideration of the appropriate remedy, staff considered the serious nature of the event and its impact on the BES. In addition, staff concluded that under different

system conditions the staffing, communication and system awareness problems could have been more harmful to the BES. However, staff also considered FRCC's limited role in initiating the event, quick restoration of the system after the event and the remedial efforts implemented following the event.

### **Determination of the Appropriate Sanctions and Remedies**

19. We conclude that the penalties and other remedies set forth in the Agreement are a fair and equitable resolution of this matter and are in the public interest, as they reflect the nature and seriousness of FRCC's alleged conduct, and recognize the company-specific considerations as stated above and in the attached Agreement. We also conclude that, under the specific circumstances of this case, the payment of a portion of the civil penalty to NERC reflects a balanced and sensible approach. We also conclude that the reliability enhancement measures set forth in the Agreement will enhance BES reliability and are therefore also fair and in the public interest.

### **The Commission orders:**

The attached Stipulation and Consent Agreement is hereby approved without modification.

By the Commission.

( S E A L )

Kimberly D. Bose,  
Secretary.

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

2008 Florida Blackout (FRCC)

Docket No. IN08-5-000

**STIPULATION AND CONSENT AGREEMENT**

**I. INTRODUCTION**

1. Staff of the Office of Enforcement (Enforcement) of the Federal Energy Regulatory Commission (Commission), staff of the North American Electric Reliability Corporation (NERC), and the Florida Reliability Coordinating Council, Inc. (FRCC) enter into this Stipulation and Consent Agreement (Agreement) to resolve a non-public investigation conducted by Enforcement, staff of the Office of Electric Reliability of the Commission, and NERC, pursuant to Part 1b of the Commission's regulations, 18 C.F.R. Part 1b (2008) and the NERC Compliance Monitoring Enforcement Program, into possible violations of the NERC Electric Reliability Standards by FRCC in its role as a Reliability Coordinator (RC) surrounding the loss of load event in the state of Florida on February 26, 2008. Unless otherwise specified, capitalized terms in this Agreement have the meanings specified in the NERC Glossary of Terms Used in Reliability Standards.

**II. STIPULATIONS**

Enforcement, NERC and FRCC hereby stipulate to the following:

**A. Background**

2. On February 26, 2008, portions of the lower two thirds of the Bulk Electric System (BES) in the state of Florida experienced an event that involved voltage and frequency swings which resulted in significant losses of customer load. The event originated at the Flagami Substation on the Florida Power and Light (FPL) system when a field engineer was diagnosing a piece of BES transmission equipment that had previously malfunctioned. In the process, a "fault" (short circuit) occurred that resulted in transmission outages in the vicinity of the fault as well as generation and distribution outages across portions of the southern two-thirds of the state. In response to the event, the Commission opened a formal investigation into the cause and events surrounding the outages. *Order of Non-Public, Formal Investigation*, 122 FERC ¶ 61,244 (2008). Contemporaneously, NERC also opened a parallel Compliance Violation Investigation (NERC0002CVI).

3. FRCC is a not-for-profit company incorporated in Florida. The purpose of FRCC is to ensure and enhance the reliability and adequacy of bulk electricity supply in Florida. The FRCC region consists of peninsular Florida east of the Apalachicola River. FRCC also serves as a "Regional Entity" (RE) with delegated authority from NERC, as

approved by the Commission, for the purpose of proposing and enforcing Reliability Standards within the FRCC region. FRCC also performs various member services and is registered in the NERC compliance registry as a RC under the NERC functional model. In this capacity, FRCC has the responsibility and authority for the reliable operation of the BES within FRCC and compliance with associated Reliability Standards.

### **B. Reliability Coordinator Staffing**

4. FRCC fulfills its responsibilities as the RC through an agreement with FPL. Under the agreement, a NERC-certified FPL employee performs the RC's responsibilities from within the FPL control center. Beginning in 2005, it was FRCC's policy to staff the RC position with a dedicated operator from June to September on weekdays during peak hours. During all other times, October to May and all evenings and weekends, the FPL System Operator also fulfilled the responsibilities of the RC. In March 2005, before the NERC Reliability Standards became mandatory, NERC along with representatives of the Commission conducted a Readiness Audit of the RC (then called the security coordinator) that found it had adequate facilities, processes, plans, procedures, tools and trained personnel to perform its function. Although no need for staffing changes were noted, the report provided that, "since the security coordinator/system operator provides coverage over FPL and FRCC concerns, FPL needs to ensure that for all shifts, a companion NERC-certified and FPL-certified system operator is available to address FPL issues when the security coordinator is committed to FRCC concerns." FPL took action to ensure that it continued to implement this staffing arrangement.

5. On February 26, 2008, the FPL System Operator was fulfilling the responsibilities of the FPL System Operator and the FRCC RC. Immediately following the initiating event, the operator delegated his RC responsibilities, including all wide area restoration responsibilities, to a NERC-certified operator who also had served as FRCC RC from time to time prior to the event and was present in the control center but not involved in operations that day. The original operator maintained responsibility for the FPL system.

### **C. Reliability Coordinator Communication Procedures**

6. On February 26, 2008, the RC operators did not utilize the three-step communication process, direct-repeat-acknowledge, when issuing certain directives to neighboring RCs and transmission operators in the FRCC region. This neither played a role in causing the event nor did it delay the restoration of service following the outage.

### **D. Reliability Coordinator's System Awareness**

7. When the FPL field engineer was diagnosing the equipment at the Flagami substation he disabled two levels of protection on equipment energized and connected to the BES. The RC was not informed of this activity. The disabling of two levels of protection introduced the potential for much more significant contingencies within the

FRCC footprint. However, because he was not informed of the status of the equipment at Flagami, the RC could not and did not operate the system recognizing these contingencies for the 37 minutes between the disabling of the protection and the fault and therefore was not in a position to conduct appropriate studies based on the actual system conditions during that time. Immediately after the fault occurred, the RC operator, to assess the extent of the impacted load in the RC area, canvassed system operators state-wide to initiate restoration. Restoration of the FRCC system proceeded in a reliable and reasonably expeditious manner.

### **E. FRCC's RC Compliance Measures**

8. Since the event, FRCC has undertaken numerous initiatives to improve and ensure compliance with the Reliability Standards. FRCC has improved communication protocols and reinforced to all operators that the three step communication process is required for directives and is an effective means of communicating other matters relating to the BES. FRCC has also reinforced with its members the procedures surrounding the removal of protection. As of June 1, 2009, FRCC has implemented staffing of the RC position with a dedicated operator on a 24/7/365 basis. In addition, it has committed to conducting an independent review of the RC function, and developing a work plan to prioritize and implement any other improvements identified during this review. It has also created a new FRCC manager position to independently oversee the RC function located in the FPL Control Center. This position was filled beginning on June 1, 2009.

### **III. RESOLUTION**

9. At the conclusion of the investigation, Enforcement and NERC allege that FRCC violated PER-004-1 (R1), IRO-002-1 (R1), and IRO-001-1 (R9) because in staff's view, FRCC did not staff the RC position and its associated independent communications systems during off peak hours and months with a dedicated operator and because the RC operator was in a position where he chose to retain control over the FPL system and assign FRCC restoration responsibilities instead, to a NERC-certified operator who also had served as FRCC RC from time to time prior to the event and was present in the control center but not directly involved in operations on the day of the event.

10. Enforcement and NERC also allege that FRCC violated COM-002-2 (R2) because it did not at all times utilize three step communication processes during the restoration as required by the standard.

11. Lastly, Enforcement and NERC allege that FRCC violated IRO-003-2 (R1), IRO-003-2 (R2), IRO-005-2 (R5), IRO-005-2 (R13), and TOP-006-1 (R5) because the RC operator was not aware of the disabled protection at the Flagami substation and hence the resulting system conditions and therefore permitted the operation of the system in an unknown state. In addition, during the restoration the RC had limited visibility of the



systems affected by the event, and therefore could not directly monitor the status of some facilities.

12. FRCC does not admit nor deny that its actions constitute any violations of the Reliability Standards or that it committed any violations of the Reliability Standards. Nonetheless, in view of the costs of litigation, and in the interest of resolving any dispute between Enforcement, NERC, and itself regarding the acts in question, FRCC agrees to undertake the obligations set forth in this Agreement. This agreement does not constitute an admission of liability or wrongdoing by FRCC to any third party.

13. Factors considered by Enforcement and NERC in determining the appropriate remedy include FRCC's limited role in initiating the event and quick restoration of the system after the event, however the under staffing, communications, and system awareness problems could have been more aggravating and more harmful to the system under different conditions. Staff concluded that FRCC's actions were not intentional or fraudulent. Staff also considered the positive effects of the remedial efforts implemented by FRCC following the event, although prior to the event FRCC's compliance focus with regard to the RC function was primarily focused on ensuring no undue preference was given to any specific entity.

14. For purposes of settling any and all civil and administrative disputes arising from Enforcement's and NERC's investigation of FRCC's possible violations, in lieu of any other remedy that the Commission or NERC might assess, determine, initiate, or pursue, concerning any of the matters referred to above, and without any admission by FRCC of wrongdoing, FRCC agrees that after the Commission issues an order approving this Agreement without modification, it shall take the following actions:

#### **A. Civil Penalty**

15. FRCC shall pay a civil penalty in the amount of \$350,000, split equally between the United States Treasury and NERC, within 10 days of the Commission issuing an order approving this Agreement without modification or condition.

#### **B. Reliability Enhancement Measures**

16. FRCC will continue to meet its commitments to: (a) ensure its operators utilize the three step communication process; (b) reinforce with its members the procedures surrounding the removal of protection; (c) staff the RC position with a dedicated operator on a 24/7/365 basis; (d) conduct an independent review of the RC function to identify and develop further improvements to its RC functions; and (e) maintain an FRCC employee to oversee the fulfillment of the RC functions.

17. FRCC shall utilize dynamic load models for system stability analysis across Florida, coordinate the implementation of these load models by each Transmission Planner and Planning Authority, and make adjustments to the models as needed.

18. FRCC will enhance its planning assessment process to strengthen its policies and procedures for evaluating BES performance, specifically with respect to meeting the requirements of Reliability Standard TPL-002-0 R1.3.10. Such planning assessment shall be in accordance with the TPL series of NERC Reliability Standards currently in effect. If any changes are made to any TPL standards, once such changes become final and not subject to appeal, FRCC will make any appropriate changes to its base case modeling requirements. The enhanced process will include:

1) a methodology for the entities registered as Transmission Planners to review all BES busses in the FRCC Region and develop a complete list of BES busses where a failure would produce “more severe System results or impacts” within the meaning of the TPL series of Reliability Standards, including the effects of existing and planned protection systems, including any backup or redundant systems;

2) a FRCC peer review process that includes system planning and protection engineers and evaluation of expected system performance related to the busses identified on the above list by the Transmission Planners, taking into account the protection design criteria per R1.3.10 in the TPL series of Reliability Standards;

3) a process for the Transmission Planners to evaluate system performance consistent with the results from step (2) above and a process for FRCC and the Transmission Planners to incorporate and validate any necessary changes in the FRCC base cases models and in the FRCC transmission study process; and

4) a procedure (i) to address unacceptable performance results under the TPL series of Reliability Standards in Transmission Planners’ Corrective Action Plans and (ii) for FRCC to validate the elimination of the unacceptable performance results or (iii) to report the potential violations to the appropriate Regional Entity or NERC.

19. FRCC shall make semi-annual reports to Enforcement and NERC staff for one year following the Effective Date of this Agreement. The first semi-annual report shall be submitted no later than ten days after the end of the second calendar quarter after the quarter in which the Effective Date of this Agreement falls. The second report shall be submitted six months thereafter. FRCC shall: (1) advise Enforcement and NERC staff whether violations of the Reliability Standards have occurred, to the extent any such violations have not already been self-reported; (2) provide a detailed update of all compliance measures under ¶¶ 16-18 above, instituted in the applicable period including description of the results of the peer review process and subsequent actions developed

under ¶ 18; and (3) include an affidavit executed by an officer of FRCC that the compliance reports are true and accurate.

20. Upon request by staff, FRCC shall provide to staff all documentation supporting its reports, including the reports and recommendations of any external consultants. After the receipt of the second semi-annual report, Enforcement and NERC staff may, at their sole discretion, require FRCC to submit semi-annual reports for one additional year.

#### **IV. TERMS OF CONSENT AGREEMENT**

21. The Effective Date of this Agreement shall be the date on which the Commission issues an order approving this Agreement without modification or condition.

22. Unless the Commission issues an order approving the Agreement in its entirety and without modification or condition, the Agreement shall be null and void and of no effect whatsoever, and neither Enforcement, NERC, nor FRCC shall be bound by any provision or term of the Agreement, unless otherwise agreed in writing by Enforcement, NERC and FRCC.

23. The parties shall treat the Agreement as confidential until approved by each party and the Commission issues an order approving the Agreement without modification or condition; provided, however, that FRCC may discuss the Agreement in principle with the Florida Public Service Commission or its staff as FRCC may deem appropriate. The Agreement shall be made public only after the Commission's approval without modification or condition.

24. All information and documents provided by FRCC to the Commission and/or NERC as part of the investigation and/or the settlement of the investigation were submitted on a confidential basis and are not information and documents that would normally be disclosed to the public. Aside from the public release of the Agreement after the Commission issues an order approving the Agreement in its entirety and without modification or condition, no information or documents pertaining to the investigation shall be disclosed by the Commission or NERC, except as required by law.

25. The Agreement binds FRCC and its agents, successors and assigns. The Agreement does not create or impose any additional or independent obligations on FRCC, or any affiliated entity, its agents, officers, directors or employees, other than the obligations identified in Section III of this Agreement.

26. In connection with the payment of the civil penalty provided for herein, FRCC agrees that the Commission's order approving the Agreement without modification or condition shall be a final order assessing a civil penalty under section 316A(b) of the FPA, 16 U.S.C. § 825o-1(b), as amended. FRCC further waives rehearing of any Commission order approving the Agreement without modification or condition, and

judicial review by any court of any Commission order approving the Agreement without modification or condition. FRCC also waives any rights of appeals provided by the NERC Rules of Procedure.

27. Commission approval of this Agreement without modification condition shall fully, irrevocably, and unconditionally release FRCC, its agents, officers, directors and employees, both past and present, and any successor in interest to FRCC from, and forever bar the Commission and NERC from bringing against FRCC and its agents, officers, directors and employees, both past and present, and any successor in interest to FRCC, any and all direct and/or indirect administrative, civil, criminal or other claims or liability (whether or not known) arising out of, related to, or connected with the event or the investigation. In further consideration for this release, FRCC represents that it is not aware of any material facts concerning the event that were not disclosed to Enforcement during the investigation and which might reasonably be considered to be a violation of any Reliability Standard. Upon the Effective Date of this Agreement, Enforcement's and NERC's investigation of FRCC shall terminate in Docket No. IN08-5-000 and in NERC0002CVI.

28. Failure to make a timely payment or to comply with any other provision of this Agreement shall be deemed a violation of a final order of the Commission issued pursuant to the FPA, 16 U.S.C. § 792, *et seq.*, and may subject FRCC to additional action under the enforcement and penalty provisions of the FPA.

29. If FRCC does not make the payment above at or before the time agreed by the parties, interest payable to the United States Treasury will begin to accrue, pursuant to the Commission's regulations at 18 C.F.R. § 35.19(a)(2)(iii), from the date that payment is due.

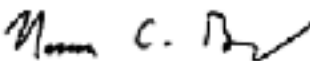
30. The signatories to the Agreement agree that they enter into the Agreement voluntarily and that, other than the recitations set forth herein, no tender, offer or promise of any kind by any member, employee, officer, director, agent or representative of Enforcement, NERC, or FRCC has been made to induce the signatories or any other party to enter into the Agreement.

31. Each of the undersigned warrants that he or she is an authorized representative of the entity designated, is authorized to bind such entity and accepts the Agreement on the entity's behalf.

32. The undersigned representative of FRCC affirms that he or she has read the Agreement, that all of the matters set forth in the Agreement are true and correct to the best of his or her knowledge, information and belief, and that he or she understands that the Agreement is entered into by Enforcement and NERC in express reliance on those representations.

33. The Agreement may be signed in counterparts.

Agreed to and accepted:

  
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Norman C. Bay  
Director, Office of Enforcement  
Federal Energy Regulatory Commission

2/17/10  
Date

  
\_\_\_\_\_  
David Hilt  
Vice President and Director of Operations and Engineering  
North American Electric Reliability Corporation

2-12-2010  
Date

  
\_\_\_\_\_  
Sarah Rogers  
President and CEO  
Florida Reliability Coordinating Council

2/15/10  
Date

Document Content(s)

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