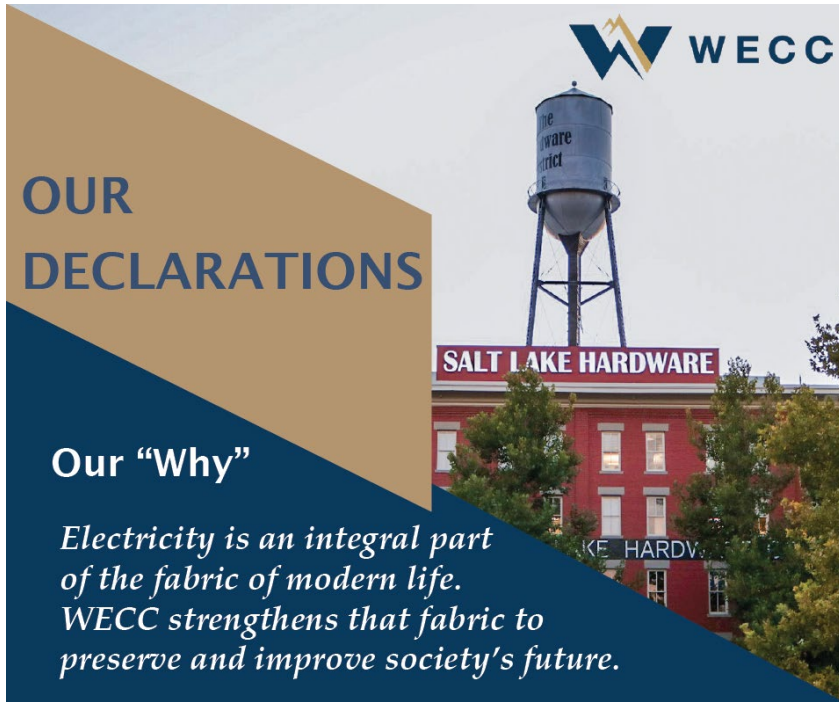<Public>

Reliability Risk Committee Risk Management Process Overview

Jun 27, 2023

WECC

Tim Reynolds

Mgr., Risk Analysis

<Public>

About WECC

OUR DECLARATIONS

Our "Why"

Electricity is an integral part of the fabric of modern life. WECC strengthens that fabric to preserve and improve society's future.

Vision

A reliable and secure bulk power system in the Western Interconnection.

Independence

As a 501(c)4 social welfare organization, we serve the public interest and represent what is best for reliability and security of the Western Interconnection with an impartial and unbiased voice.

Perspective

We are uniquely situated to develop comprehensive and influential work products for the benefit of reliability and security.
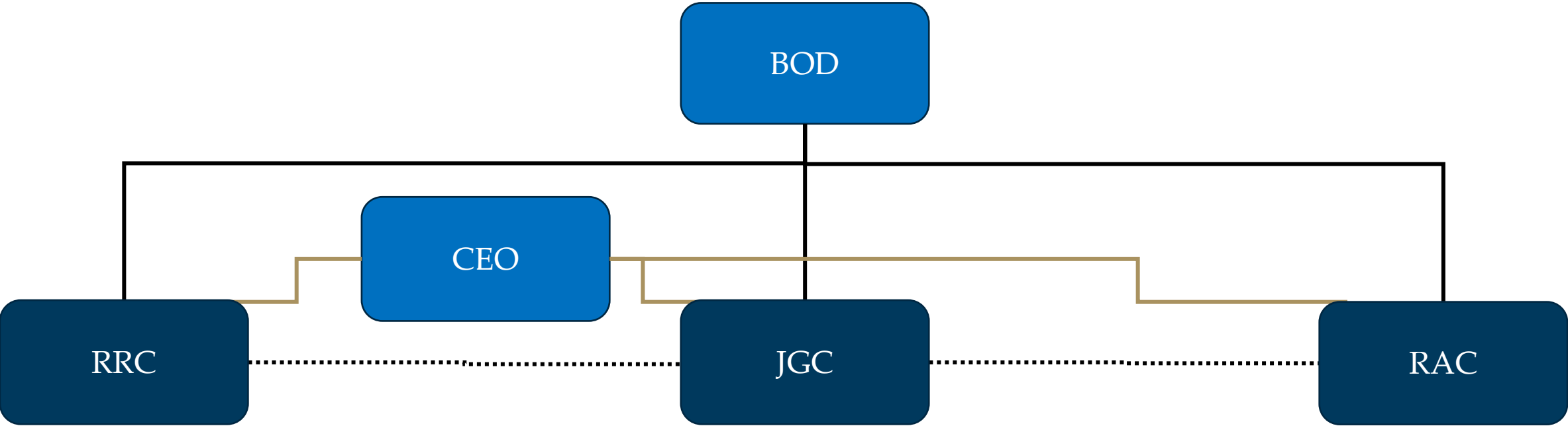
Partnership

We collaborate with industry and other organizations to reduce risks to reliability and security.
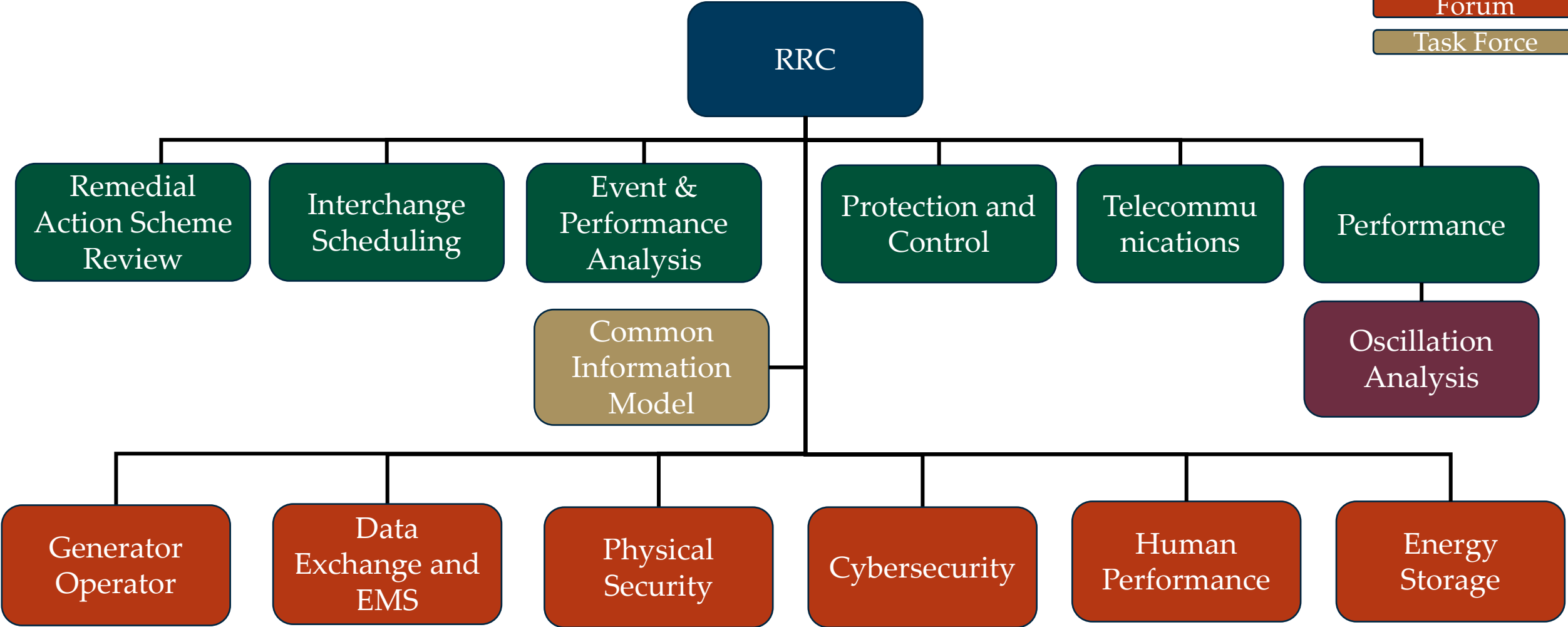
Mission

To effectively and efficiently mitigate risks to the reliability and security of the Western Interconnection's Bulk Power System.
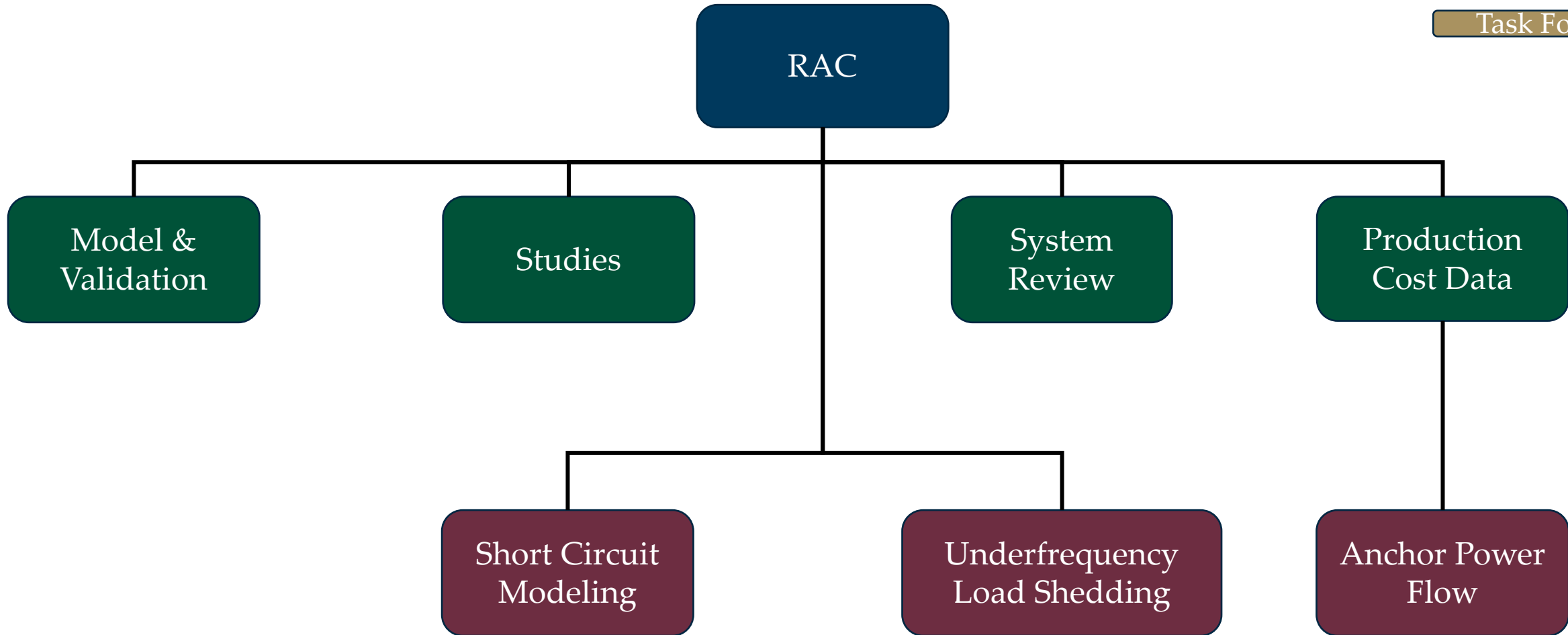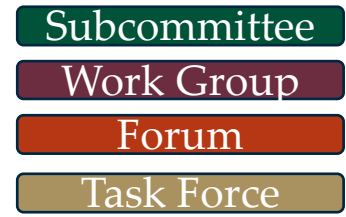
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Technical Committee Overview

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Reliability Risk Committee Overview

Reliability Assessment Committee Overview

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Legend:
- Subcommittee
- Work Group
- Forum
- Task Force

RAC
- Model & Validation
- Studies
  - Short Circuit Modeling
  - Underfrequency Load Shedding
- System Review
- Production Cost Data
  - Anchor Power Flow

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RRC Purpose

Identify and address known and emerging risks to the reliability and security of the Western Interconnection.

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RRC Responsibilities

The RRC will:

1. Evaluate the reliability and security risks associated with relevant commercial, operational, and other industry practices.

2. Work with WECC staff and the Reliability Assessment Committee (RAC) to develop and maintain an ongoing, prioritized list of known and emerging reliability and security risks facing the Western Interconnection.

3. Coordinate and collaborate with WECC staff and the RAC to address priority risks.

4. Initiate actions to address priority risks through the appropriate expertise and mechanism.
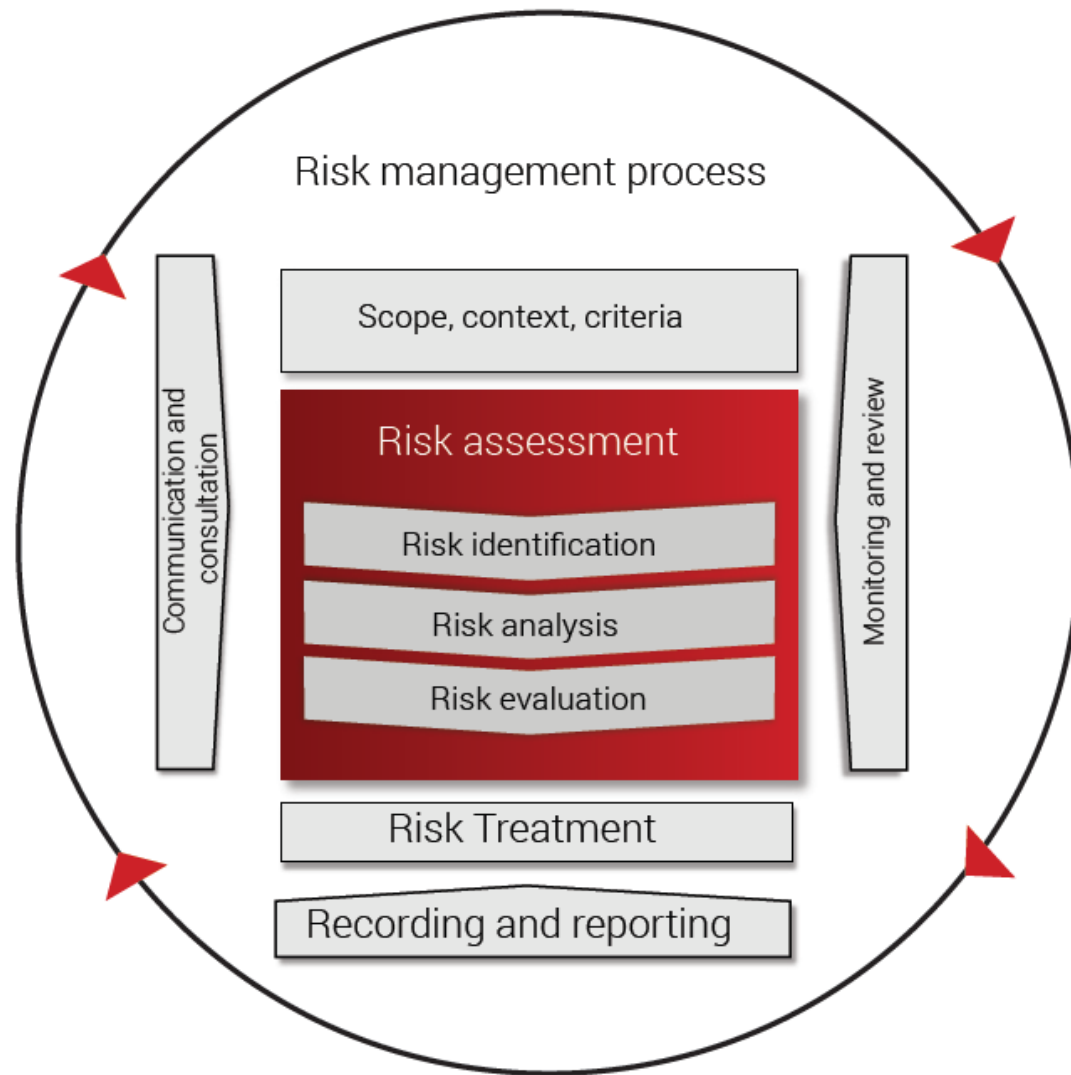
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RRC Responsibilities

The RRC will (continued):

5. Support WECC in its delegated functions, including:

    a. Performance analysis;

    b. Event analysis;

    c. Situation awareness; and

    d. Infrastructure security.

6. Advise the CEO in delivering on WECC's mission.

7. Perform other tasks as assigned by the Board, WECC CEO, or JGC.

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RRC Risk Management Process

E. LaChapelle, F. Aliu and
E. Emini, "ISO 31000:2018
Risk Management—
Guidelines," PECB, 2018

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General Steps

- Step 1—Risk Identification

- Step 2—Risk Analysis

- Step 3—Risk Evaluation

- Step 4—Risk Treatment

- Step 5—Recording and Reporting

Reliability and Security Risks

Risk assessment

Risk identification

Risk analysis

Risk evaluation

Risk Treatment

Recording and reporting

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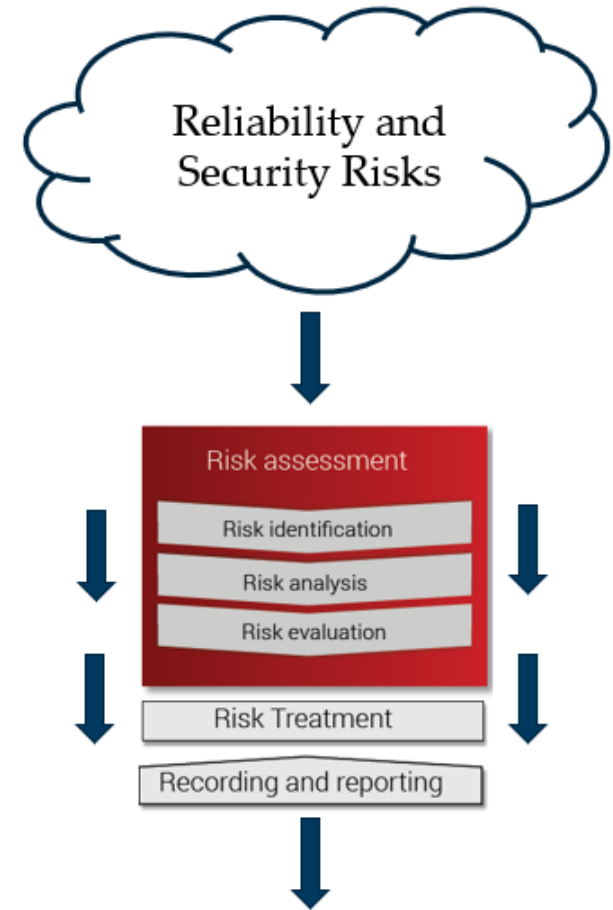
Step 1—Risk Identification

- Purpose: List existing and potential risks that affect the reliability and security of the Western Interconnection

- Includes:

  - Flexibility to use different approaches

    - Ex., Formal studies, consensus of industry experts

  - Risks are brought to the RRC through the Risk Register

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Step 2—Risk Analysis

- Purpose:

1. Understand and document the causes, nature, and time-related factors associated with the risk

    - Ex., What's driving it?

2. Determine the likelihood and consequences of the risk
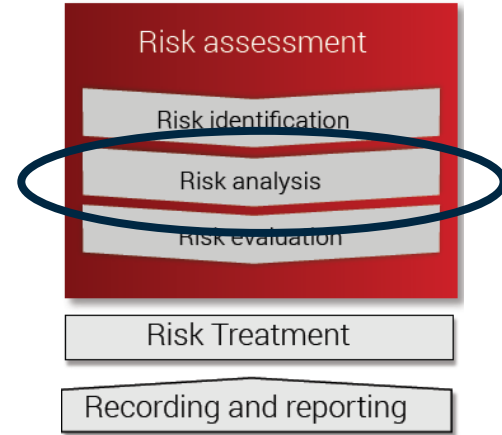
Reliability Risk Matrix						
Consequence/Impact (C)		Likelihood (L)				
		L1	L2	L3	L4	L5
		Very Unlikely	Unlikely	Possible	Likely	Almost Certain
C5	Severe	Medium	High	High	Extreme	Extreme
C4	Major	Medium	Medium	High	High	Extreme
C3	Moderate	Low	Medium	High	High	High
C2	Minor	Low	Low	Medium	Medium	High
C1	Negligible	Low	Low	Low	Medium	Medium

Risk assessment
Risk identification
Risk analysis
Risk evaluation

Risk Treatment

Recording and reporting

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Step 3—Risk Evaluation

- Purpose: Evaluate risks and determine the risk tolerability

- Three primary components

  1. Identify ongoing activities to mitigate the risk

     o May include activities internal to WECC and external such activities with NERC, E-ISAC, IEEE, CIGRE, etc.

  2. Determine the tolerability of the risk

     o Evaluation of the Risk Analysis results, ongoing mitigation activities, and assessing the factors considered to determine risk tolerability

  3. Rank and prioritize the risks

Risk assessment
Risk identification
Risk analysis
Risk evaluation
Risk Treatment
Recording and reporting

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Step 4—Risk Treatment

- Purpose: Identify actions needed in response to the risk evaluation to bring it back within tolerance

- Includes:

  - Identify activities that could mitigate the risk and the expected outcome

  - Decide whether any residual risk is acceptable

  - Assign, execute, and track actions items
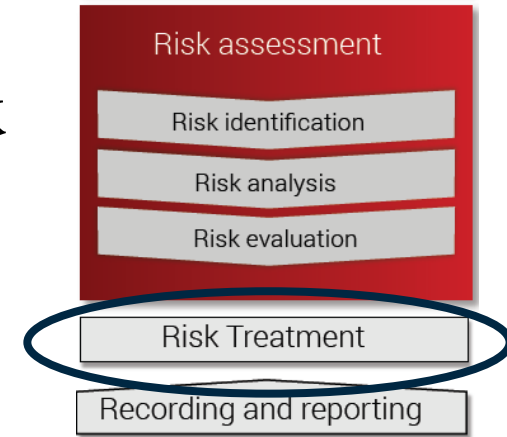
Step 5—Recording and Reporting

- Purpose: Document decisions made and share information

- Includes the following

  - Communicate information about risks and this process to decision-makers and other stakeholders

  - Provide a record and justification of the rationale for decisions

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Periodic and Ongoing Activities

- Periodic Communication and Consultation

  - Purpose: Convey awareness about the current risks, associated mitigating activities, lessons learned, and how to engage in the process.

  - Includes a periodic (ex., annual):

    o Activity to prioritize risks; and

    o Risk report.

- Ongoing Monitoring and Review

  - Purpose: Determine the effectiveness of mitigation activities to risk tolerance levels.

  - Includes ongoing monitoring and review of:

    o Risks examined through the RRC Risk Management Process; and

    o The effectiveness of the RRC Risk Management Process.

Communication and consultation

Monitoring and review

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So What?

- What does this mean to me?

- Why should I care?

Your engagement and participation in the process is critical to its success!

WECC

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Three-Year Work Plan

Cybersecurity best practices

Identify strategic initiatives for extreme natural events

Inverter-based resource best practices

Examine variable energy resource (VER) impacts to operations reliability

Investigate long-duration frequency deviations

Examine current energy adequacy assessment practices

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What Can I Do?

- Be a part of the process!

  - Communicate this process within your organization and other places

  - Ask the question – "What are the risks that need to be addressed?"

  - Help submit, analyze, evaluate, and address risks through the RRC Risk management process

    o Submit risks via the Risk Registry Initiation Form ([Link](#))

    o Help understand the causes, nature, and time-related factors associated with the risk

    o Engage in discussion with subject matter experts within your organization and others as needed to provide feedback

How to Find Out More

- RRC Risk Management Process ([Link](#))

  - A living document that outlines the process

  - Will be updated as the process evolves

- Additional supporting documents

  - Risk Registry Initiation Form ([Link](#))

  - Draft Process Flow Diagram ([Link](#))

  - Draft Risk Register ([Link](#))

- ERO Framework to Address Known and Emerging Reliability and Security Risks ([Link](#))

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