Talen NERC Internal Controls Journey

August 15, 2022

Talen's Internal Controls Journey

Talen's Journey

- Talen 1.0: 2015
- Talen 2.0: 2016-2021
- Internal Controls Manager

Who is Talen?

PJM Region
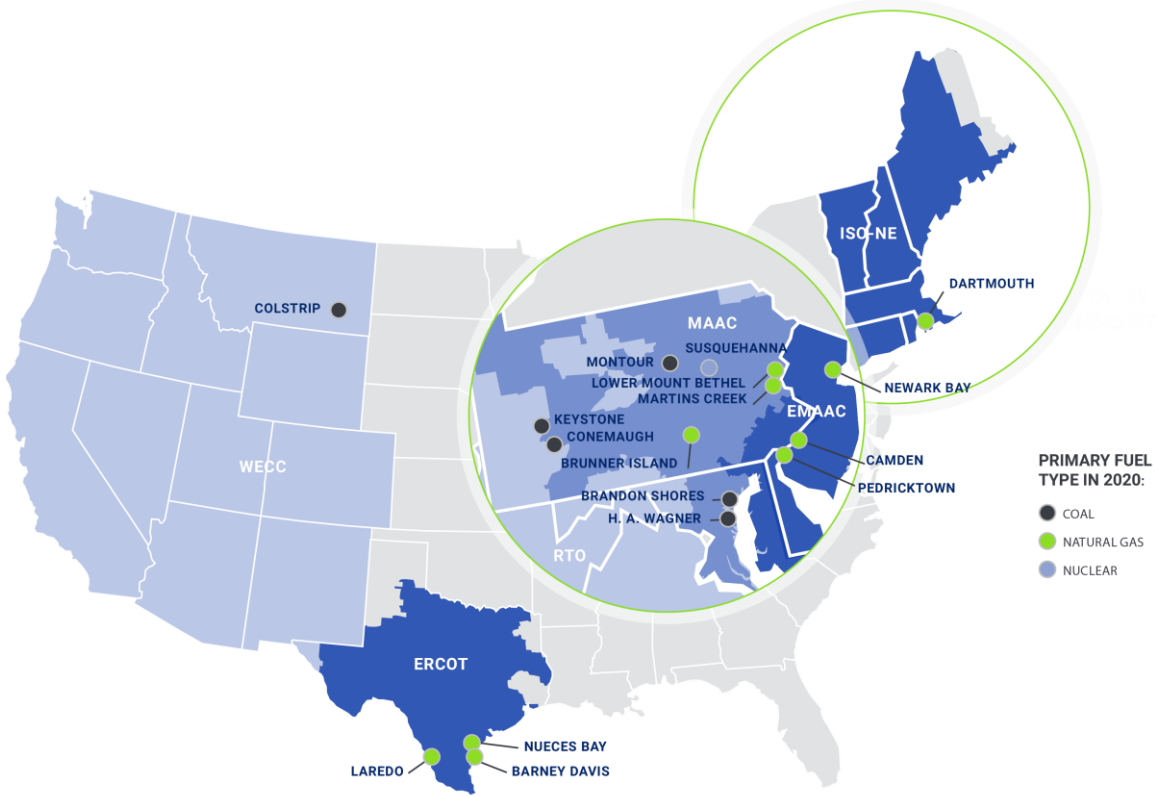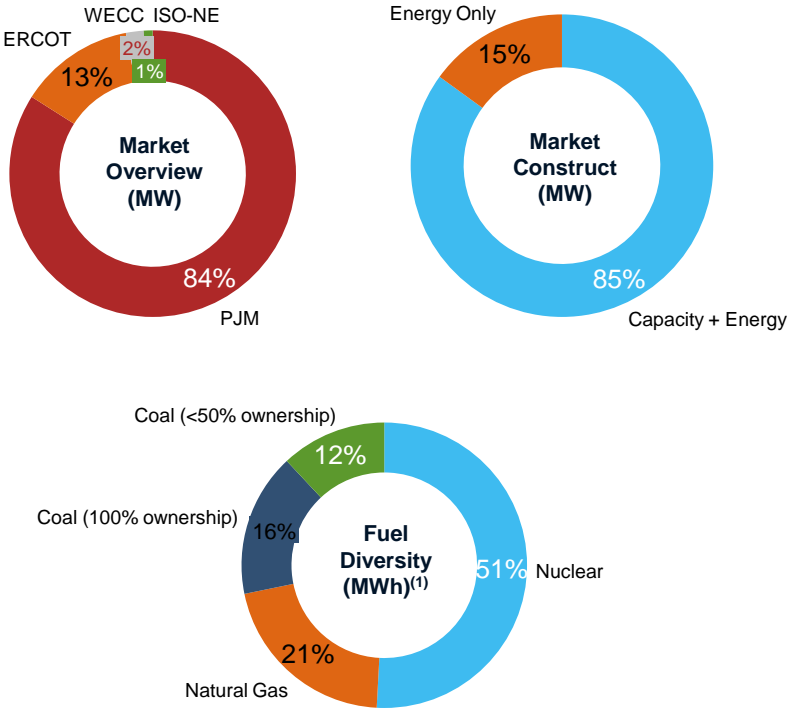- 8 Plants in the PJM region, 7 fossil and 1 nuclear

TRE
- 3 Fossil Plants

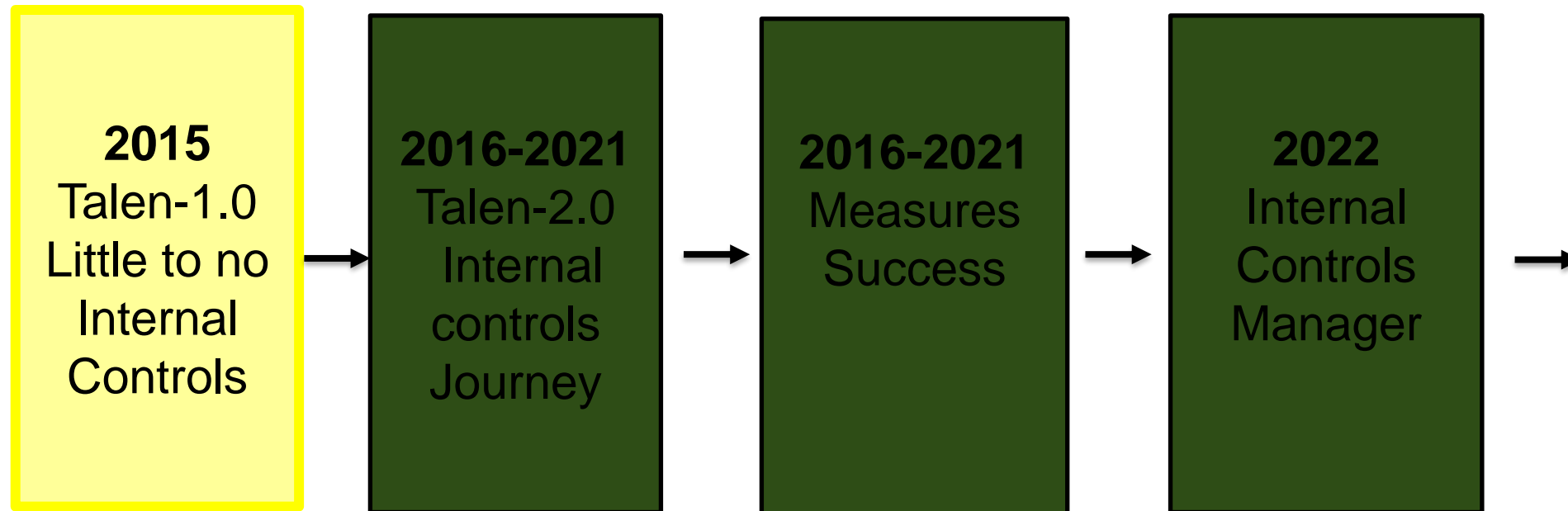### NPCC
- 1 Fossil

WECC
- 1 Fossil

Talen Energy Overview

▶ ~13 GW of Total Portfolio Capacity as of December 31, 2021

Market Overview (MW)
- WECC 2%
- ISO-NE 1%
- ERCOT 13%
- PJM 84%

Market Construct (MW)
- Energy Only 15%
- Capacity + Energy 85%

Fuel Diversity (MWh)[1]
- Coal (<50% ownership) 12%
- Coal (100% ownership) 16%
- Natural Gas 21%
- Nuclear 51%

COLSTRIP

WECC

MAAC
- MONTOUR
- SUSQUEHANNA
- LOWER MOUNT BETHEL
- MARTINS CREEK
- KEYSTONE
- CONEMAUGH
- BRUNNER ISLAND
- BRANDON SHORES
- H. A. WAGNER

EMAAC
- NEWARK BAY
- CAMDEN
- PEDRICKTOWN

ISO-NE
- DARTMOUTH

RTO

ERCOT
- NUECES BAY
- LAREDO
- BARNEY DAVIS

PRIMARY FUEL TYPE IN 2020:
- COAL
- NATURAL GAS
- NUCLEAR

(1) Figures based on TTM Prelim Q3 2021 MWh production. Map does not reflect retirement of Newark Bay and Pedtricktown facilities.

Talen's Journey

2015
Talen-1.0
Little to no
Internal
Controls

→

2016-2021
Talen-2.0
Internal
controls
Journey

→

2016-2021
Measures
Success

→

2022
Internal
Controls
Manager

→

Talen 1.0-Formation

- Talen is an IPP, formed in 2015 by combining the generation assets from PPL, Riverstone Holdings, Sapphire Holdings and Mach Gen

- 4 separate NERC organizations combined

- The companies had no prior relationship.

- The initial approach (Talen 1.0) was that each compliance group would operate independently

Talen 1.0 Internal Controls

Internal Controls - Minimal

- Little to no controls
  - Monthly checklist from plant
- Lacked an accountable organizational structure
- Most of the focus was inward at corporate level as opposed to outward at plant level
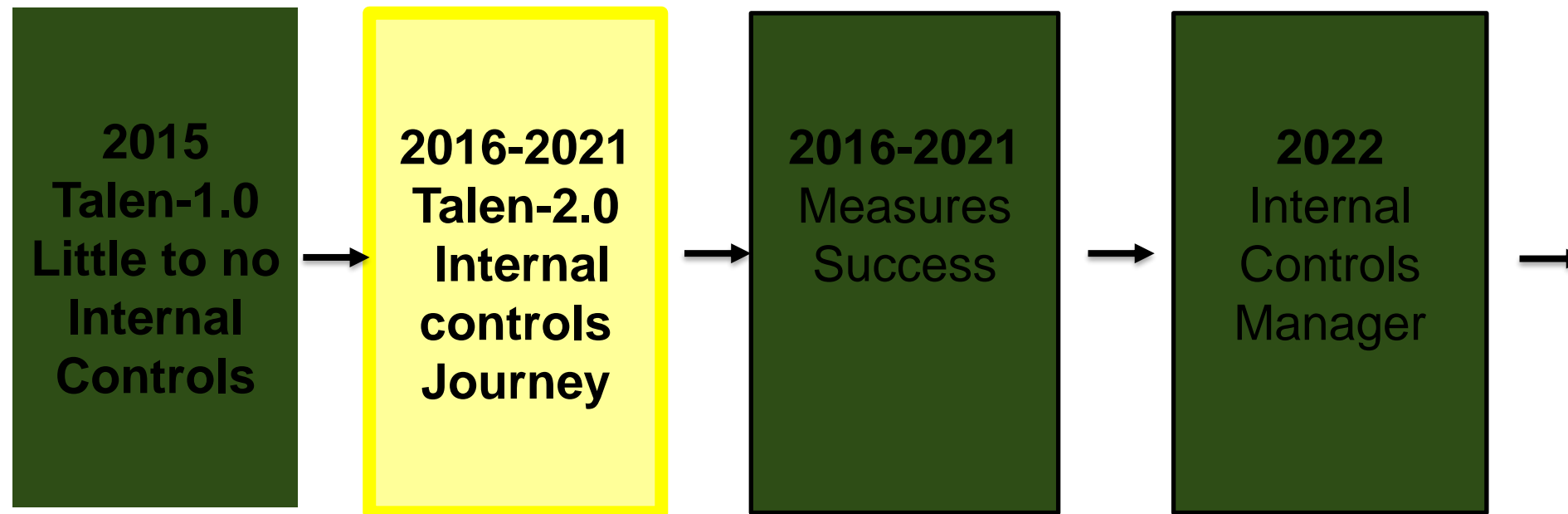- 4 different Program with different expectations

Set up some controls

- Plants were separated into Low Risk and High-Risk plants
  - Low Risk Plants had some internal controls
  - High Risk Plants had little to no internal controls
- Some controls around standards-PRC-005, VAR-002 - deemed high risk compliance concerns

Talen 1.0 Challenges

- 4 different NERC programs trying to work as one

- Lack of uniform interpretations of standards and compliance methodology

- Communicating issues between 4 NERC orgs and and 19 plants in nine states, via five different compliance groups

- Dealing with four different REs and five ISOs

- Business line silos

Talen's Journey – Talen 2.0

2015
Talen-1.0
Little to no Internal Controls

→

2016-2021
Talen-2.0
Internal controls Journey

→

2016-2021
Measures Success

→

2022
Internal Controls Manager

→

Talen 2016 2.0 - Private Company
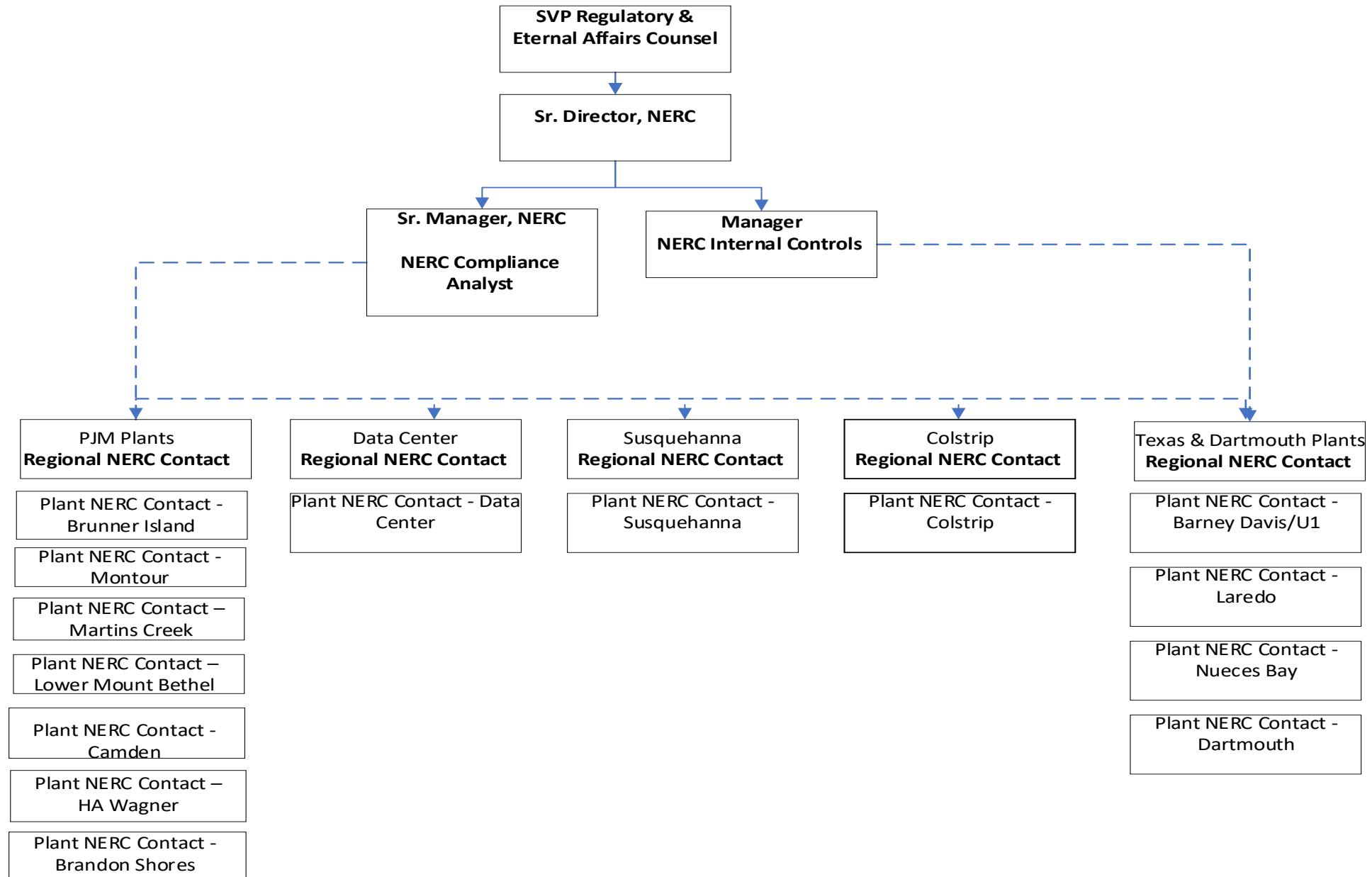
Significant changes made under Talen 2.0

- Talen became a Private Company

- Implementation Organization

- Corporate and Plant level procedures

- SharePoint Evidence depository

- Leveraged Training group

- Business line Management accountable for implementation of NERC

- Actively pursued controls input from Regions RF and NPCC

Talen 2.0

More outward-focused to our customers – the plants

Implementation Organization

- Business Line NERC Structure
  - Regional NERC contacts
  - Plant NERC Contacts
    - » Business Unit positions developed (collateral duties): Regional and Plant NERC Contacts, responsible for NERC compliance in collaboration with the central NERC Group

Implementation Organization

```
                    SVP Regulatory &
                    Eternal Affairs Counsel
                            |
                            v
                    Sr. Director, NERC
                       |          |
              +--------+          +--------+
              v                            v
     Sr. Manager, NERC              Manager
                                    NERC Internal Controls
     NERC Compliance
     Analyst
```

PJM Plants **Regional NERC Contact**	Data Center **Regional NERC Contact**	Susquehanna **Regional NERC Contact**	Colstrip **Regional NERC Contact**	Texas & Dartmouth Plants **Regional NERC Contact**
Plant NERC Contact - Brunner Island	Plant NERC Contact - Data Center	Plant NERC Contact - Susquehanna	Plant NERC Contact - Colstrip	Plant NERC Contact - Barney Davis/U1
Plant NERC Contact - Montour				Plant NERC Contact - Laredo
Plant NERC Contact – Martins Creek				Plant NERC Contact - Nueces Bay
Plant NERC Contact – Lower Mount Bethel				Plant NERC Contact - Dartmouth
Plant NERC Contact - Camden				
Plant NERC Contact – HA Wagner				
Plant NERC Contact - Brandon Shores				

Suggestions from NPCC, RF

Actively pursued controls input from Regions RF and NPCC

RF suggested the Internal Controls Pyramid

- Had an honest conversation with RF about our resources, current status of the program and challenges
- Pyramid provided a vehicle to visually communicate the Plants and Corporate where they fit into the overall Compliance scheme

Internal Controls Pyramid
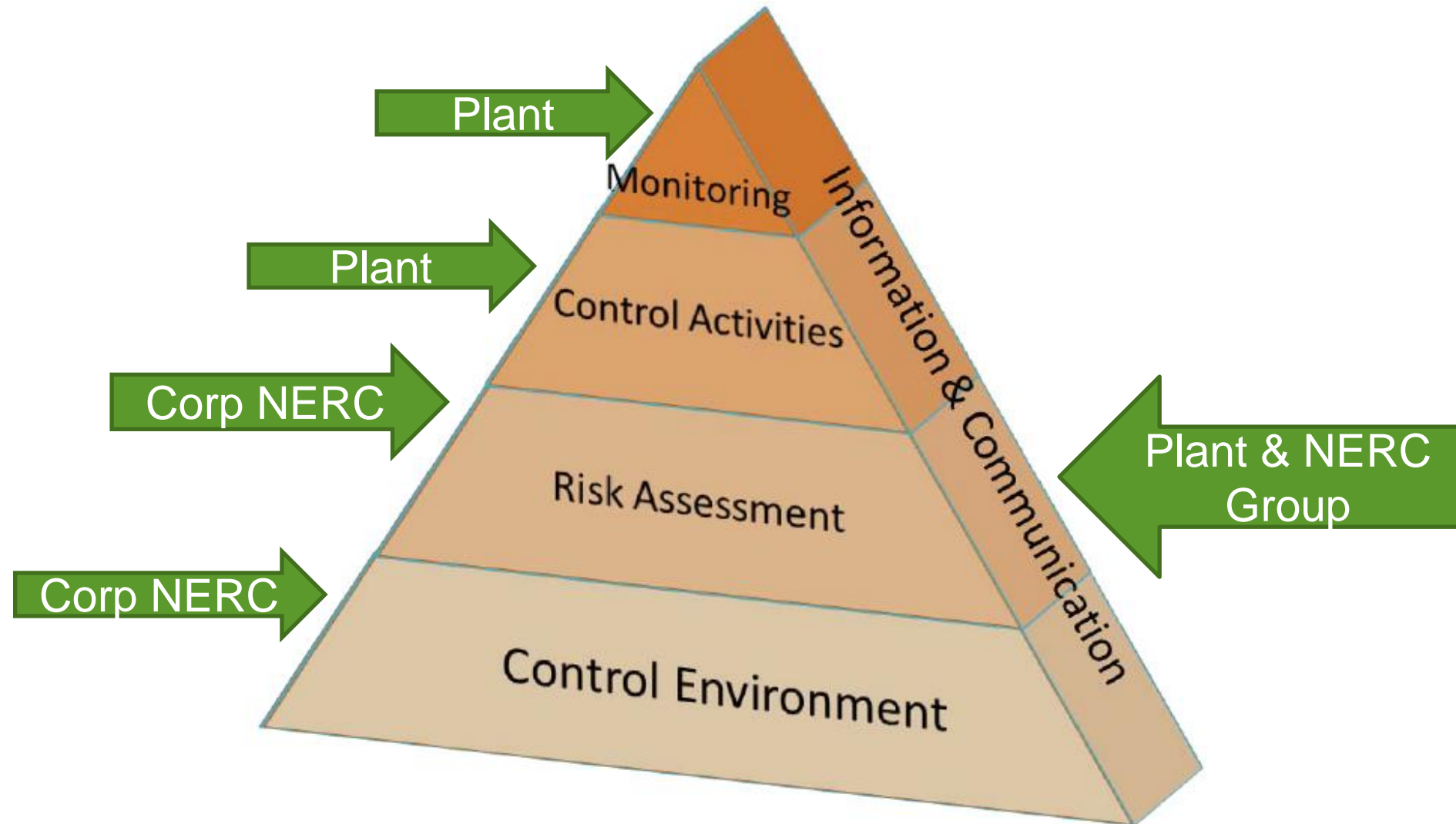
Procedures

Procedures- Built out comprehensive, fleet-wide authoritative Corporate and Plant level procedures

- Corporate NERC Group:100 Series Policy document
- Corporate/Plant: 200 Fleetwide Operational Level
- Plant Specific: 300 Operational Level

Operational Expectations & Training

Expectations for Operational Compliance

- **Plant Monthly check list** (streamlined internal controls)
    - Plant Check lists were rewritten to **<u>define specific compliance tasks</u>**
    - 2 to 3 hours per month to fill out plant monthly checklist
        - » Multiple iterations based on collaborative reviews (over 20 to date)

- **Need-based Training**
    - Need based training on addressing specific challenges (e.g., how to fill out PRC-005 test form and PRC-004 event compliance form and other compliance requirements such as VAR-002
    - **<u>No more than 5 hours of NERC per year per person</u>**, did not want to inflict "death by PowerPoint":
    - >98% training completion, impacting >5000 people

SharePoint Evidence Collection site

- Single point of Evidence deposits from Plants

- Data review by Corporate team

- Develop and support current RSAWs from SharePoint site

Internal Controls Pyramid
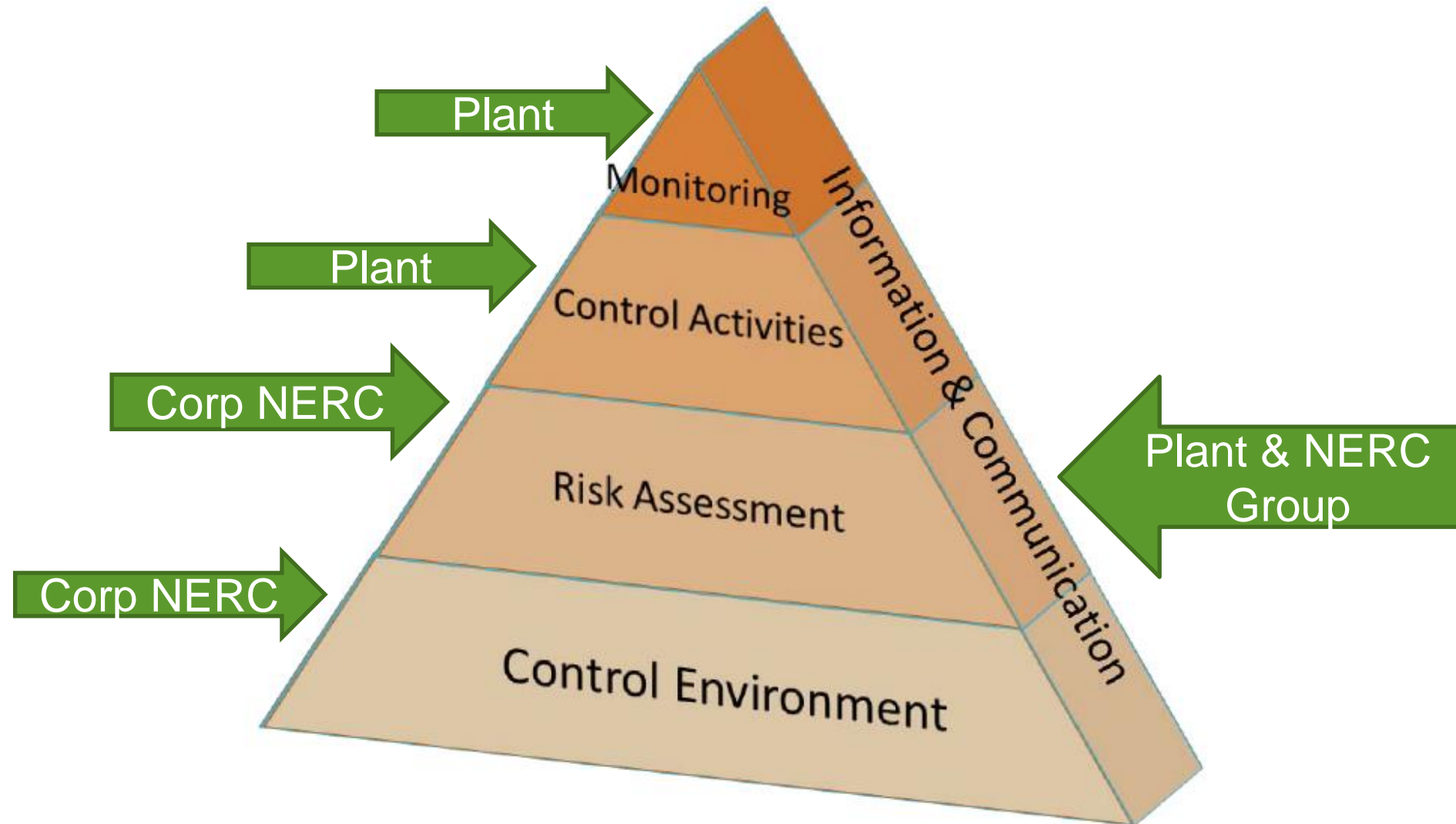
Talen's Journey − Measured Success

TALEN ENERGY

| 2015 Talen-1.0 Little to no Internal Controls | → | 2016-2021 Talen-2.0 Internal controls Journey | → | 2016-2021 Measured Success | → | 2022 Internal Controls Manager | → |

Compliance Condition Reports (CCRs)
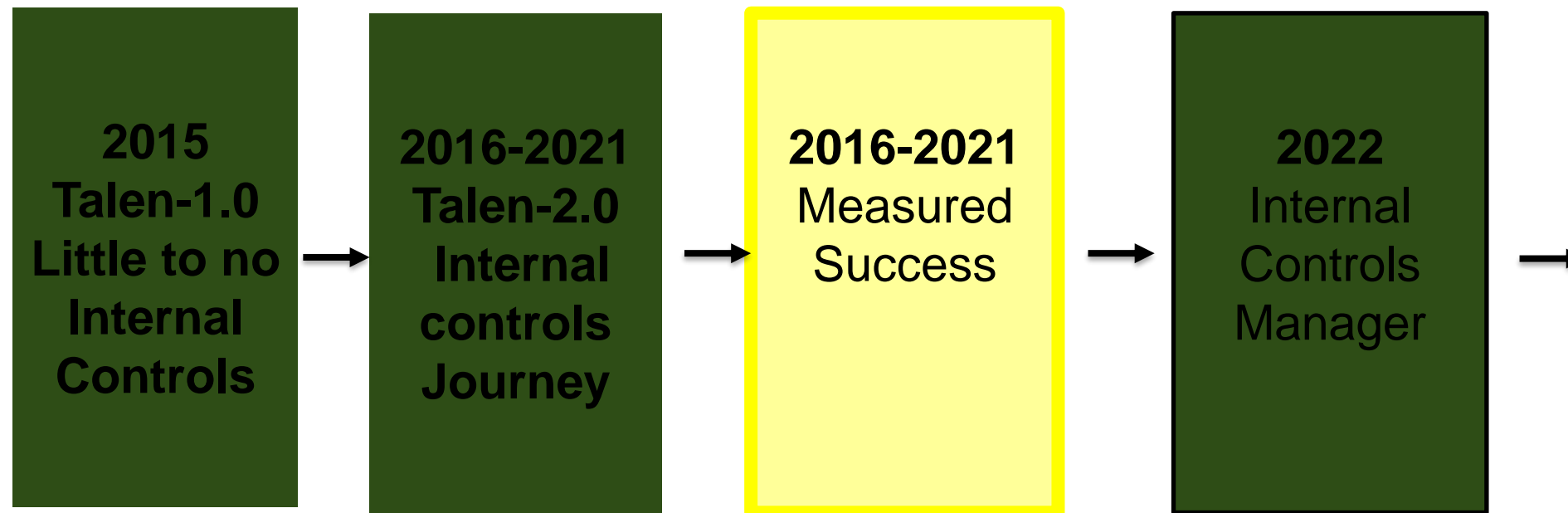
Compliance Condition Reports (CCRs)

- **CCRs** are like a Safety "Near Misses" or PJM's "Good Catches", but they track compliance areas of concern

Fleetwide CCRs

# of Fleet-Wide CCRs by Year

Results since 2017
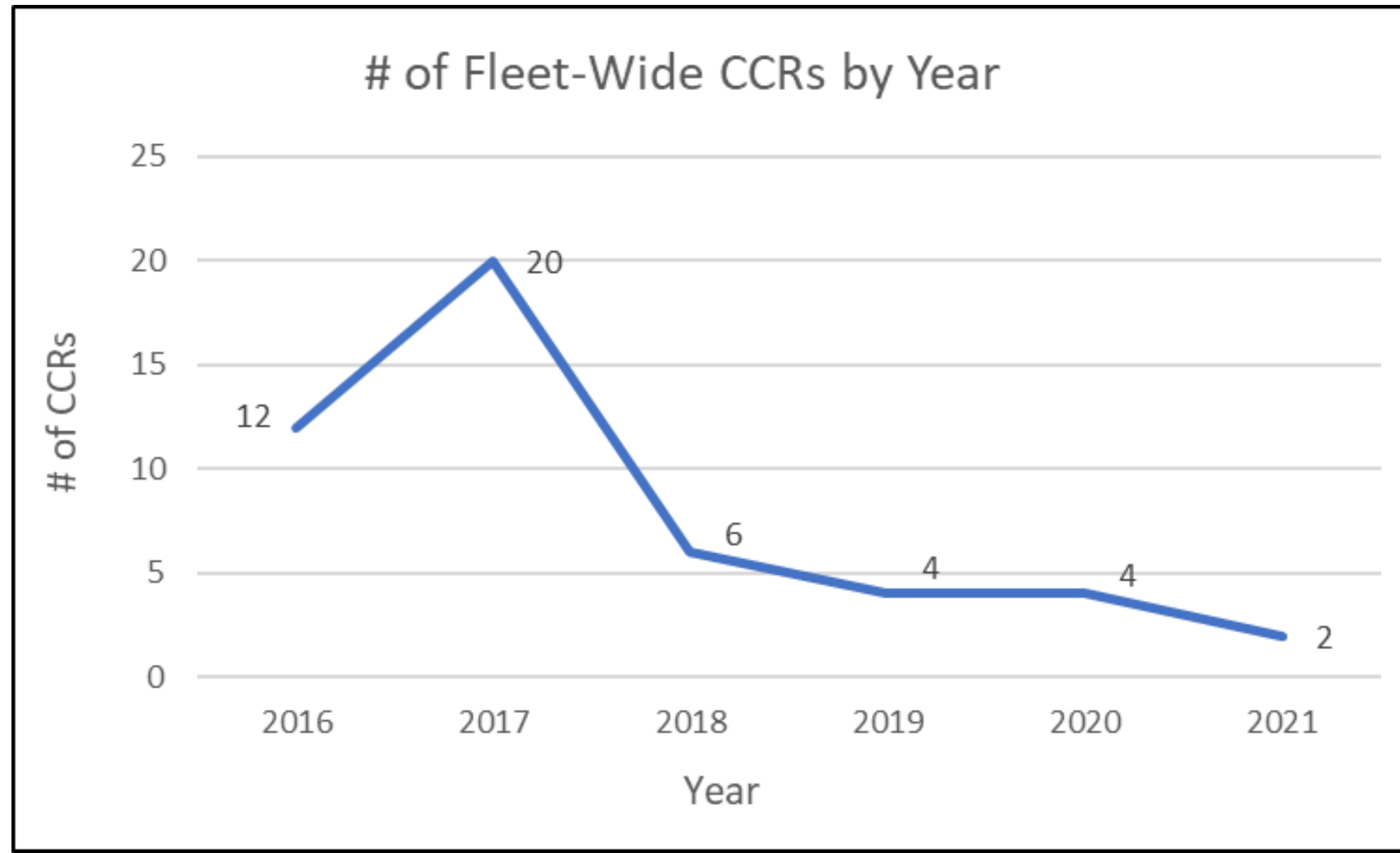
- **Reduced CCRs from a Yearly high of 20 to 2 year**
    - **Indication of the health of the program**

- No significant findings in 6 audits
    - Our audit success is only spot check in a point in time. Does not represent the health of the program

Talen 2.0 Summary

Added the following

- Implementation Organization
    - Regional and Plant NERC contacts

- Governing Procedures

- Leveraged Training organization
    - Specific training on high-risk areas

- Enhanced Compliance Condition Report Process

- Set up a Compliance SharePoint evidence depository

Adopted the compliance pyramid

- Enhanced Communications

- Provided Compliance Structure

Talen's Journey – Moving Forward

2015 Talen-1.0 Little to no Internal Controls → **2016-2021 Talen-2.0 Internal controls Journey** → **2016-2021 Measures Success** → **2022 Internal Controls Manager** →
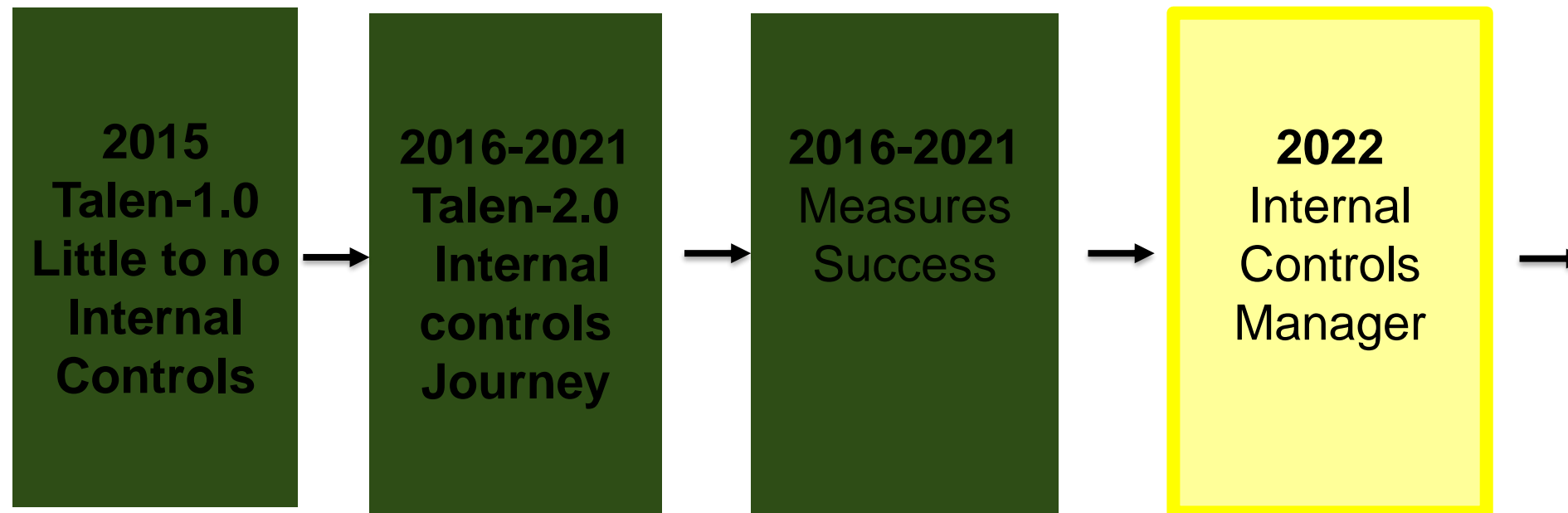
Independent effectiveness review of Corporate NERC Program

Talen's TE-NERC-102, *Internal Controls* and its centralized internal controls was reviewed from January - March 2022

- Identified weak or non-existent internal controls that could reasonably cause compliance concerns to the organization and;

- Develop recommendations to strengthen internal controls.

Primary area of concern:

- The Control Environment for the Corporate NERC Group.
  - Below represents a summary of controls that were in place that all funneled to the Corporate NERC Group; yet there were no controls within the group to assure all the items were accounted for or to assist them in tracking and streamlining their processes

PNC/RNC Checklists; PRC-004 Attachments; PRC-005 Testing

Evidence; Develop RSAWs; Review and update Procedures

Tracking Spreadsheets; Monthly meetings, CCRs; update SharePoint
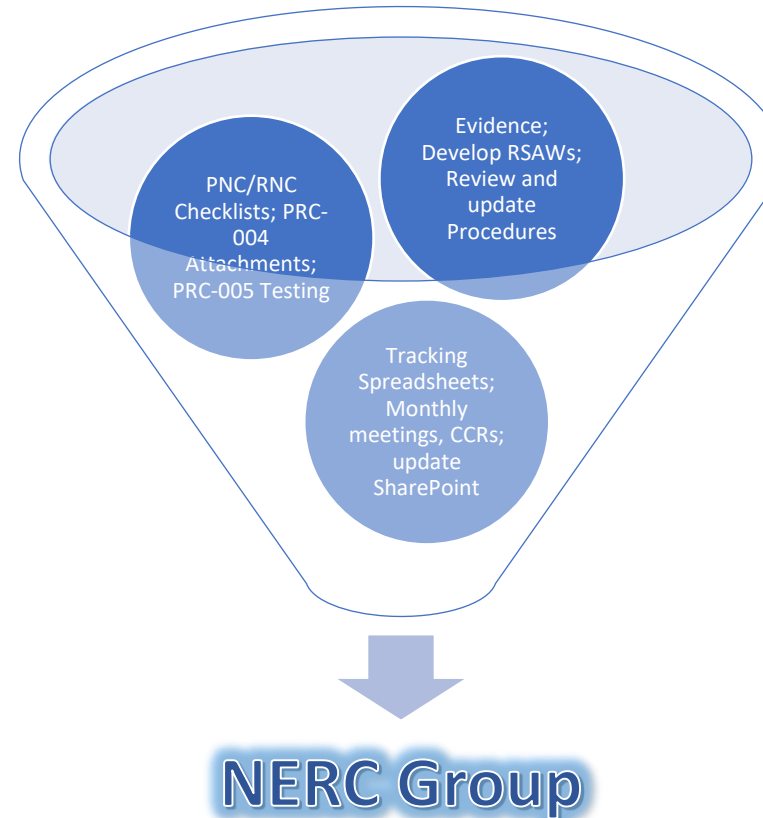
NERC Group

Primary area of concern:

▪The same process of improving procedures and standardize forms, reports, and checklists should be in place for the Corporate NERC Group, there were no defined processes or checklists to assist them in their reviews and track the progress of tasks.

RECOMMENDATIONS: IMPROVE / DEVELOP TOOLS

NERC Group Compliance Tracking Process

Utilize More SharePoint Applications

Transition Long Range Periodicity Tasks to Plant Specific Compliance Status Reports

Build Compliance Calendar

Recommendations: Improve / Develop Tools

NERC Group Compliance Tracking Process

- There needs to be a way for compliance tasks to be cataloged

- TE-NERC-102 *Internal Control*, Appendix C- Compliance Tracking Request has been created for the NERC Group to use

- This form can be used for example to initiate tasks that need to be tracked such as a potential compliance concern, procedure or evidence reviews, or retiring a procedure

NERC Internal Control

TALEN ENERGY

Title: Compliance Tracking Request Form	Document No:	TE-NERC-102- Appendix C
	Revision No:	0
	Effective Date:	6/1/2022
Request:	Page:	1

Purpose: This document initiates the Tracking Task for Review in Talen's Global Audit Ready (GAR) database.

Directions: To initiate a task in GAR, complete this document with either the document, test or procedure name, reviewers, due dates and submit to Colleen or Carol to upload into GAR to create task and add to task calendar.

Requestor:_____

Procedure or Document to Review: _____

Reviewer/ SME:_____

Second Level Review:_____

Approvers:_____

Due date:_____

Special Instructions: _____

Submit this document to the NERC, Internal Controls Manager – Initiation Date:_____

For Procedure Review Document:

The procedure word document will then be placed in Talen Energy (T:) > Generation > Compliance > Procedure Reviews > 2022 (the year will change accordingly) > a file will be started with the procedure title > Source Document > word document for edits to be tracked by user.

Review Process for Procedures:

A link will then be sent to the first reviewer listed above; once they have completed their review and tracked their changes they will send to the next. Progress through all reviewers until complete.

Once everyone has reviewed and made their recommendations a final revision will be drafted and placed in DocuSign for approval signatures. Approved procedure will be placed on Talen SharePoint

Closing Comments: (provide specific details to close out this activity for example dates review completed and document submitted to NERC Group)

Recommendations: Improve / Develop Tools

NERC Group Compliance Tracking Process

- Mirroring the Plant NERC Contact and Regional NERC Contact Checklist process, the NERC Group created their own

- The Monthly Corporate NERC Group Checklist was created to track completion of critical routine processes

- Timely reviews are critical in staying ahead of potential issues

Monthly Corporate NERC Group Checklist   Month/Yr: ___March, 2022___

Yes	No	
☐	☐	PNC and RNC checklists ready to be processed in GAR
☐	☐	Supporting NERC Studies, test reports, CAP completions processed into GAR
☐	☐	Long Periodicity Tasks Spreadsheet updated/ reviewed
☒	☐	PNC Monthly Meetings scheduled – 4/7/22
☐	☐	Agenda for monthly meeting completed
☐	☐	NERC Status Update (Weekly) – Summary of Significant Activities Updated
☐	☐	Any NERC Alerts released during the month; if yes reference below
		_____
☐	☐	Upload GAR Evidence for the month
☐	☐	Update contractor budget spreadsheet
☐	☐	Review budget with A. Manning monthly
☐	☐	Any new Personnel to NERC? If yes,
☐	☐	
☐	☐	RNC Checklist monthly reviews
☐	☐	PRC-004 Qtrly Worksheet reviews (monthly reviews will start in April)
☐	☐	EOP-011 Fleetwide training development - ongoing
☐	☐	VAR-002 PI data monthly review set up

Rev.	Date	
0	3/17/22	Original issue

RECOMMENDATIONS: IMPROVE / DEVELOP TOOLS

NERC Group Compliance Tracking Process

Utilize More SharePoint Applications

Transition Long Range Periodicity Tasks to Plant Specific Compliance Status Reports

Build Compliance Calendar

Recommendations: Improve / Develop Tools

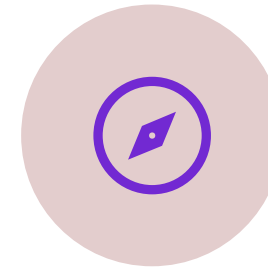### Utilizing More SharePoint Applications – *Creating a Task*

When Creating a Task, there are four types that can be created

LOAD EVIDENCE

APPROVAL

SURVEY

DATA REQUEST

Compliance Status Reports created for the following:

- **Procedure Review**
- **NERC Group Routine Tasks**

Inside these status reports each issue or procedure that needs to be tracked is entered as a new process using one of the four Task Tools

Compliance Status Report - Procedure Reviews

- Annual Procedure Review Status Report lists procedures and appendices that need to be reviewed and approved

- From the Compliance Status Report, assign task owner, reviewers and approver of each procedure

- As well as review and approval email reminders to all individuals assigned a role

Compliance Status Report

Annual Procedure Reviews

Annual review of procedures requiring NERC Group approval

Annual review of the Talen Energy NERC Internal Compliance Program - Attachments are to be reviewed Annually, not to exceed 18 months, and as changes to the fleet or the program necessitate

TE-NERC-100 Talen NERC Intern Compliance Program
SME: Dolan-VanZandt, Colleen
Status: Escalated
Control: Directive
Due Dates: 6/20/22
Load Evidence: TE-NERC-100

Annual review and approval by NERC Senior Manager

TE- NERC-101
SME: Dolan-VanZandt, Colleen, Lyter, Fran
Status: Compliant
Due Dates: 6/30/23
Load Evidence

TE- NERC- 214 BES Cyber System Categorization and TE- NERC-215 Brightline Assessment Process require review of BES systems and the review of the Brightline Assessment.

CIP-002-5.1a R2:

2.1 Review the identifications in Requirement R1 and its parts (and update them if there are changes identified) at least once every 15 calendar months, even if it has no identified items in Requirement R1, and

2.2 Have its CIP Senior Manager or delegate approve the identifications required by Requirement R1 at least once every 15 calendar months, even if it has no identified items in Requirement R1

Brightline Assessment Process
SME: Dolan-VanZandt, Colleen
Status: Compliant
Due Dates: 12/31/23
Load Evidence

Compliance Status Report
NERC Group Routine Tasks

- Some requirements need to be performed infrequently, as an example PRC-005 device testing

- PRC-005 devices are tracked on Master Device List by the plants and uploaded to GAR annually

- A Compliance Status Report for NERC Group Routine Tasks to track the review of PRC-005 Master Device Lists and Talen relay test forms

Compliance Status Report

NERC Group Routine Tasks

1

Annual Review of PRC-005 Master Device List

Annually the most current revision of each plants PRC-005 Master Device Lists need to be uploaded to GAR and then reviewed by the NERC Group.

Annual Review of PRC-005 Master Device List

SME: Poluch, Nicholas A

Status: Compliant

Control: Detective

Due Dates: 3/31/23

Load Evidence

Link to Survey

Semi Annual Review of CIP/Ops & Planning Attendance Matrix

Review the CIP/Ops and Planning Monthly Meeting attendance matrix in June and December.

Update the weekly NERC Group Agenda accordingly.

Semi Annual Review of CIP/Ops & Planning Attendance Matrix

SME: Chouinard, Carol

Status: Compliant

Due Dates: 12/31/22

Load Evidence

Quarterly Spot Checks of PRC-005 Testing Forms

Each quarter a spot check on PRC-005 test forms will be done by the NERC Group.

If problems are found then a more detail audit will take place

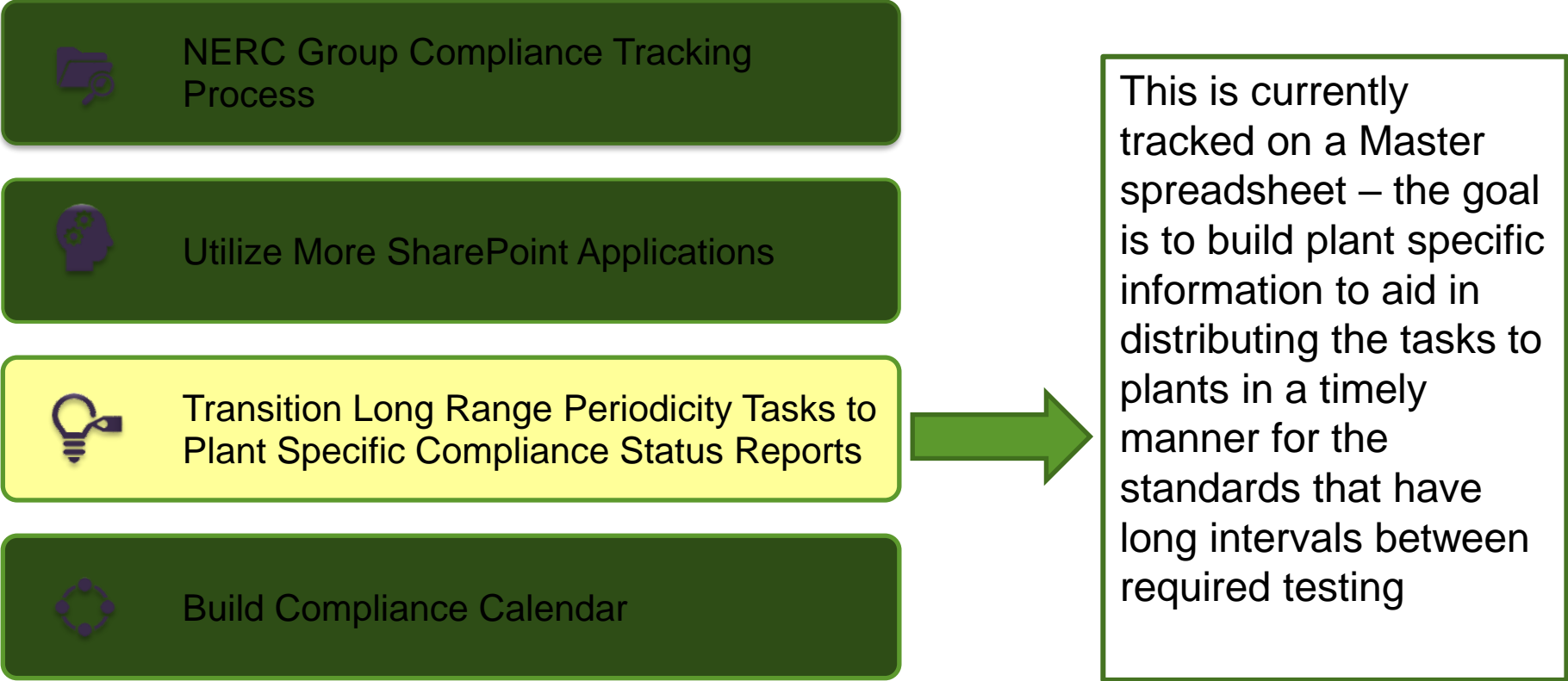Quarterly Spot Checks of PRC-005 Testing Forms

SME: Poluch, Nicholas A

Status: Open Task

Control: Detective

Due Dates: 9/30/22

RECOMMENDATIONS: IMPROVE / DEVELOP TOOLS

NERC Group Compliance Tracking Process

Utilize More SharePoint Applications

Transition Long Range Periodicity Tasks to Plant Specific Compliance Status Reports

Build Compliance Calendar

This is currently tracked on a Master spreadsheet – the goal is to build plant specific information to aid in distributing the tasks to plants in a timely manner for the standards that have long intervals between required testing

Transition Long Range Periodicity Tasks to Plant Specific Compliance Status Reports

- MOD-025, MOD-026, MOD-027, PRC-019, PRC-026, and PRC-027 require long-range periodicity tasks for each plant.

- Compliance Status Reports are set up for each plant, listing the above standards and the requirement for that standard

Barney Davis Long Range Periodicity Tasks

1   NERC Verification Testing/ Analysis Deadlines and Periodicity Testing for Barney Davis

BDEC 1 - PRC-019 -2 requires re-demonstration of coordination every five years. A no changes attestation is sufficient for reverifications, subject to the rules in TE-NERC-224. See also the guidance in Talen's PRC-019 Lessons Learned memo.

If study shows that corrective actions are needed, compliance is achieved (and the five year clock resets) when the required settings changes are implemented, not when study is completed.

A new PRC-019 study and implementation of corrective actions (if any) are required within 90 days of making changes that affect voltage control coordination.

BDEC 1- PRC-019-2 Periodic Testing
SME: Lock, Donald T
Status: Open Task
Control: Preventative
Due Dates: 12/31/23
Load Evidence

BDEC 1 -PRC-027 -1 The relay applicability list in Att A. of PRC-027 pertains only to R2 of the standard. See the site specific lists that have been prepared for R1 and R3.

Plants using Option 2 for R2 of PRC-027 must check at least every six calendar years for fault current changes above the threshold (15%) that trigger an Option 1 coordination study. Talen's preferred max interval is four years.

An R2 Option 1 study is also needed for any relays that Misoperate in a fashion indicating a lack of GO-TO coordination.

BDEC 1 - PRC-027-1 Periodic Testing
SME: Lock, Donald T
Status: Open Task
Control: Preventative
Due Dates: 12/31/23
Load Evidence

BDEC 2 - MOD-025 -2 requires periodic retesting. Submittal of new tests reports is required nominally every five years, max 66 months.

Testing is also required within 12 calendar months of discovering a real power or reactive power capability change of more than 10%, and that is expected to last more than six months.

Reports must be submitted to the TOP within 90 days of testing. ISO market rules

BDEC-2 MOD-025-2 Periodic Testing
SME: Lock, Donald T
Status: Open Task
Control: Preventative
Due Dates: 1/31/26

Transition Long Range Periodicity Tasks to Plant Specific Compliance Status Reports

- Plant Managers and PNCs are provided these reports via email

- The example reminder email was sent to plant manager, and details what is required and when it is due

RE: Task Assigned: MCK 3 - MOD-025-2 Periodic Testing - MCK-3 - MOD-025-2 Periodic Testing

Tripp, Hank
To ● Dolan-VanZandt, Colleen

↩ Reply   ↩ Reply All   → Forward   ⋯

Thu 6/23/2022 9:15 A

ⓘ Follow up. Start by Thursday, June 23, 2022. Due by Thursday, June 23, 2022.

ENERGY   EMPLOYERS   EMPLOYERS

From: NERC Global Audit-Ready (GAR) Site <no-reply@sharepointonline.com>
Sent: Thursday, June 23, 2022 8:01 AM
To: Tripp, Hank <Hank.Tripp@talenenergy.com>; Dolan-VanZandt, Colleen <Colleen.Dolan-VanZandt@talenenergy.com>
Subject: Task Assigned: MCK 3 - MOD-025-2 Periodic Testing - MCK-3 - MOD-025-2 Periodic Testing

[External Email]

You have a new task.
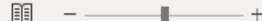
A task is due for: MCK 3 - MOD-025-2 Periodic Testing
Assigned to: Tripp, Hank, Dolan-VanZandt, Colleen
Due date: 11/30/2027
Description:
Submittal of new test reports is required nominally every five years, max 66 months.
Testing is also required within 12 calendar months of discovering a real power or reactive power capability change of more than 10%, and that is expected to last more than six months.
Reports must be submitted to the TOP within 90 days of testing. ISO market rules may call for even earlier submittal (e.g. 30 days for PJM).
Compliance is achieved, and the five-year clock is reset, when test reports are received by the TOP, not when the tests are run.

Process narrative:

MCK 3 - MOD-025 -2 requires periodic retesting. Submittal of new tests reports is required nominally every five years, max 66 months.

Testing is also required within 12 calendar months of discovering a real power or reactive power capability change of more than 10%, and that is expected to last more than six months.

Reports must be submitted to the TOP within 90 days of testing. ISO market rules may call for even earlier submittal (e.g. 30 days for PJM).

See Talen procedure TE-NERC-405 for Additional information.

Instructions:

Submit evidence of timely submittal using the Document Loader. Enter the date of the document in the Date field. The task will be marked complete if the document date is prior to the Due Date. Use this link: Document Loader

All folders are up to date.   Connected to: Microsoft Exchange   Display Settings

RECOMMENDATIONS: IMPROVE / DEVELOP TOOLS

NERC Group Compliance Tracking Process

Utilize More SharePoint Applications

Transition Long Range Periodicity Tasks to Plant Specific Compliance Status Reports

Build Compliance Calendar

Build Compliance Calendar

Reaching a task's due date in Compliance Status Reports automatically self populates the Compliance Calendar

- Talen's *Internal Controls* process must create an environment that changes with the needs of the fleet.

- An Internal Control should be proactive and help detect or prevent compliance issues

- The goal here is not to make more work for anyone but rather make the Corporate NERC Group more efficient and provide better ways to convey information to the plants.

- Using tools, we already had - we improved the efficiency of the Corporate NERC Group and its Control Environment

QUESTIONS

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