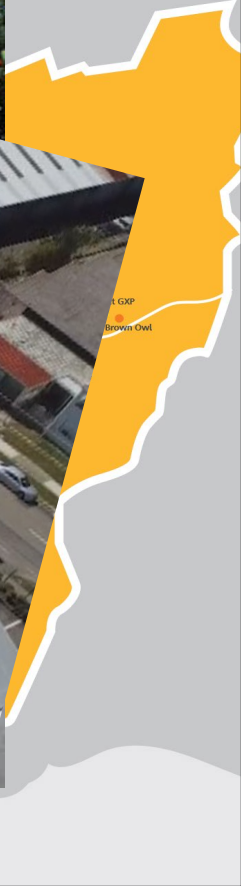
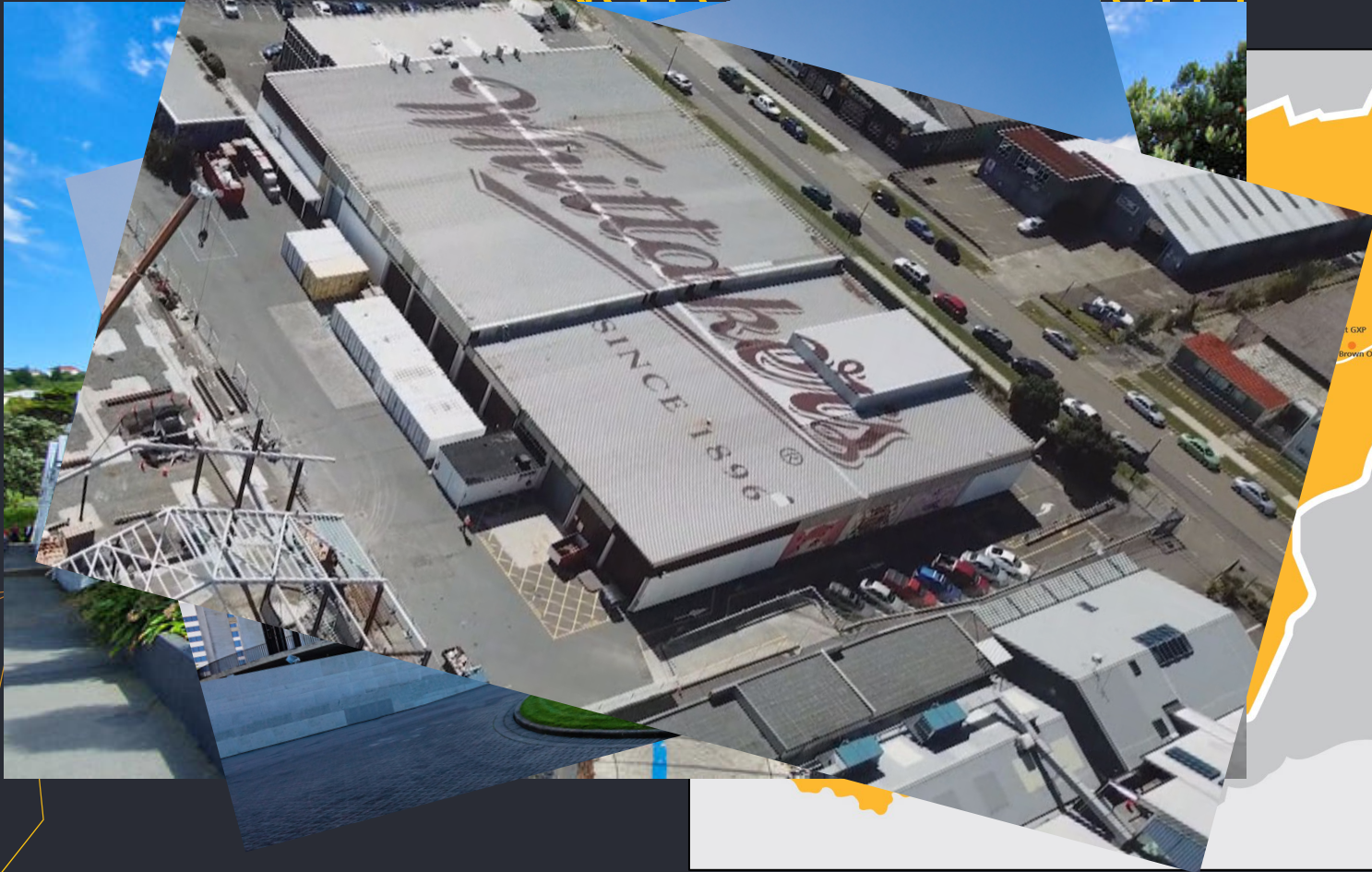


# Analysis of network access scheduling

Graham Clark

# WILLIAMSBURG CITY



# SUMMARY OF PRESENTATION

## 1. IMPACT OF CARBON NEUTRAL

- The Climate Change Commission's objectives effect on Wellington

## 2. NETWORK ACCESS REQUESTS

- What is a Network Access Request and why is it important?

## 3. PROJECT SCOPE

- What are we setting out to achieve?

## 4. CURRENT PROCESS

- What is our current level of visibility into the process?

## 5. MOVING TO DIGITAL

- Implementation of a digital form to capture data

## 6. CURRENT RESULTS

- What we have seen so far



1



IMPACT OF  
CARBON NEUTRAL

# IMPACT OF CARBON NEUTRAL



Revised carbon trading scheme



Develop carbon sinks



Reducing agriculture emissions



Transition to renewable generation



Transition from gas to electricity

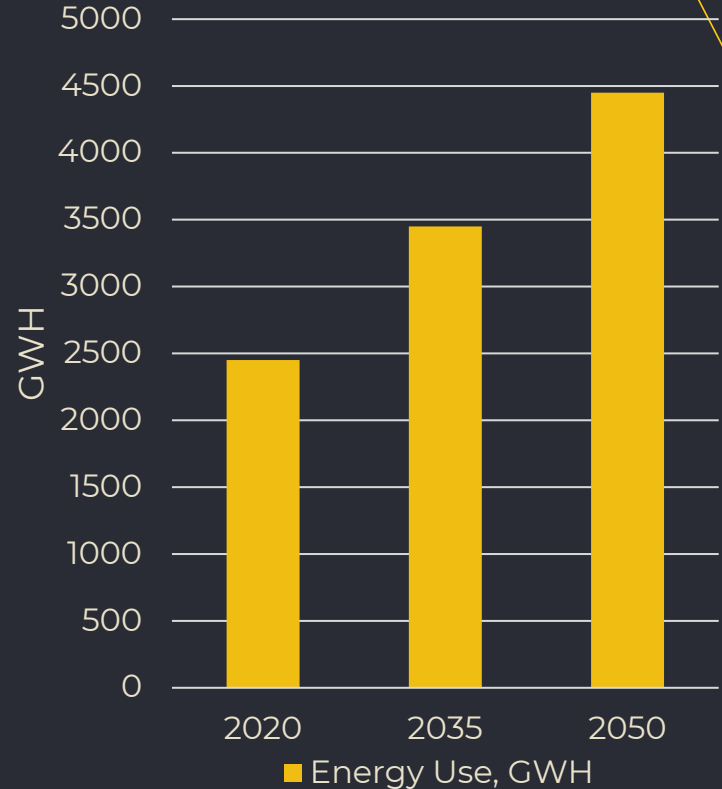


Electrification of transport fleet

**80%**

Increase in demand = larger network

## Impact of CCC programme





2



NETWORK ACCESS  
REQUESTS

# NETWORK ACCESS REQUEST

A package of documents that explains the purpose and methodology of the proposed work.

- Date and time the work will take place
- Section of the network being worked on
- Methodology of the work
- Potential Outages and any connections affected

The reason we require these documents

- Know who is working on the network, when and where
- Need to always know the state of the network
- Keep our customers informed of outages
- Ensure the methodology being used is safe
- Write a switching schedule

# NETWORK ACCESS REQUEST TIMELINE

## 20 DAYS PRIOR

Contractor submits network access request to WE\*

## 5 DAYS PRIOR

Approval and switching schedule sent to contractor

## 12 DAYS PRIOR

Advertising / notification of outage communicated to retailers

## DAY OF WORK

Contractor contacts WE\* Network Control each time they begin and end a step within the schedule





3



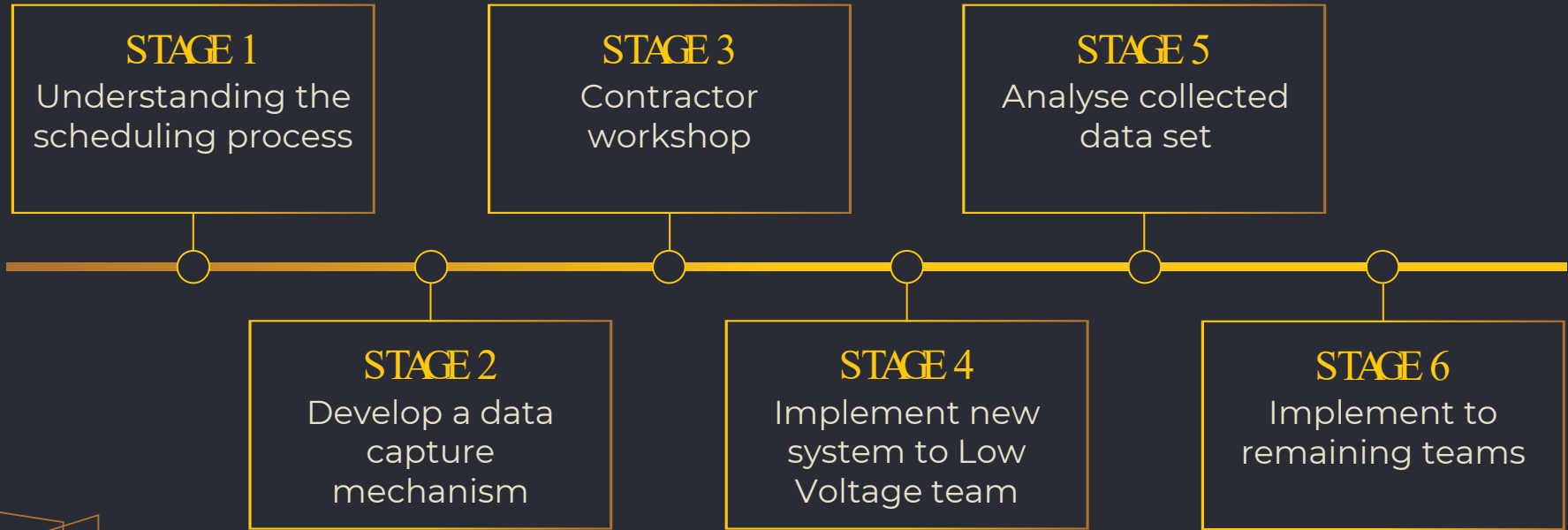
# PROJECT SCOPE

# PROJECT SCOPE

Create a method to collect a set of data that will indicate the health of the scheduling process.

- Are we upholding our timeframes obligations to our contractors?
- What is the average processing time per request?
- What are the characteristics of the requests we receive?
- Are contractors submitting requests within required timeframes?
- What is the cancellation rate of request?
- What is the total capacity of the team to process requests?

# PROJECT TIMELINE



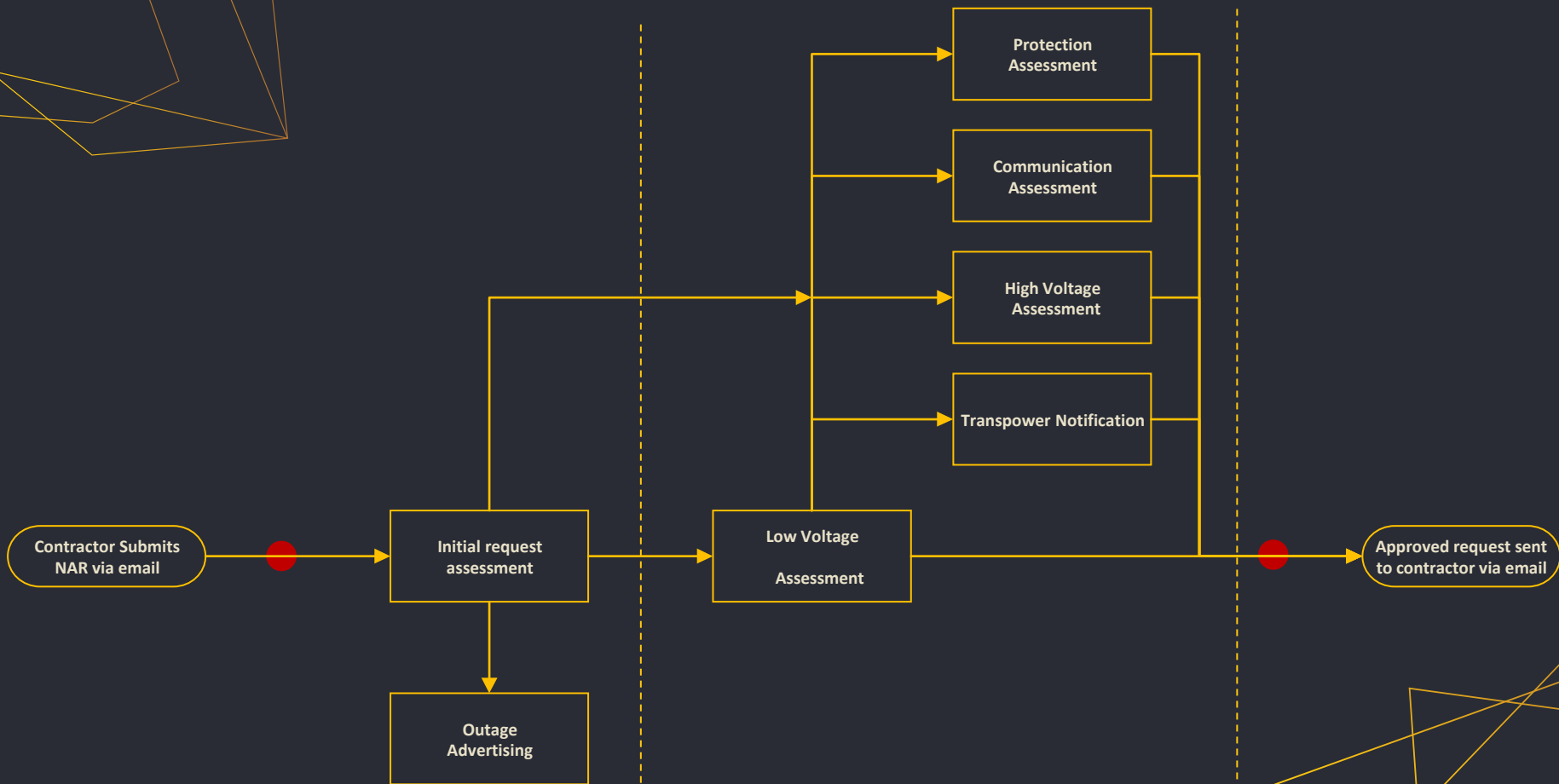


4



UNDERSTANDING THE  
CURRENT PROCESS

# CURRENT PROCESS





5



MOVING TO DIGITAL

# DATA CAPTURE MECHANISM

Creating an electronic  
Operational Request Form  
eORF

**Operational Request Form** Network Outage No: **WE\_OR 28176**

Required Day: ..... Date: (dd/mm/yy) / / .....  
Required Alternate Day: ..... Date: (dd/mm/yy) / / .....  
Final Isolation Time: ..... Finish Time: .....  
Emergency Recall (Hrs): .....  
Substation: ..... Feeder: .....  
Easement Registered:  Yes  N/A

**Live Work Proposal**

G & B  Hot Stick  Tree Cutting  Control Room use only Start Time: ..... Finish Time: .....  
Recloser to be Blocked: ..... Procedure Numbers: .....  
Approved By: ..... Warrant No: ..... Minimum Staff Required: .....

**Switching Request**

Single Switching  Multiple Switching  Control Room use only Start Time: ..... Finish Time: .....  
Advertising Required for customer loss of supply - DISTRIBUTION COMPANY TO NOTIFY RETAILER   
Method of tying up low voltage system: .....  
System Isolation between/beyond: .....

**Reason for Work** Project Number: .....

Voltage:  400V  11kV  33kV  500V DC  
 Communication  Protection  SCADA  Auxiliaries

WORK AREA: All requests must include Network Diagram clearly showing both work and isolation areas.  
NETWORK DIAGRAM MUST BE MARKED UP TO SHOW ALL CHANGES AT COMPLETION OF DAY'S WORK  
ACTUAL WORK ADDRESS: .....  
Transformer numbers: .....

**Testing and Earthing**  Yes  No

	Name	Mobile No.	Radio Call Sign	Warrant No.
Access Permit Recipient				
Test Permit Recipient				

**Switching**  Transpower  Other Details: .....

	Name	Mobile No.	Radio Call Sign	Warrant No.
Switching Operator				
Switching Operator				

Person Requesting Release First Name: ..... Last name: .....  
Contact Details Phone: ..... Fax: ..... Mobile No: .....  
Company Name ..... Date: (dd/mm/yy) / / .....

WE \* wellington electricity

WE\_OR September 2010

# CONTRACTOR WORKSHOP

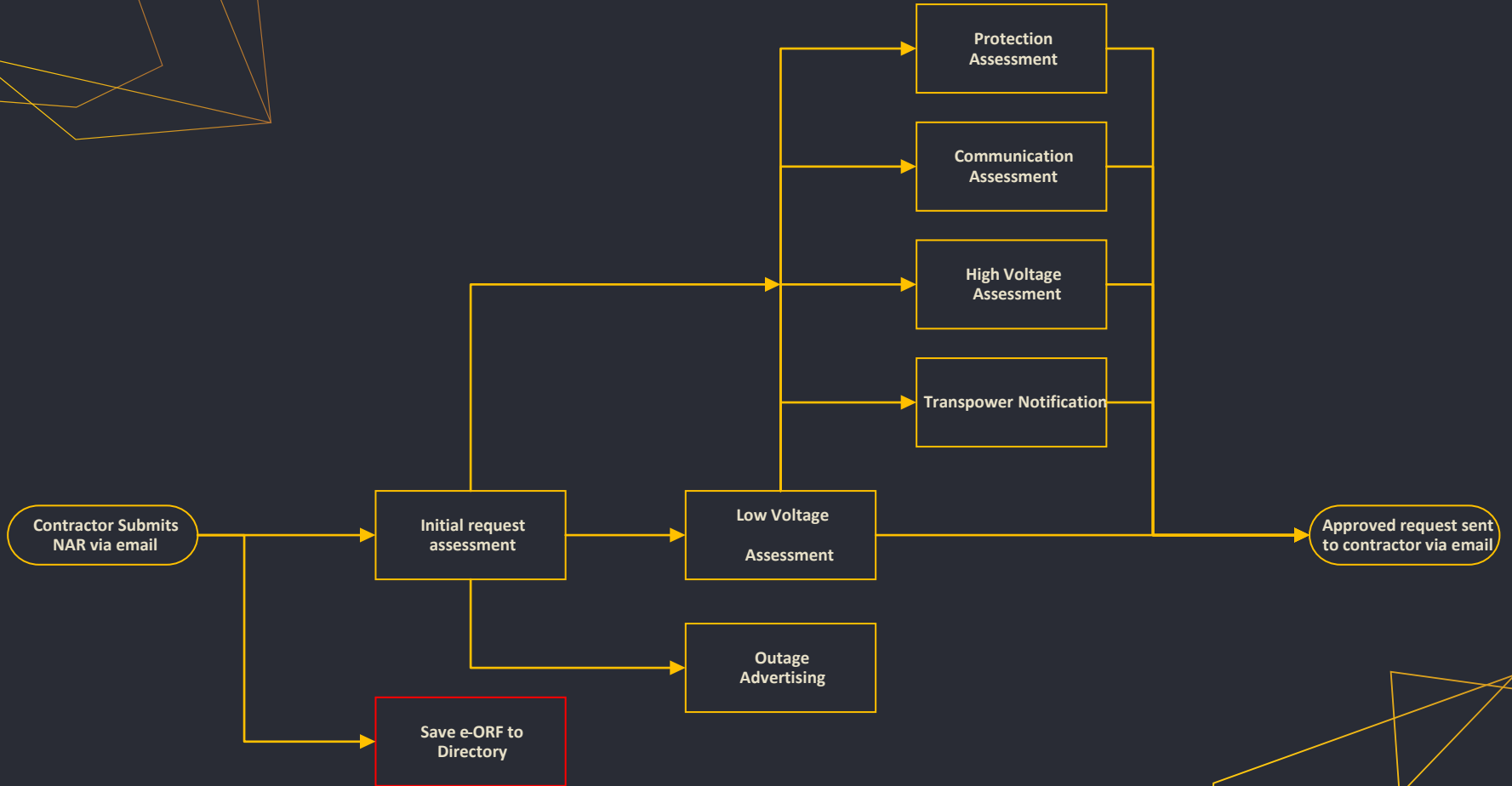
Before we implemented, we consulted with our contractors

- Explained the new eORF form
- We demonstrated how to complete the form with a real project
- Agreed a 'Go Live' date
- Listened to feedback & added to form
  - Contractor reference number
  - Working days calculator





# CURRENT PROCESS



# A DIRECTORY OF DATA

WE* Progress Status (WE* to Fill)					
PoF	REQUIRED			Sent for HV Switching (D/M/Y)	Sent to Contractor (D/M/Y)
Secondary Assessment	REQUIRED	Advertising	REQUIRED		
		LVSS	REQUIRED		
WE_OR Number	XXXXX	Network Outage Number:		WE* to Fill	Version: 20210706

WE* Progress Status (WE* to Fill)					
PoF	COMPLETE			Sent for HV Switching (D/M/Y)	Sent to Contractor (D/M/Y)
Secondary Assessment	COMPLETE	Advertising	REQUIRED		
		LVSS	REQUIRED		
WE_OR Number	XXXXX	Net	WITH COMPLETE QUERYING RESCHEDULE	E* to Fill	Version: 20210706



6



# CURRENT RESULTS

# Network Access Request - Overview



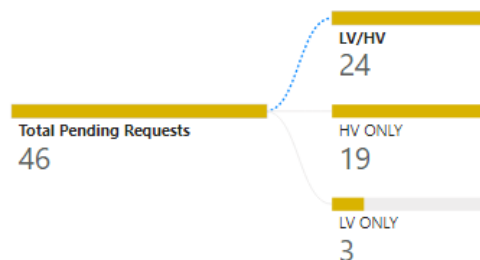
**0.3319**

Total SAIDI Impact

**0.0021**

Total SAIFI Impact

[Access Voltage Type](#)



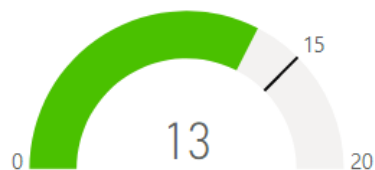
## Pending Requests

Access Start Date	OR Number	Access Voltage Type	Advertising	Protection	Communication	SAIDI	SAIFI
20/10/2021	26933	HV ONLY				0.0000	0.0000
20/10/2021	26934	HV ONLY				0.0000	0.0000
22/10/2021	26448	HV ONLY	●			0.0000	0.0000
22/10/2021	27930	LV ONLY				0.0000	0.0000
24/10/2021	26938	LV/HV				0.0000	0.0000
26/10/2021	26831	HV ONLY	●			0.0000	0.0000
31/10/2021	24481	LV/HV	●			0.0000	0.0000
01/11/2021	23960	LV/HV				0.0000	0.0000
02/11/2021	27226	LV ONLY	●			0.0212	0.0001
08/11/2021	24193	HV ONLY				0.0000	0.0000
10/11/2021	28026	HV ONLY				0.0000	0.0000
15/11/2021	26638	LV/HV		●	●	0.0000	0.0000
18/11/2021	26779	HV ONLY		●	●	0.0000	0.0000
22/11/2021	26639	HV ONLY		●	●	0.0000	0.0000
25/11/2021	26640	HV ONLY		●	●	0.0000	0.0000
29/11/2021	26641	HV ONLY		●	●	0.0000	0.0000
09/12/2021	24191	LV/HV				0.0000	0.0000
<b>Total</b>			<b>12</b>	<b>6</b>	<b>5</b>	<b>0.3319</b>	<b>0.0021</b>

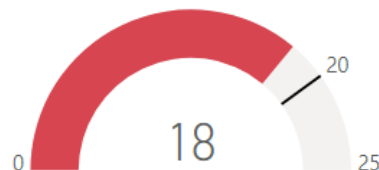
# Network Access Request - Performance Data

Month  Access Type  Contractor

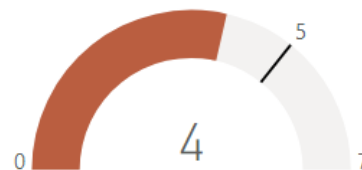
Processing time per request (days)



Lead time per request (days)

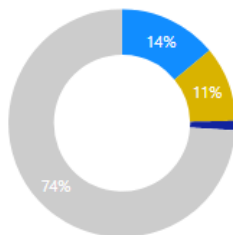


Approval lead time (days)



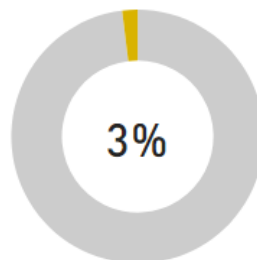
Request Characteristics

● Advertising ● Protection ● Communicat... ● None



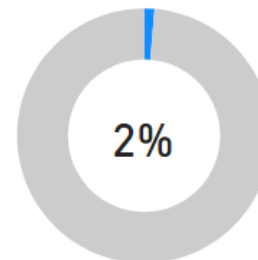
Request Error Rate

● Total Requests Received ● Error rate



Cancelled Requests

● Cancelled Requests ● Total Requests Received



**THANK YOU**

