Nwakile, Chukwuebuka C SPDC-UPC/G/UCN

From: Nwakile, Chukwuebuka C SPDC-UPC/G/UCN
Sent: 20 February 2023 16:13
To: Garus-Kogi, Oghenedoro F SPDC-UPC/G/T
Cc: Ayeni, Stephen B SPDC-UPC/G/UC; Usiagu, Gloria S SPDC-UPC/G/UCN; Ebieto, Hendrix M SPDC-UPC/G/UCN; Onyeme, Chinedu V SPDC-UPC/G/UC
Subject: RE: Notes from Fuel consumption deep-dive

Hi Doro,

Kindly see information below obtained from meter on AGO supply line.

Date	D3412	Perkins
Jan		
26-Jan		
27-Jan		1262
28-Jan		1178
29-Jan		1352
30-Jan		1346
31-Jan		1287
Feb		
01-Feb		1368
02-Feb	1461	
03-Feb	1436	
04-Feb	1473	
05-Feb	1449	
Average Consumption	**1455**	**1299**

From the table above, we will be saving about 156L/d preferentially running Perkins over the D3412 Genset.

Regards,
Ebuka.

From: Garus-Kogi, Oghenedoro F SPDC-UPC/G/T <O.F.Garus-Kogi@shell.com>
Sent: 05 December 2022 12:50
To: Onyeme, Chinedu V SPDC-UPC/G/UC <Chinedu.Onyeme@shell.com>
Cc: Ayeni, Stephen B SPDC-UPC/G/UC <Stephen.Ayeni@shell.com>; Usiagu, Gloria S SPDC-UPC/G/UCN <Gloria.Usiagu@shell.com>; Ebieto, Hendrix M SPDC-UPC/G/UCN <hendrix.ebieto@shell.com>; Nwakile, Chukwuebuka C SPDC-UPC/G/UCN <Chukwuebuka.Nwakile@shell.com>
Subject: RE: Notes from Fuel consumption deep-dive

Many thanks Chinedu.
The information came in handy for the discussion with Supply Base team.
Do let me know if there are any further changes to the AGO consumption breakdown and summary numbers (assuming the final checks have been done as planned).
One more question on the optimization achieved. **Ca. $40.8K OCT YTD**

Instead of asking for cumulative cost savings, I should have asked for cumulative AGO volume saved/avoided; which unmasks the effect of flux in AGO price. Please share the cumulative volume backing the $40.8K and include the gains for November 2022.

Warm regards,
Doro

From: Onyeme, Chinedu V SPDC-UPC/G/UC <Chinedu.Onyeme@shell.com>
Sent: 28 November 2022 15:08
To: Garus-Kogi, Oghenedoro F SPDC-UPC/G/T <O.F.Garus-Kogi@shell.com>
Cc: Ayeni, Stephen B SPDC-UPC/G/UC <Stephen.Ayeni@shell.com>; Usiagu, Gloria S SPDC-UPC/G/UCN <Gloria.Usiagu@shell.com>; Ebieto, Hendrix M SPDC-UPC/G/UCN <hendrix.ebieto@shell.com>; Nwakile, Chukwuebuka C SPDC-UPC/G/UCN <Chukwuebuka.Nwakile@shell.com>
Subject: FW: Notes from Fuel consumption deep-dive

Hi Doro,
I have tried to quickly do some checks on the data below. Certainly, further clarification will be done before the weekend for correctness but generally, this is how we have fared on consumption.
On the other information requested around duration and cumulative savings, they are highlighted in your original email.

We will get back to you soon as we are am done with the final checks on the data but for your meeting, you can use this for now.

Regards,
Chinedu

From: Usiagu, Gloria S SPDC-UPC/G/UCN <Gloria.Usiagu@shell.com>
Sent: 16 November 2022 19:36
To: Ayeni, Stephen B SPDC-UPC/G/UC <Stephen.Ayeni@shell.com>
Subject: RE: Notes from Fuel consumption deep-dive

Hello Sir,

Please see below and attached for subject:

AGO Consumption breakdown per year from 2020 to 2022

Year	Nun River AGO consumed for Power Generation due Station Outage	Nun River AGO consumed for Power Generation due Generator Outage	Nun River Total AGO consumed for Power Generation	Diebu Creek AGO consumed for Power Generation due Station Outage	Diebu Creek AGO consumed for Power Generation due Generator Outage
2020	51,758	98,058	149,816	15,023	8,452
2021	165,349	189,143	354,492	13,075	6,868
2022 (OCT YTD)	413,500	94,600	508,100	46,103	0
Total	630,607	381,801	1,012,408	74,201	15,320

AGO Consumption Summary for NR/D PU and Community:

Year	NunR/DbuC (Total AGO Consumption for Power Generation & land/Marine)	Community AGO Consumed for Power Generation	Total (NR/D & Community) Per Year
2020	250.307	2,436,000	2,686,307
2021	451,950	2,436,000	2,887,950
2022 (OCT YTD)	605,003	2,030,000	2,635,003
Total	**1,307,260**	**6,902,000**	**8,209,260**

Please see responses to questions in email below highlighted in green.

Best regards
Gloria

From: Ayeni, Stephen B SPDC-UPC/G/UC <Stephen.Ayeni@shell.com>
Sent: 9 November, 2022 12:35 PM
To: Usiagu, Gloria S SPDC-UPC/G/UCN <Gloria.Usiagu@shell.com>
Cc: Nwakile, Chukwuebuka C SPDC-UPC/G/UCN <Chukwuebuka.Nwakile@shell.com>; Onyeme, Chinedu V SPDC-UPC/G/UC <Chinedu.Onyeme@shell.com>
Subject: FW: Notes from Fuel consumption deep-dive

Hello Gloria,

Kindly support with the required details.
Let's connect on any clarification.

Warm Regards,
Stephen B.

From: Garus-Kogi, Oghenedoro F SPDC-UPC/G/T <O.F.Garus-Kogi@shell.com>
Sent: 08 November 2022 18:26
To: Ayeni, Stephen B SPDC-UPC/G/UC <Stephen.Ayeni@shell.com>
Cc: Onyeme, Chinedu V SPDC-UPC/G/UC <Chinedu.Onyeme@shell.com>; Ajayi, Oluwaseun E SPDC-FUP/CGA <O.Ajayi@SHELL.com>
Subject: Notes from Fuel consumption deep-dive

Hello Stephen,

Many thanks for taking my call on short notice and the insights shared during our conversation earlier today.
See highlights of our discussion and agreed next steps to take the opportunity forward.
Grateful if you can capture anything that I have missed out and provide the breakdown before 14-November.

Next steps to further distil 2021 and 2022 volumes

Breakdown into the following categories:

- Volumes consumed for power generation in host communities
- Volume consumed for power generation in NUNR
    - separating the duration/volume due to gas genset unavailability from the duration/volume due to facility downtime on TNP outage
- Volume consumed for power generation in DBUC
- Volume consumed for Marine vessel movements

Discussion Highlights

NUNR/DBUC AGO consumption from Jan 2020 till Oct 2022 is shown below

2020	2021	2022
2,773,000L	2,886,000L	3,476,000L

NUNR

Higher diesel consumption stems from defective G3512 Gas genset from 2021 till facility shutdown on TNP outage. **Confirm actual duration.** **G3512 Gas Gen went down 04.10.21. Station Outage was 24.02.22**

From Jan 2022 till Feb2022 when NUNR shutdown on TNP outage, the gas genset was unavailable. The defective G3512 unit remains under repair awaiting spares in Central workshop. The plan is to restore the unit and install in NUNR as N+1 for power generation.

A swing G3508 gas genset from Central workshop was delivered to NUNR. The unit will be commissioned when gas supply becomes available after the station resumes production into TNP.

The team challenged the running philosophy; determined the combined electrical load demand from F/S and FLB; tested and confirmed that the D3412 genset could safely power the combined electrical load; and switched the primary/standby units running philosophy. This improvement effort has reduced the volume of diesel consumed daily by ~300L. **Determine cumulative savings/avoidance YTD as a result of this switch.** **Ca. $40.8K OCT YTD**

Power Generation Equipment on Site: 1 gas genset + 2 diesel gensets	**Running Philosophy**	
	Former	**Current**
Diesel genset: Perkins @ 1720L/day	Primary	Standby
Caterpillar D3412 @ 1420L/day	Standby	Primary

DBUC

Team used the opportunity to overhaul the Gas genset during this extended shutdown due to TNP outage.

D3412 diesel genset failed during the plant outage; recovery plan to send to workshop for repairs would have taken roughly 6months with attendant logistics and load testing requirements.

Team once again challenged the status quo to explore options for a safer, faster and more cost effective repair of the unit.

The outcome was crashing the mean time to repair (MTTR) from ~6months to 21days with load testing performed in situ. Which can be replicated in other sites to avoid high potential safety exposures from lifting operations and marine transport; incur significantly lower logistics costs and reduce the MTTR associated with transporting larger machines to central workshops for repairs.

COMMUNITY

Dealing with legacy commitment(s).

There is a commitment to provide electric power for 8 host communities. This is currently done using 9diesel gensets with 203,000L of diesel supplied monthly. This figure is lower than what was obtainable in pre-covid19 times by about 20 - 25% reduction in volume.

Corporate Relations team develops an aligned annual schedule with nominated community vendors for monthly AGO supply.
Site team raises the request to Asset commitment control and it gets approved for a nominated community contractor to supply the approved volumes to the communities.
There are instances of communities remaining in blackout due to short supply from vendors who have blamed unpaid invoices are reason for defaulting.
There is a contract for each of the communities covering typical First Line Maintenance and operations.
When the machines develop more complex defects, the communities call on the site teams to intervene and resolve.
This has led to agitations from communities to provide steady power directly from the field locations rather than standalone diesel gensets with monthly AGO rations.
A possible solution is to replicate an intervention contract deployed by the Mtce Execution team in the West Asset.

Warm regards,
Doro