



Magazine 6C - Essential Service Operators

This document provides a transcript for the audio in Magazine 6C – Essential Service Operators. It includes a text copy for interviews, presenter videos and activity audio.

Slide Image



Transcript

Servicing the Community - Issue 3

Essential Service Operators

Interviews with ESOs within the community

+ How to measure chlorine readings

Meet David & Tony



Welcome to Issue 3 of Servicing the Community

Introduction to Essential Service Operators

Presenter - Welcome to PreVET 00:36 Seconds

Hi! You're about to meet David, Tony and Anthony. They work in the essential services industry in important jobs like plumbing and powerhouse operating. These are the people that make sure essential water services and plumbing are working in your household. They make sure electricity is being produced in power stations across the Northern Territory.

Let's listen to their stories.







Interview with Maintenance Plumber Gold Medal Services David Laughton

David Laughton - Maintenance Plumber 03:17 Minutes

Hello, I'm David Laughton from Alice Springs. I am a maintenance plumber for Gold Medal Services up in Darwin. What I do is leaking toilets, taps, water leaks, I work on Zip units, hot and cold taps, solars, re-running sewer, fixing sewer, unblocking sewer drains, yeah, a bit of that and a bit of cementing. Installing toilets, fixing toilets, fixing shower roses, leaking taps. When I was back in school, we had an assignment, what would we do when we get out of school. So we looked on a newspaper jobs and we had a plumber. In years gone, years past I had the opportunity to be a plumber. I had difficulties reading and spelling, it was really bad. I told one of the bosses in the actual workshop about it and she said should be alright, we'd get through it, so now I'm here still, five years, got my reading/writing up, it's pretty good and I'm liking it.

After my hard work for four years doing my apprenticeship I actually won an award, the indigenous apprenticeship award. The Stuart Baird Award 2012, so that was good.

I like going to work because I learn more stuff every day. I like all the work boys here, they're all pretty fun and you learn heaps off them as well. I like to figure out what the problem is and I like the challenge to fix things what are broken.

Try to learn as much as you can in school because when you're in the big world, it's really hard to learn because you don't have free time as much as you do in school. So, stay in school and you learn more. If you learn more, it'll be easier out in the big world.

If you set your mind to anything you can do anything you want to do in life. Make people proud of you, what you do in life and be good. Don't run amuck and live a long, happy life. Be happy. Respect your elders too.







Interview with Essential Services Operator AA Electrical Tony Walaluma

Tony Walaluma - Essential Services Operator 02:15 Minutes

I'm Tony, I'm from Elcho – Galiwin'ku. I was born here, I'm community ESO, it's a part of the job here to service the community make sure water, power's going well. I do the bore readings in the morning. Just to check on the bore's working every morning we go around. Yeah, we check bores every mornings, how many waters and how many hours going, make sure the water's running and how many hours, how many litres water going in. Let them know how much water been used and how many litres and how many hours it's been running. We have to do the same times do the sewerage pump stations too, or the pumps jammed up, or something just do a check every morning do the readings and we send it to Darwin.

I've been in Katherine Rural College to do this course and it's good to learn something we have to work in our communities to run powerhouse, it's good for me to run, it's good for me to learn something.

School is important for kids to go to school, more educations and to learn something so when they grow, when they go out from school they can get a job. It's a bit boring out there to sit down without doing something. Every morning I tell them to go to school. It is important for them to learn something.



Interview with Essential Services Operator Roper Gulf Shire Council Anthony Kennedy

Anthony Kennedy - Essential Services Officer 03:47 Minutes

Hello, my name's Anthony Kennedy, I'm a essential service officer. I look after most of our power and water assets and I even look after the powerhouse. Now I got the job, I pretty much got the knowledge now it's been three years now I've been doing this job and I'm liking it.

Well, the first thing in the morning I have to look at my chlorine reading that's the first thing, important job and after that I just do my engine reads, pick up the engine hour, check the oil on the gen set. Every Monday I usually do my generation report so that I have to get all the





engine hours, fuel usage, how much fuel the gen sets are using and then fax it in to head office in Katherine, our remote operations.

I follow the manual procedure book and it tells me what I need to do every day. If you have blackout then it will tell you how to get the power back up in the community again, which is important.

Literacy and numeracy, they're important to my job, so need to read and write and numbers. I gotta write down reports if there's something broken down, if I doing overtime then I gotta have to fill in my ORs, gotta put in correct details.

ACTIVITIES Essential Services Operator

Presenter - Essential Services Operator 00:13 Seconds

Now you'll have a go at some of the reading and writing that David does on his job. You'll also learn how ESOs in power stations learn to read and record different information about power and water services.

ESSENTIAL SERVICES OPERATORS

Communicating In Writing – In this activity, you'll see David writing about the different jobs he does in a days work.

Essential Water Services – In this story, you'll see Tony and Anthony work on the essential water services in their communities.

Essential Power Services – In this story, you'll see Anthony recording generator and fuel readings at the powerhouse in his community.

REVIEW

Presenter - Review 00:30 Seconds

You've now read about licensing and how to keep David's job sheets and other information organised. You've helped Tony and Anthony take water readings and record them for the rest of their teams. You've also had a go at recording in a power station log book. You've tried reading a fuel gauge and ordering the right amounts of fuel to keep power levels up in a community.

Nice work!













Northern Territory Government

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Activity A1 Communicating In Writing

Activity 1 Communicating in Writing

In this clip you'll see David writing about the jobs he does in a day's work.



Key Points

This activity will focus on:

- Ordering replacement stock
- Writing about completed jobs
- Reading about licence rules and regulations

David writes down the details of the jobs he completes in a day, and then has to replace the stock in his van that he used on those jobs. Have a look for the times he has to read and write during his day.



David - Maintenance Plumber 03:04 Minutes

Ah, just seeing if I need to stock up on anything in the van. Okay, I've got enough washers, that's all good. I've got enough of brass fittings, they're all good, flares, they're all good, elbow flares, they're all good, got some new taps, yep, they're all good.

I'll have to write a little thing on the note pad and then go to the plumbing supply and then get the parts that I need for my van. Ah, yeah, I've been pretty low on washers so I gotta little pack and chucked it in the van, so everything's find at the moment.

This is our job number for our id so, if we need to get parts for this job we say the number at the plumbing supply and they book it out to this job and then it helps the office to quote or charge the job to the customer.





After a job we fill out a the paperwork to say what we've done on the job and the date and all that stuff so we can charge the customers how many hours we've been there and the materials. So we'll just say the leak, leaking toilet, so leak what we've done at the job will be removed outlet valve plus rubber, installed new outlet rubber, tested toilet, all okay. Then, do a little line down there and say one outlet rubber and then we write down our times, our hours.

We give this paperwork to the office, we put this in our completed tray and then office get it and charge the job out. Okay, this is our completed job so what we do is put the paperwork in the completed job and then the office charge it out.

So, these are the ongoing jobs and my new jobs what I need to do today. This is my tray, this is our jobs, so our new jobs, the jobs that we still have to complete and the completed jobs. So, these are ongoing, these jobs and these are the jobs I'll be doing today. So this will be just repairing a Zip unit, hot and cold tap. Okay, I'm just repairing a Zip unit, a hydro tap.



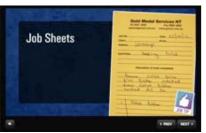
Keeping Notes

David checks his van to see if it is stocked with all the supplies he needs. If he's running low on parts, he writes them down in his notebook so the team can order more from the plumbing supply.



Job Tip

Writing everything down keeps things organised and helps David remember the things he needs to ask for.



Job Sheet

When David completes a job, he also has to write the details of his work down so the company he works for can charge the customers. Here is the job ticket where he wrote what he did and the part he used.







Job Tip

David wrote the parts he used so his colleagues can bill the customer for the parts as well as David's work. He also has to write clearly so others can do their part of the work in the team.



Thinking + Discuss

Think about how this information helps:

David

His colleagues

The customers

The plumbing parts suppliers

Keeping Communication Organised



When David finishes his day, he places his completed job tickets in the folders for his colleagues to pick up, and then collects the job tickets for the next day to see what he'll be doing.



Thinking

What would happen if David didn't put the completed job sheet in the folder? What if it didn't say what he did at the job or what parts he used? What if it couldn't be read by his colleagues?



Job Tip

This helps him get organised for the next day's work. If the jobs require special parts or extra time, David can work out how to prepare tools, parts, and time for the day by looking at the jobs he needs to do.



Extension

David also had to read information on the Plumbers and Drainers Licensing Board's website. Can you find:

- 1. The courses he has to take to upgrade to 'Advanced Tradesman' License?
- 2. The application form for renewing his license? How long before





- the expiry date of his current license should he a lodge a renewal application?
- 3. Where he would show that he took a 'Thermostatic Mixing Valve' course and be endorsed for his in his new license application?
- 4. Answers to Frequently Asked Questions http://plumberslicensing.nt.gov.au



Job Tip

Upgrading to Advanced Licenses and having Endorsements will help David keep learning more, and make him more desirable as an employee. Continuing learning once you get a job could lead to running your own business or training others one day.



More Info

Plumbers Licensing Website
Open Website (link to http://plumberslicensing.nt.gov.au/)



Thinking + Discuss

Have a look in the Forms and Publications Sections to find out more about all the different licenses and permits required to work in different sectors

David also has:

<u>Certification Three in Plumbing</u>: Four Years attendance in training and apprenticeship

A White Card: Worksafe NT (link to

http://www.worksafe.nt.gov.au/Bulletins/Bulletins/03.03.03.pdf)

First Aid Certificate: Australian Red Cross (link to

http://www.redcross.org.au/first-aid.aspx) St John Ambulance (link to http://www.stjohnnt.org.au/)

<u>Permits to work at heights and on elevated platforms ticket:</u> Workplace NT Licenses (link to

http://www.worksafe.nt.gov.au/Forms/Licences/Forms/AllItems.aspx)







Job Tip

Getting as many of your skills recognised and providing evidence of he training you do will make it easier for employers to give you work.



Activity

Today David fixed a school's leaky sink and used 18 washers. Help complete this job ticket



Activity

David also fixed 10 shower roses at the local gym. Help complete his job ticket.



Activity

To replace the items he used in his car for the next day, write what he needs in his notebook.



Activity

Now put the completed job tickets into the correct folder for David's colleagues to collect.



Points

This activity has focused on:

- Ordering replacement stock
- Writing about completed jobs
- Reading about license rules and regulations.







You've used written communication to complete a job sheet and organise information for colleagues. You've also read about the safety rules and licensing requirements a plumber needs to know about.

Thinking + Discuss Reflection

Why do you think writing down job details is important?

Do you think you could remember to write all the details of a job?

Could you see yourself finding out more about your field and winning awards like David?

Why is keeping a record of your work important? Would you be good at communicating with colleagues this way? Now that you've seen how David helps maintain plumbing and water services where it is used, you'll see more about the people who work to help water get from country to those homes and businesses.



Activity complete Well done!





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Activity A2 Essential Water Services

Activity 2 Essential Water Services

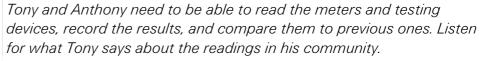
In this story, you'll see Tony and Anthony work on the essential water services in their communities. They make sure that running water and sewerage systems are operating so that safe, clean water can reach homes.



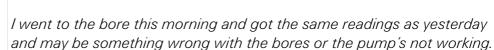
Key Points

This activity will focus on:

- Reading meters and gauges
- Recording results



Tony – Essential Services Officer 01:28 Minutes



Bore seven just to do a water reading. So how many litres we do the readings from here and how many litres the water's going out. Yeah the logbook, the water meter is 371,075 kilolitres. And then to do this pumps, this one's the hour, it's electrical ... seven hours.

When you finished doing these board readings and this log sheets here have to go to Darwin on every Monday so gotta have a look to see if the pump's working or water's pumping properly or something wrong they gotta tell us or they gotta ring us, yeah, something wrong.



Water Use

371.075KL

A Kilolitre is 1000 litres, so the reading shows that the amount of water that has passed through the pump is 371,075,000 litres.

Here is the bore reading for the water pump. Tony said it was the same as the previous day and that this could mean the pump isn't working.

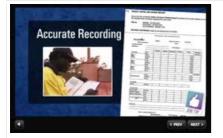






Thinking

The readings measure all the water that passes through the pump. What kind of change in reading would indicate that the pump is working properly? What could happen to the community water supply if the pump isn't working? How would that affect your day? Think about all the ways water is used in the community.



Accurate Recording

Here is the form Tony uses to record the readings. Notice that he checked the numbers on the meter a couple of times to make sure he was recording it carefully and accurately.



Job Tip

RECORDING

Tony writes carefully and neatly on this form so it is easy to read by others. This information needs to accurately show what is happening at the pump station. Errors in communication this information could lead to costly maintenance trips of break downs in the system.



Activity

Now record the bore readings for Bore 7, taken on Monday. Drag the reading from the metre to the correct field on the form.



Activity

Now record the bore pump reading for the next day. What are these readings telling you?







Extension

Here is a form he would complete to request a technician come and fix the fault in the pump. Drag the information to the correct spot on the form to help get the pump working again.



More Info

Can you find our information about how and when to use this form in the procedure manual?

Open Manual



Effective Sewage Systems

This is the engine hour reading for the sewage pump one. This shows that the engine that runs the pump that gets rid of waste water has been working for 77.05 hours.



Safety

COMMUNITY HEALTH

Without an effective sewage pumping system, any waste water from the community would have no where to go. Tony's job is to ensure that these essential services are working properly and this keeps the community clean and healthy.



More Info

CAN YOU FIND YOUR COMMUNITY?

Does it have water and sewage services? Here is a link to all the water and sewage pump stations in the NT. Open Link







This is how he recorded it

This is how Tony recorded the engine hours for the sewerage pump.



Activity

Now record the next day's engine hour reading for the sewage pump. Drag it from the metre to the correct field on the form.



Now have a look at how Anthony tests the water for chlorine levels. Listen for the amount of chlorine he says is the best amount to have in the water test.



More Info

Why chlorine

Chlorine Info Page (link to

http://www.powerwater.com.au/networks_and_infrastructure/remote_o perations/remote_water_supplies/water_for_healthy_communities)



Safety

HEALTHY DRINKING WATER

Because bore water comes from deep within the earth in water tables, it needs to be tested and treated for bacteria that could cause harm to people's health. Anthony's community uses chlorine to treat the water.



Anthony, Essential Services Operator 03:00 Minutes

Now, what I gotta do is check the chlorine reading. It's very important that you check the chlorine reading 'cause sometime you get 'em too high and sometimes you get 'em too low. You just want 'em right in the middle, like 50 mg to 1 mg, zero point five zero to one point.





Chlorine kills all the bugs, so pretty important for the little babies that there, specially for them breast feeding mums and thing. This chlorine it helps kill the bug.

Let the water run first. You got one ml chlorine tester bottle. Fill the water correct level there you see a line. Then get this chlorine meter read, you gotta digital chlorine meter read thing and all you have to do is turn on the power, that's clear, there's nothing in there yet, what you have to do is pull out the cover and see that hole in there, that's where the bottle goes in. The bottle goes in like that and you got that screen down there. Make sure, here's the tricky thing, you gotta get that diamond pointing towards you. Close the lid. So what you gotta do is press the blue button first without the chlorine so that's all zero without the chlorine. You pull out the bottle, grab one of these. If you put this in it will change colour.

See that, it's gone purple and grab your digital chlorine meter read, chlorine meter, place the bottle with diamond facing same towards you, close the lid and press the green button. Zero point 38 that's how much chlorine you got in the water system. Anything above 50 should be right, but this one's not bad. It's still alright. The correct level is something above 50 and something below one point.



0.50 - 1.00

Anthony needs to test the levels of chlorine in the water to ensure that there is a safe level of chlorine in it. He said this reading was a bit low and that the ideal reading is between 0.50 and 1.00.

Safety

Can you find this procedure and the form in the manual? Open Manual (link)

Activity

Now use the testing device and see if it's a safe level and tick the correct box. Drag the result onto the form.













Activity

Now use the testing device and see if it's a safe level and tick the correct box. Drag the result onto the form..



Thinking + Discuss

Look up the apprenticeship page on the power water website to see all the different job roles there are. These could lead to a job as an ESO as well. Or try this web page for games and information about some of the industry language ESOs use.

Open Website (link not working)

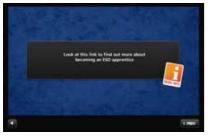


Look at this link to find out more about becoming an ESO apprentice

Opens Website

C PREV

Look at this link to find out more about becoming an ESP apprentice Open Website (link not working)



More Info

Help save the planet
Open Website (link to http://helpsavetheplanet.com.au/)



Key Points

This activity has focused on:

- Reading meters and gauges
- Recording results

You've read different meters and recorded them accurately. You've also looked up information about the different services an ESO is involved in.







Thinking + Discuss Reflection

Would you like to be responsible for taking care of your community's water services?

How would you like to help ensure a healthy water supply? Would you be good at accurately recording the readings?

Would you like to take care of the water services in your community? Would you like to keep your community healthy? Are you good at accurate reading and recording? Now let's look at the power services that ESOs also take care of.



Activity complete Well done!





Slide Image	Activity 3 Essential Power Services
ACTIVITY 3 ESSENTIAL POWER SERVICES	Activity 3 Essential Power Services In this story, you'll see Anthony recording generator and fuel readings at the powerhouse in his community.
This activity will focus on: Rediring generator metre and four gazyer Respectively the second four gazyer Respectively the right amount of replacement four	Key Points This activity will focus on: - Reading generator meter and fuel gauges - Recording results accurately - Calculating the right amount of replacement fuel Anthony needs to read the generators in the powerhouse and record the results. Later, you'll see him take readings of the fuel tanks that power the generators. Listen to how he explains the readings in the generator room.







Anthony – Essential Services Operator 03:50 Minutes

Now I'm gonna do my engine log book ... engine reading. That's the volt, how much volt going into the community, that's just the alternator one, alternator two, and alternator three. That's how much kilowatts it's running. This gen set's the second biggest, you got 230 kilowatts on it. This is gen set number three, gen set number two's the biggest and you got gen set number one the smallest. It usually runs during the cold weather time but during the hot, because people got their airconditioners on, you'll find number two pretty much doing the job all day. But number two comes on during the night when it's a bit cool.

So, what I do I just get the engine reading how much kilowatts it's running on and then the hour and then how much energy it's using. So, 235 and 234 write 'em down there. Two thirty four, 235.

And um, you got that kilowatts there 170. One seventy.

And that's where the alternator goes that's the alternator two, alternator three, the volts and then I'm gonna check for the engine daily hour meter kilowatts per hour. In order to get the engine hour, gotta go so that's 202, 204. Write down the engine hour 202, 204 and that's how much energy it's using, 2600.2 that's kilowatts per hour in other words, it's the energy.

It all depends on the load how much power they use in the community and how much aircondition they got on, that's when number two comes on because it's the biggest set. Pretty much done but during the third day of the working week, I usually check the gen set oil levels and top 'em up and write down the engine hour and how much I topped up let Power and Water know how much oil I'm using and yeah, fill 'em up and during the service I have to write down how much oil I pumped up during the week when I'm doing a service on one of the sets and that'll come on that oil sample thing so on the oil sample, I have to write down how much oil I topped up before during the service.

So yeah, pretty good job, interesting job. My favourite part I like is doing the service getting oil on my hand and yeah, I like the job pretty much.







Generators

The generators use fuel to produce energy for the community. They also need their oil levels checked and their air filters changed.



More Info

IN THE EVENT OF A BREAKDOWN

What would Anthony do if the generators broke down or there was a 'black start' like he said in his interview? Look up the procedure in the manual.



Thinking

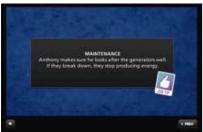
What community services would be affected if the generators broke down?



Safety

PPE

Anthony wears PPE in the engine room, especially to protect his hearing. Exposure to toud noise over time can cause hearing damage.



Job Tip

MAINTENANCE

Anthony makes sure he looks after the generators well. If they break down, they stop producing energy.







Generator Set Readings

The readings Anthony takes keep track of how much energy is being produced by the generators.



Job Tip

KEEPING TRACK OF READINGS

Anthony uses these readings to make a generator every week. This helps Power & Water monitor how much energy the community uses.



Logbook

Anthony reads the generator sets and records what they report in a form like this. This helps his colleagues at the main office watch how the generators are working and helps to identify problems that may need addressing.

Thinking

Can you find the readings that change everyday?
What times are readings taken?
Which readings have the biggest gap in between them?
Which readings have a difference of between 9 and 11 hours?



Activity

Select the oil temperature reading for Monday.

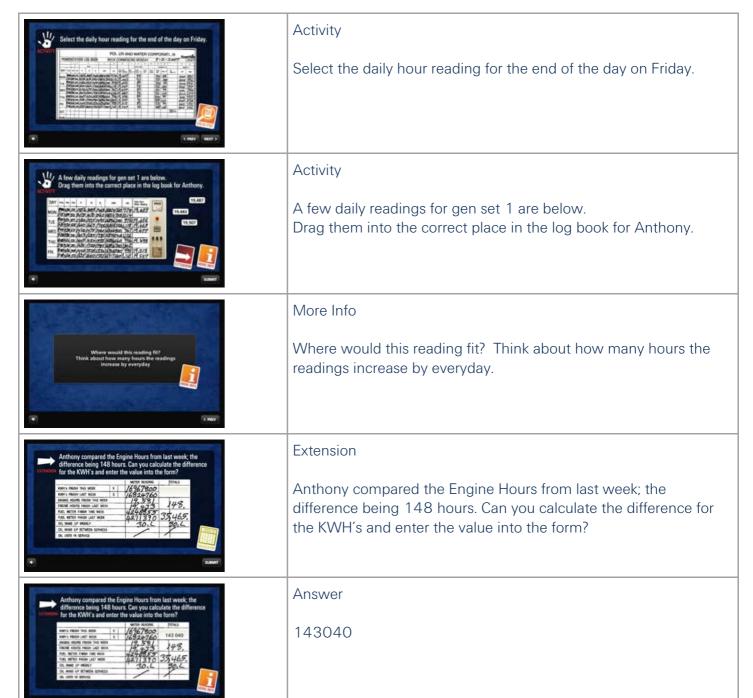


Activity

Select the end-of day W AMps reading for Wednesday.













Thinking + Discuss

What might this ESO mean by the comment he wrote about the town load 'creeping up' again? Why might this be happening? Think about the date at the top of the form.



Fuel Gauge Readings

Now you'll see Anthony taking readings from the fuel tanks that power the generators and calculating how much more fuel to order. Watch for how he reads the gauge and decides how much fuel he needs to order.







Anthony – Essential Services Operator 03:22 Minutes

This one, tank number three is the smallest holds 53,400 litres safe fuel level. Tank number two holds 70,000 litres safe fuel level. That's the safe fuel level 70,000 litres and you got tank number one holds the same amount that all adds up to 193,400 so you gotta know your maths and how much fuel you gotta hold for a couple of weeks and take it away so you'll know how much fuel you've got left for about how much for a couple of weeks and that way, you can contact Power and Water and then order more fuel.

I'm gonna check my fuel dip, check how much fuel I've been using. This how I get my fuel dip, wipe it first. Yeah, we got about 4,400 litres we need about another one, two, three, four about 16,000 litres just to get it to the safe fuel level.

I done the fuel dip and I'm gonna figure out how much fuel I need and how much I've used and yeah, we'll go from there and this how much left in all of them three tanks 70,000. I'm gonna add it up first plus 34,300 plus 12,900 equals so that's my total, 117,200. So I write this down there 117,200 and then what I'll do is write down the total what's meant to be in all of them tanks, 193,400 and take 117,200 and that's how much I need 76,200 litres in order to get these two tanks back to full again.

So after that fuel dip I added all the fuel tanks I got 117,200 and I send this in to Power and Water, Remote Operations at Katherine. It's important that we do all this generation report on a Monday 'cause then they'll know how much fuel all these gen sets are using and they'll decide when to send in a truck with fuel.



Fuel Gauge Readings

Anthony has to check the levels of fuel in the tanks and record them. He adds up how much fuel there is left in the tank and orders enough to provide energy for the community.







Safe Fuel Levels

Anthony recorded the fuel readings he took on three tanks on this form. He also calculated the total amount of fuel in the tanks and the amount he needs to order for there to be safe fuel levels for the community.



Job Tip

Using a Calculator Helps

This form makes up Anthony's weekly report he sends to the main office. He needs to calculate everything correctly. A mistake could lead to not enough fuel being ordered, and the community running out of energy.



Thinking + Discuss

What could happen to the generators if Anthony ran out of fuel? How could that affect the community?

Why does Anthony have to read and record and calculate fuel readings so accurately?



More Info

IF FUEL LEVELS WERE LOW

Look up the procedure he would follow for operating the powerhouse on less than safe fuel levels.

Open Manual (link to pdf)



Activity

Read the fuel gauge from Tank 2. Type it into the 'current stocks' field in the form.







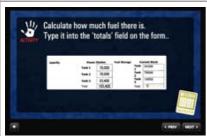
Extension

How much has been used from this tank?



Activity

Read the fuel gauge from Tank 2. Type it into the 'current stocks' field in the form.



Activity

Calculate how much fuel there is. Type it into the 'totals' field on the form..



Activity

How much more is needed to meet the Safe Fuel Levels?

Amount of fuel to be ordered: 0



Key Points

This activity has focused on:

- Reading generator meter and fuel gauges
- Recording results accurately
- Calculating the right amount of replacement fuel

You've read meters and gauges, recorded the readings and calculated amounts of fuel stocks.







Thinking + Discuss Reflection

Could you be responsible for recording this important data? How would you feel about helping provide energy to your community? Are you good at reading and writing things carefully?

Could you be responsible for writing down all this information? How do you feel about helping your community this way? Are you good at recording information?



Activity complete Well done!