Radial Stacker Operations

A radial stacker is most commonly used for the stockpiling of crushed or screened materials, receiving of crushed materials off a stockpile or plant, or ship / truck unloading.

The operator should always consider what specific safety hazards could occur at each operating site and take steps to eliminate them before commencing work.

Pre-Start Checks

All mandatory site PPE MUST BE WORN

Prior to operating the stacker for the first time the operator should Read and fully understand the operator's manual.

The plant may only be operated if the safety instructions provided in the operator's manual have been observed and the described procedures have been performed.

Prestart checks should concentrate on ensuring that the machine is ready to work safely and reliably.

Checks should include:

- Read and understand all warning signs on machine
- Engine coolant
- Engine Oil
- Hydraulic Oil
- Fuel level
- **Emergency Stops**
- Check all guards are in position and secure
- Visually check conveyor belt for damage (do not climb on machine)

Safe Start-Up Procedure:

Before starting up the machine, it is important that all safety aspects are checked:

- Observe all safety warnings
- Check for build up under machine
- Ensure the full length of both tracks are in contact with a firm level surface
- Check the discharge area is clear of personnel and equipment
- Check all emergency stops are operational and in the out position
- Check the throttle or toggle switch is at idle position
- Check that all guards are in position and secure
- Visually check that all tools and equipment that are hazardous to operation are removed from the immediate site

Don't crank the engine for too long, if it doesn't start promptly, you can do serious damage to the starter motor and overheat the wiring, if it won't start check for a problem.

While the engine is warming up carry out a visual inspection around the machine for any oil leaks, wear and tear, loose bolts etc.

After Start Checks:

Once you have started the machine check that the oil pressure is OK, if not shut it down and find out why or serious damage can be done to the engine.

- Observe all safety warnings
- With engine idling, start the product conveyor
- While machine is warming up check for leaks or faults
- Increase engine to 2000rpms
- Check the stability of the plant. The chassis **SHOULD NOT** have undue vibration during operation
- Run the plant empty for a short period of time and check for abnormal noises, vibration or excessive heat from shaft bearings

IN AN EMERGENCY SITUATION, STOP THE ENGINE USING THE EMERGENCY STOP BUTTONS or LANYARDS.

Operation

Once setup and running there should not be a need for any person to be present around the stacker during normal running operations

Being within 5 metres of plant during normal operation presents the following risks:

- Struck by falling objects off the conveyor.
- Entanglement if trying to pull out contaminants (e.g. tramp metal).
- Noise, Process noise at this level can cause deafness and adequate hearing protection is required
- Dust inhalation
- Impact from unexpected plant movement

It may be necessary for a trained and competent person equipped with appropriate PPE (e.g. ear protection, dust mask, eye protection, hard hat, protective footwear, high visibility clothes) to spend a few minutes checking the running plant. This should be done outside the 5-metre zone whenever possible.

Moving the machine

Always Double check to ensure all personnel are clear of the machine

Prior to attempting any manoeuvring of the plant, the tracks must be free of obstructions, including crushed material and fines. Do not push or tow plant. Failure to observe this warning could result in danger to persons and damage to the plant.

When manoeuvring the stacker to its operating position make sure you stand well clear of the machine (away from idlers) but are in a position to have all round vision to see any obstacles, dangers that may lie ahead e.g. personnel, overhead cables, ditches, rocks etc.

Extreme care must be used when manoeuvring the plant with the umbilical control handset. Stand as far away as possible from the plant. Do not allow the cable of the hand set to sag and become entangled with the tracks.

An emergency stop button is located on the umbilical controller

Do not travel on grades or ramps that are wet, muddy, or slippery

Shut down procedure:

Observe all safety warnings

Ensure that all materials have run off the conveyor

Stop conveyor belt

Using the speed control, decrease the engine rpm to 1200rpm (idle)

Idle the machine for at least 5 minutes before shutting down.

Stop the engine

Turn isolation key off, remove keys, shut and lock the control box to prevent unauthorised use

Following the shut down procedure above, it is recommended that at the end of production for the day the plant is routinely examined to check for any damage, breakages, wear, leaks etc which should be rectified before further operations

Blocked belt procedure

If a conveyor belt is overloaded or jammed, the machine must be shut down and locked out before any work is carried out.

1. **Shut down machine**
2. **Lock and tag out**
3. **Inspect machine for the cause of the overload? example- roller jammed, belt slipping,**
   torn skirts, hole in belt, etc
4. **If the belt is to be shovelled off, all safety precautions must be observed, at no point should anyone be on the belt itself if it's above 1.8m without handrails or safety harness (contact supervisor if you cannot access belt from under 1.8m in height)**
5. **After belt has been emptied, inspect for any damage or causes for the blockage**
6. **Remove Tag and Lock, run belt and check for any problems**
7. **Make any notes on time sheet or notify supervisor if immediate action is required**

Safe Operating Tips:

Don't operate the machine unless you have trained the under the supervision of a competent operator.

Read and understand your machines operator's manual and any warning labels on the machine.

Ensure good house keeping

Be alert while operating the machine.

Avoid frequent starting and stopping of the machine.

Plan your work and operate on a level work surface whenever possible.

Always be aware of other people, machinery working nearby.

Never allow anyone on or near the machine while operating.

Never work close to overhead or underground power lines unless a full risk assessment has been completed and you are satisfied that it is safe to do so. Aurora energy provides specific advice on working near lines. If unsure always check before commencing work.

Always keep the machine a safe distance from the edge of a bench or excavation. Be alert for unstable ground.

Never undermine the machine while excavating material.

Never operate underneath an overhang

General Maintenance

Practice safe maintenance

Observe all safety warnings

Only suitably competent personnel with the necessary training/experience should approach the task

A person should never work alone.

Understand service procedure before doing any work. Keep area clean and dry

Disengage all power and operator controls to relieve pressure.

Stop the engine.

Implement lockout procedure.

Allow machinery to cool.

Never lubricate, clean, service or adjust machine whilst it is moving.

Keep hands, feet and clothing clear of power-driven parts and in-running nip points

Securely support any machine elements that must be raised for service work.

Remove any build up of grease, oil or debris.

Disconnect battery cable (-) before making adjustments on electrical systems or welding on machine

BEFORE WORKING ON PLANT, SWITCH OFF, “LOCKOUT”, AND “TAGOUT”

Lubrication and servicing

Do not climb on machines to reach high greasing points, if the machine does not have remote greasing points at ground level or on a hand railed walkway notify your supervisor

Regular lubrication of the plant in accordance with this schedule is essential.

Air filters must be checked on a regular basis

Do not assume auto grease systems are operating! Check the greasing equipment used on a regular basis.

It is bad practice to mix greases. Use only one brand.

It is the operator's responsibility to ensure that all bearings are greased with the correct quantity and quality of grease at the correct intervals specified above.

Fuelling up

Do not fill tank to capacity.

Allow room for expansion and clean up spilt fuel immediately

Diesel is highly flammable

Never remove the filler cap or refuel, with the engine running

Do not smoke while refilling of carrying out maintenance on the fuel system.

Do not carry out maintenance on the fuel system near naked lights or sources of sparks, such as welding equipment.

Remember If you are unsure about something, ask your supervisor for advice