PREPARATION OF A MANAGEMENT PLAN

What kind of information to include in a Dairy Effluent Management Plan - questions to use as a guide only

1. How would you conserve storage if you had a pump failure?
2. Is there another disposal alternative if the irrigator broke down?
3. How is the effluent discharge to paddocks carried out (daily, annually) – movement of irrigator – to which paddock, moved by whom, how often shifted, what is speed of irrigator?
4. Who cleans the effluent storage system of solids and how often? Where are solids to be spread?
5. What would happen if you had no electricity supply?
6. If weather conditions were undesirable (e.g. excess soil water holding capacity, snow) where could you spread or dispose of effluent and how would you manage the system?
7. How often is the irrigator serviced and what process is followed (daily, weekly, monthly, and annually)?
8. Do you have a backup pump?
9. Who are the key people in helping maintain your effluent disposal system i.e. electrician, irrigation and pump supplier/service, plumber, local contractor, vacuum tanker contractor, farm managers/workers (include contact phone numbers)?
10. How would you manage/contain a spill if one occurred?
11. How often is the pump serviced?
12. How do you manage distribution pipelines and hoses – how are they laid down, inspected?
13. What is your method of unblocking a pipeline?
14. What is your timeframe between spreading effluent and grazing cows in that paddock?
15. What is your timeframe between spreading effluent and irrigating with water (application rates effluent/water, weather and soil conditions)?
16. Is effluent discharged within close proximity to wells or waterbodies? If there are any on your farm, how do you spread around these areas?

Please Note:

- This list of questions is not all inclusive and is to be used as a guide only.
- A dairy farm should have a management plan that fits the way dairy effluent is managed and operated on the property, on a daily, weekly, annual basis. It should include emergency provisions, “best management practice” and address resource consent compliance.
- A management plan is for display in the dairy shed. It will be best if it is short and in easily read format, such as headings with bullet points or as a table.
- A farm map should be on display in the dairy shed, showing paddocks used for discharge of effluent and the location of sensitive areas such as wells, streams etc.

Sample – for use as an example only

Dairy Effluent Management Plan - Good Dairy Farm Limited

Resource consents CRC079255 – to discharge contaminants to land; and
CRC079256 – to store dairy effluent on land.

(Look at the copy of these consents and Plan CRC079255A showing the routine daily discharge and solids disposal areas).

Description of Dairy Effluent Disposal System

The dairy effluent disposal system comprises concrete storage facilities – stone/sand trap and enviro-saucer. An effluent pump and electric motor unit are mounted on a pontoon in the envirosaucer, and automatically switched on by movement of the pontoon. The pump outlet is connected to an underground mainline of 90mm PVC pipe to the discharge area. From the hydrants, 50mm drag hoses connect to the travelling irrigator. Pipe sections are joined by camlock joiners. Routine daily effluent discharges follow a rotation of paddocks of the discharge area shown on the discharge plan in the dairy shed. The rotation changes to suit wet weather conditions, stock grazing and irrigation. The spread of dry solids and all discharges made by vacuum tanker are made to other paddocks around the farm also shown on the discharge plan. A daily record of all discharges is kept on the charts in the dairy shed.

Daily:

- Minimise water use at the cow shed;
- Check the entire system for operation faults during and following use;
- Move the travelling irrigator as required in the same paddock or to the next paddock in the rotation;
- Always make sure there is enough run length available for the next milking;
- Keep the travelling irrigator at maximum travel speed at all times;
- If, after heavy rainfall, there are puddles and water lies in depressions, move the travelling irrigator to paddocks 12, 13, 14, 16 and 17 of the discharge area. When the ground dries, move the travelling irrigator back to where it was before the rain;
- Place hoses behind the irrigator for reduced drag, check joiners;
- Record on the chart/discharge plan in the shed where effluent is discharged.

Weekly:

Storage facilities

- Clean out stone trap with front end loader weekly or more frequently as required and during wet periods;
- Heap solids on the concrete pad next to the stone trap to dry. (When it is dry, routinely spread the dry matter to paddocks in the solids disposal area).
- Check concrete structures (stones traps and sumps) for cracks in walls and floors;
- Check inlet and outlet pipes are clear of blockages;
- Clean grates in dairy shed and yard.

Effluent pump, motor and controls

- Grease pump and motor, as required, according to the farm manager/manufacturer's instructions;
- Check pontoon position and floats;
- Check mechanical switchgear is operating efficiently;
- Note any unusual noises when the pump is operating.

Pipelines

- Check for leaks and blockages in pipes and joiners.

Effluent irrigator

- Grease irrigator, as required, according to the manager/manufacturer's instructions;
- Check nozzles; tyre pressure; excessive wear or breakages; fraying of winch rope.

Annual Maintenance:

- Check for cracks in walls and floors of storage facilities;

- Clean out stone trap and storage sump, spread solids evenly onto paddocks set aside for solid effluent discharges;
- Lift pump and motor and have them serviced by qualified technician;
- Assess condition of pipeline, repair and replace parts as necessary;
- Service the travelling irrigator.

Breakdowns:

In the event of power failure, pump or motor breakdown:

- Contact repairer to assess problem;
- Limit or cease water use in the dairy yard and scrape effluent where possible;
- Complete repairs or install the back-up pump before the next milking. Where necessary arrange for a vacuum tanker to empty the sump and spread effluent onto the discharge area.

In the event of pipe blockages:

- For underground pipes:
  Clear if possible or if too difficult, contact blocked drain repairer to water blast.
- For drag hoses:
  Break camlock joiners to locate and clear blocks in pipe sections;
  If not able to clear blockages, replace the blocked section or move the irrigator closer to the effluent pump.

General:

Under no circumstances are storage facilities to be allowed to overflow;
The discharge application depth for effluent (and irrigation water) shall not exceed 24 mm/day.
Maximise full use of the discharge area;
The travelling irrigator must always travel at maximum speed;
The travelling irrigator must travel a discharge run length of at least 80 metres every milking;
Avoid normal farm irrigation for at least 24 hours before and after the discharge of effluent;
There shall be no ponding of effluent in the discharge area. If ponding occurs tell the farm manager as soon as possible. Alternative discharges may need to be found;
After heavy rainfall, if water is lying in the paddock, move the travelling irrigator to these free draining paddocks 12, 13, 14, 16 and 17. Resume the set rotation of paddocks once soils dry out;
There shall be no discharge of effluent to frozen or snow covered ground;
The discharge will be managed to ensure aerosols, spray drift and odour do not travel past the property boundary.

Important Phone Contacts:

For General Problems:	Farm Manager – phone 027 xxx xxxx
Pump/Pump Motor Faults:	XYZ Pump Supplies – phone 03 xx xxxx or 027 xxx xxxx
Pump/Pump Motor Faults:	ABC Irrigation Co Ltd – phone 03 xxx xxxx
Electrical Faults:	Sparky Electrical - phone 03 xxx xxxx or 027 xxx xxxx
Irrigation Problems/Servicing	Stanley Irrigation Ltd – phone 03 xxx xxxx
Septic Tank Cleaners:	Effluent Tanks Removals Ltd – phone 03 xxx xxxx or 027 xx
Blocked Drain Repairs:	Water Blast Services Ltd – phone 03 xxx xxxx or 027 xxx xx