

Feedlot Issues:

Animal Waste Liability Account, Incident Reporting and Contingency Action Plan

February 1999



Minnesota Pollution Control Agency

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Animal Waste Liability Account,
Incident Reporting
and Contingency Action Plan**

**A report to the
House Agriculture and Rural Development Committee
House Agriculture and Rural Development Finance Committee
House Environment and Natural Resources Committee
House Environment and Natural Resources Finance Committee
Senate Agriculture and Rural Development Committee
Senate Environment and Agriculture Budget Division
Senate Environment and Natural Resources Policy Committee
of the
Minnesota Legislature**

February 1999

**Feedlot Program
Minnesota Pollution Control Agency
520 Lafayette Rd.
Saint Paul, MN 55155-4194**

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EXECUTIVE SUMMARY

This report has been prepared in response to the following legislative directive:

By January 15, 1999, the commissioner of the pollution control agency, in conjunction with the commissioner of agriculture, shall report to the legislative policy and finance committees or divisions with jurisdiction over agriculture and the environment on the need for an animal waste liability account, improved animal waste incident reporting, and a contingency action plan for animal waste sites. The report must include:

- (1) an analysis of the need and level of funding required for an animal waste liability account;
- (2) the identification of possible funding sources to ensure adequate resources for animal waste site cleanup under clause (1);
- (3) an analysis of the need for changes to the current animal waste incident reporting system; and
- (4) the need for development of a statewide animal waste contingency plan for animal waste sites, including containment, closure, and cleanup.

These questions of environmental liability seem more urgent than ever in the context of today's turbulent agricultural economy. With hog prices at record lows and feed grain prices severely depressed, the turnover of farms threatens to accelerate from already high levels. This is likely to bring about even higher levels of farmstead and feedlot abandonment. Besides the economic pain associated with this trend is an increasing degree of environmental liability. (Abandoned feedlots would seem to pose the most serious environmental liability problems, as operational feedlots can be held responsible to pay for any environmental costs they might incur.)

However, there are several reasons why the situation seems to be not quite as urgent as one might suppose, although real environmental risks exist and need to be dealt with. First, many abandoned feedlots are small. What is more, most feedlots do not long remain "orphans" after they are abandoned because their net economic value remains positive – because of the nutrient value of manure, the economic value of the facility and sometimes because counties require that a minimum amount of land remains attached to feedlots. Often, the cost of cleanup and closure is not too burdensome for the new owners of abandoned feedlots, especially the small ones. In addition, proposed new feedlot rules would put in place measures that ensure that owners take responsibility for proper closure of abandoned feedlots. There is a significant aggregate cost associated with the closure of defunct feedlots, however, and a risk associated with the newer, high-investment facilities that eventually will wear out and decay. These matters need to be addressed to minimize the environmental hazard posed by abandoned feedlots.

This report attempts to answer the questions raised in the legislative directive by analysis of existing information, as funds were not available to initiate new research. Information from interviews with county staff was combined with information contained in state agency files and reports as well as information from staff knowledge. Staff from the

Minnesota Department of Agriculture and the Board of Water and Soil Resources were consulted during the creation of this report. However, time was not available to allow detailed comments from these entities. Therefore, Minnesota Pollution Control Agency (MPCA) staff take full responsibility for the content of this report.

The first question regards the level of need and availability of funding for an animal waste liability account. No current inventory of closed feedlots exists, and economic conditions in agriculture have changed rapidly over the last year. Thus, it is impossible to provide an accurate assessment of this need. However, useful information regarding this issue was developed to aid policymakers, including trends in the number of livestock facilities, what environmental concerns need to be addressed at closure, the cost of these measures for different situations, and a description of financial-assurance mechanisms. It is hoped the Generic Environmental Impact Statement will provide more information.

The primary environmental risk from improper closure of feedlots is seepage of nitrate nitrogen to ground water. This can occur from open lots or from manure-storage facilities that have not been emptied. Removing the manure and spreading it on fields as fertilizer in appropriate amounts is the solution to this problem. Ground water pump-outs and postclosure monitoring are typically not appropriate or required for these types of problems. Thus, costs are relatively low compared to closure of higher-risk environmental facilities, such as landfills.

Safety hazards also can result from improper closure of feedlots. Removing the manure can solve much of this problem, but proper demolition of buildings and pits will also be needed in many cases. Often, demolition debris can be safely dealt with on site. However, in some environmentally sensitive situations (e.g., a concrete pit built in contact with fracture limestone), removal of demolition debris to a safe disposal site will also be necessary. Removing demolition debris will result in significantly higher costs.

Many Minnesota counties have discussed this issue in the context of review of their comprehensive land-use plans. Most counties have not chosen to initiate a program to specifically address the issue of ability to pay for proper closure. However, at least two counties are using a simple requirement to ensure that the net value of a depreciated feedlot remains positive. That is, they require a certain number of acres to be associated with a feedlot. If the facility has a positive net value, a creditor will assume the property, or it will be purchased by a third party, who can then assume the cleanup responsibilities.

County reaction to the question of whether the state should establish an animal waste liability account ranged from statements that it was not needed to requests for help with already closed feedlots. In general, there appeared to be the greatest support for state help in areas that are less prosperous and that have seen their dairy farms disappear. Pine, Kanabec and other counties on the northern edge of Minnesota's dairy belt may have the greatest need and least capacity to address these problems on their own.

The issue of paying for proper closure of feedlots ranges from how to pay for these measures at a closed farm that has little economic value to how to plan for them with a newer facility that is unlikely to close even if financial failure occurs. (A feedlot with a positive economic value will likely be transferred to someone with the financial resources to run it.) It is a general principal of life that everything wears out and decays; thus, it is appropriate to plan for proper closure of *all* feedlots, even new, high-investment facilities.

It is the opinion of the MPCA that changes to state feedlot rules, together with local requirements, are the most efficient approach to addressing the problem for the future.

There is a remaining policy question of whether financial assistance should be made available to counties or owners of properties with defunct manure-storage facilities to assist in this cleanup. If such assistance were to be made available, it is the agency's opinion that this should be done through an existing mechanism, such as the state cost-share program, and that any funding be done on a one-time basis for a given biennium. In the long term, these costs should be assigned to the property owner, but some assistance may be helpful for what appears to be a large number of existing closed feedlots in some parts of the state.

The proposed feedlot rule revisions account for this by setting requirements for the closure of feedlots. The questions at hand are whether additional measures are needed to properly clean up existing closed feedlots, and whether additional state measures are needed to ensure that future closures are handled properly.

Regarding the need for changes to the current animal waste incident-reporting system, it has become clear in the past year that improvements are needed in the recording of all feedlot complaints, including those related to spills or other incidents. There is an established protocol for responding to these incidents, and it is the MPCA's opinion that emergency response has been good. However, improvements are needed in the recording of information about these incidents.

I. LEGISLATIVE DIRECTIVE

By January 15, 1999, the Commissioner of the MPCA, in conjunction with the Commissioner of Agriculture, shall report to the legislative policy and finance committees or divisions with jurisdiction over agriculture and the environment on the need for an animal waste liability account, improved animal waste incident reporting, and a contingency action plan for animal waste sites. The report must include: an analysis of the need and level of funding required for an animal waste liability account, funding sources, the need for changes to the current animal waste reporting system, and the need for the development of a statewide animal waste contingency plan for animal waste sites, including containment, closure, and cleanup.

An assumption was made that the greatest need for an animal waste liability account would be related to closure of defunct operations. An operating facility that causes damage to the environment will have substantial liabilities for environmental damages that might occur, such as a fish kill. However, it is assumed that an operational facility will bear these costs without outside assistance. Thus, this report focuses more on the issue of feedlot closure.

Draft feedlot rules include requirements for the proper closure of feedlot and manure-storage facilities. At issue is whether there will be an owner who is able to pay for this closure.

II. INDUSTRY OVERVIEW

A. Number of Farms with Livestock

As shown in Table 1, the number of Minnesota farms with livestock has decreased in the last five years. This decline has been most dramatic in the dairy and hog sectors.

Table 1. Number of Livestock Operations in Minnesota, 1993-97 ¹

Year	Number of Operations with					
	All Cattle	Cattle on Feed ²	Milks Cows	Beef Cows	Hogs	All Sheep
1993	38,000	8,000	13,500	16,000	14,000	4,000
1994	38,000	8,000	12,500	16,000	14,000	3,600
1995	37,000	8,000	12,000	16,000	12,000	3,500
1996	36,000	—	11,000	16,000	11,000	3,300
1997	36,000	—	10,000	16,000	10,800	3,000

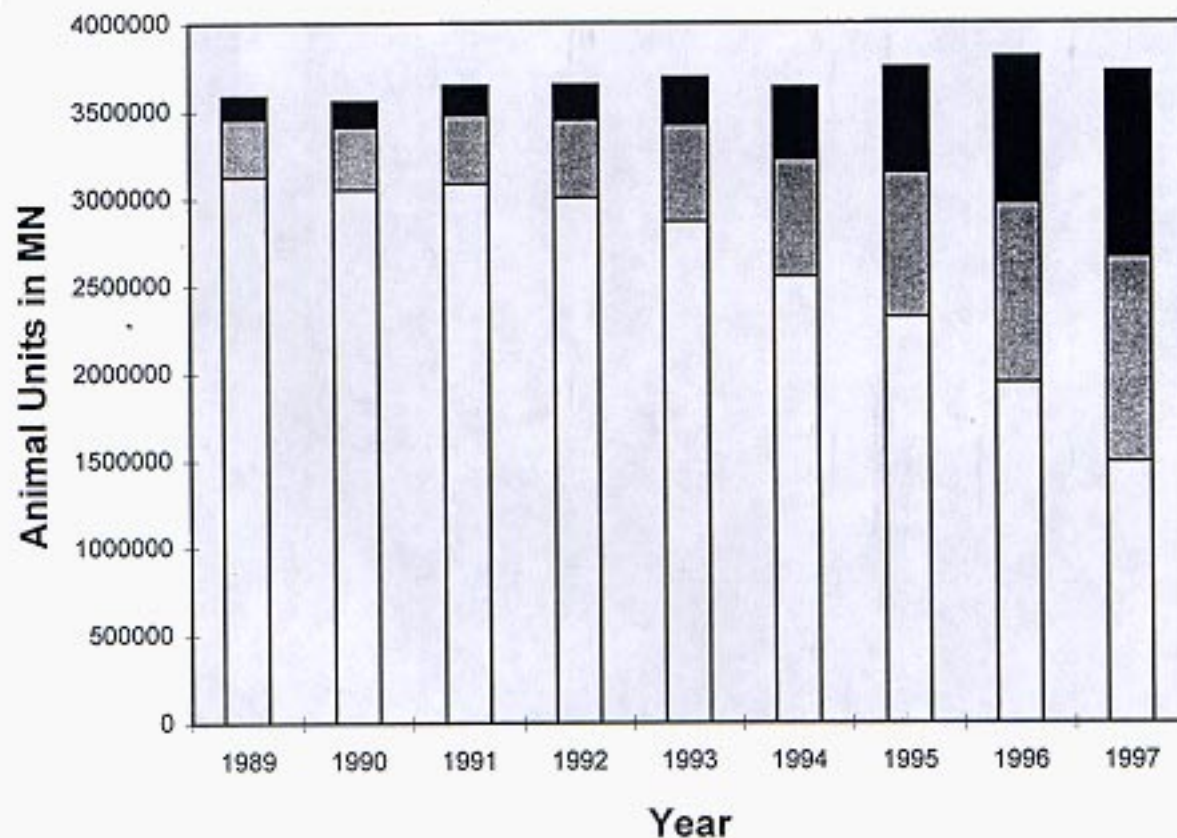
¹ An operation is any farm having one or more head of livestock on hand at any time of the year. Addition may exceed total farms in the state.

² Number of Operations with Cattle on Feed discontinued in 1996.

Minnesota is losing approximately four farms a day. These are mostly small, family-run farms. The dairy industry alone reports a loss of three dairy farms a day. The cause and reason for these losses varies. In some cases, the quality and way of life of farming is not what the farmer desires. In other situations, the farmer is retiring and has no one to take over the farm.

The data from the MPCA feedlot statistics in Figure 1 show a decline in the number of animals on small farms and an increase in the number of animals on medium-to-large farms. At present, the older and smaller farms have more need for a feedlot financial-assurance program. But, in the future, the need will likely turn to the larger facilities because they will be tomorrow's older feedlots.

Figure 1. Trends in the sizes of livestock facilities in Minnesota.



This graph is based on the following information and assumptions:

- The total number of animal units (AUs) was generated by multiplying the number of animals for each species as stated in the Minnesota Agricultural Statistics publications, by the corresponding number of AUs per animal as defined by the MPCA
- The number of AUs in large feedlots (>300 AUs) is based on MPCA permit records for such facilities and assumes that all feedlots with more than 300 AU in the state are permitted and in the MPCA permit records database. The MPCA does not have complete records for the relatively smaller feedlots (e.g. <300 AU), and therefore the number of AUs in the smaller feedlots was determined by subtracting the number of AUs in larger feedlots from the total number of AUs in the state.

■ #AU in fdlts with >1000 AU
 □ #AU in fdlts with 300-1000 AU
 □ # AU in fdlts with <300 AU

Note from this graph:

- There has only been a slight increase in Minnesota AUs since 1989.
- The proportion of animals in large feedlots has dramatically increased since 1992.
- In 1997, the number of animal units located in feedlots with less than 300 AU was roughly 40%, down roughly 65% in 1989. If the trend continues, in a couple of years less than one-fourth of the animals in the state will be located in feedlots with less than 300AU.
- While roughly 60% of the animals units are located larger feedlots (>300 AU), the total number of feedlots representing this figure is about 2700.
- Given that the MPCA has permitted most of the larger feedlots (>300 AU) and over half of the other feedlots, it could be concluded that over 80 percent of the manure

B. Design Life

A common question related to new manure-storage facilities is “How long will these facilities last?” For concrete manure-storage structures, a common design life is 20 years.

However, quality of construction and management will have a significant effect on the durability of concrete structures. Good-quality construction is particularly important. The MPCA has inspected facilities where substandard concrete having strength significantly lower than that called for in the approved plans and specifications has been installed. Lower-strength concrete will deteriorate faster and may be subject to cracking that will allow seepage. Another problem that has been observed is poor placement of reinforcing steel. This will significantly reduce the strength of walls, and may also allow corrosion to occur if the steel comes in contact with manure. These and other construction problems can lead to premature deterioration or even collapse of concrete walls, which can significantly reduce the life of a facility. Draft feedlot rules include requirements for independent inspection of concrete construction to ensure that it meets specifications.

Poor management, such as failure to keep the interior of a barn clean and ventilated, can also accelerate corrosion of livestock facilities, rendering them unusable in less time. Conversely, quality construction and management can extend the life of a facility.

For clay-lined basins, deterioration can come in many forms. Liners can be impacted by freezing and thawing, drying and cracking, erosion, penetration by roots or animals, or damage by agitation equipment. All of these issues, except penetration by roots and animals, need to be and are addressed in design. They are addressed also in the draft feedlot rules. Good operation and maintenance is needed to deal with any erosion that may begin, to prevent deep-rooted vegetation from growing through the liner, and to prevent muskrats or other animals from burrowing in the sides of these facilities. It is also essential that agitation be done on pumping pads that prevent erosion from the force of the agitation. If these measures are taken, an earthen basin can last many decades. Conversely, bad management or improper operation can damage a liner in much less time.

III. ENVIRONMENTAL CONCERNS

A. Abandoned Feedlots

The number of feedlots abandoned in Minnesota each year is not known. However, rough estimates can be obtained from *Minnesota Agricultural Statistics* information published jointly by the Minnesota Department of Agriculture and U.S. Department of Agriculture. From 1980 to 1990, the number of operations with cattle decreased from 62,000 to 40,000. Since 1990, the number of operations with cattle has decreased further to 36,000. The number of operations with hogs dropped from 35,000 to 15,000 between 1980 and 1990, and decreased further to 10,800 operations in 1997. These numbers do not directly reflect the number of feedlots that were abandoned, but they do indicate that there are hundreds or more feedlots that are abandoned each year in Minnesota.

After a feedlot is abandoned, there are three primary potential environmental concerns, depending on the type of manure-management system:

1. nitrogen movement into ground water from open lots,
2. surface overflows or nitrogen movement into ground water from liquid manure storage systems, and
3. phosphorus and nitrogen runoff from manure stockpile sites.

B. Open Lots

Soil nitrogen levels increase over time when livestock are held in outdoor open lots or inside barns with earthen floors. Several investigators have found that an intact manure pack covering an earth-surfaced, outdoor feedlot with continual use at a sufficient stocking rate will provide an effective soil seal, preventing most nitrogen movement through the soil profile (MPCA and MDA, 1991, *Nitrogen in Minnesota Ground Water*). This seal will break down after the feedlot is abandoned. Another reason for minimal nitrogen movement to ground water below an active open lot is that the forms of soil nitrogen (ammonium and organic nitrogen) are not very mobile. In general, an active, open-lot, livestock-feeding operation will contribute comparable amounts of nitrogen to ground water as the adjacent cropland.

After an open lot is abandoned, soil nitrogen (ammonium and organic nitrogen) changes to nitrate, a more mobile form, and the seal from the manure pack breaks down. This results in a downward movement of nitrate at a rate that can easily exceed the rate of nitrate leaching in adjacent cropland. It should be remembered that open lots typically cover a small area in comparison to surrounding fields. Therefore, the mass load of nitrogen from the closure of an open lot typically will not add as much nitrate to ground water as cropland in the area. However leaching from the open lot will be a relatively concentrated source that can be controlled to a large extent through cleaning and revegetation of the soils.

Two practices have been suggested to minimize nitrate leaching below open lots. One method is to plant alfalfa or other nitrogen-scavenging crops in the open lot and regularly harvest this vegetation until soil nitrogen approaches background levels. The other method is to scrape the upper layer of soil from abandoned lots and redistribute this nitrogen-rich soil over a large area at agronomic rates. Planting open lots to nitrogen-scavenging crops is the more feasible approach.

Draft feedlot rules address this issue by requiring that the manure be hauled from abandoned open lots and applied on cropland at agronomic rates. Then, vegetation must be established on the lots to pull excess nitrogen from the soil.

C. Liquid Manure Storage Systems

Several types of liquid and semi-solid manure storage systems are used in Minnesota, including concrete pits, cohesive soil-lined basins and lagoons, above-ground manure-storage systems, and synthetic or geosynthetic liners.

When a feedlot is abandoned, the manure in these storage systems will not pose an immediate increased environmental threat. However, over time, there can be an increased rate of nitrogen movement through a liner to the ground water if the liner breaks down through poor operation and maintainance. This breakdown may take decades for some liners and may not be significant at all for some manure-storage systems. Another reason not to allow liquid manure to remain at an abandoned feedlot is that a surface water quality concern can arise when an unemptied outdoor manure-storage system receives precipitation at a rate faster than evaporation and the manure pit overflows. To alleviate these risks and other risks associated with safety and air emissions, pumping the manure-storage structures and applying the manure to cropland is recommended prior to abandonment.

An additional potential environmental concern related to liquid manure storage systems is the build-up of nitrogen in a soil liner and in the soil below a permeable liner. These concerns are similar to those of open lots. The ammonium and organic nitrogen that has accumulated over time in the soil liner will convert to nitrate. As the liner cracks due to desiccation and freezing, this nitrate can move more readily into ground water. For this reason, recommended abandonment procedures include scraping contaminated soil from the manure storage-system and spreading this soil on surrounding cropland.

D. Manure Stockpiles

Solid manure that has been stockpiled can result in the transport of nutrients through runoff to nearby surface waters or through seepage to ground water. Land application of all stockpiled manure is recommended to eliminate this potential environmental damage. Since the cost of applying many kinds of solid manure is less than the savings on fertilizer cost, it is often not difficult to find someone who will haul the manure for land-spreading at little or no cost.

E. Aesthetic and Safety Concerns

In addition to water and air quality issues related to feedlot closure, there are serious safety as well as aesthetic concerns that should be addressed. Concrete pits and earthen basins can be a hazard for children or others who could fall into them. A number of fatalities have resulted from people falling into manure-storage facilities that are in use. These pits remain a risk until they are properly closed, even if the facility may no longer be in operation.

The barns and buildings can also be an eyesore for the community if they are allowed to deteriorate.

IV. FINANCIAL ASSURANCE

A. Costs Associated with Closure of Feedlots

Many discussions of the need for an animal waste liability account appear to involve an assumption that a county may inherit significant cleanup costs if a feedlot fails financially and the property eventually is forfeited to the county for back taxes. Terms, such as postclosure monitoring and ground water pump-outs, are sometimes mentioned. A discussion of feedlot-closure costs is essential to a meaningful consideration of this topic.

Proper closure of feedlots primarily involves removal of manure from storage facilities and scraping of open lots to remove accumulated manure. It also may involve demolition of buildings and pits and leveling of earthen basins. Except in a very unusual situation, it is not anticipated that pumping of ground water would be involved. A possible exception might be a particularly poorly constructed facility on a sensitive site in a wellhead-protection area. Nor is it anticipated that postclosure ground water monitoring would be required. The primary pollutant of concern from such facilities is nitrogen. Many old feedlots have high nitrate levels in the area where animals have been maintained. Typically, removal of the source of any pollutants and natural remediation would be the course of action.

More specifically, for an earthen basin, closure typically involves pumping and land-applying the stored manure, followed by a scraping of the basin to remove any remaining matter and visibly contaminated soils. This material is then spread at agronomic rates. Then, the basin can either be leveled or left in place without significant environmental consequences. Leveling of the basins will remove any potential safety hazard from water that might accumulate in them.

For a concrete pit, closure will also involve pumping and land-application of manure at agronomic rates. In addition, access to the pit will need to be gained so any remaining manure solids can be scraped out and removed. This can be achieved by excavating out along one of the walls of the pit so scraping and loading equipment can gain access to the manure. (Safety is critical in such work, since the pit is a confined space, where dangerous gases can accumulate.) On many soils, this will be all the removal of material required. After the solids are removed from the pit, the walls can be caved in and covered with soil. On more sensitive soils, such as sandy soils or soils in a sensitive karst area, removing the concrete to a safe disposal site may be required. This will typically be the exception rather than the rule. An alternative approach would be to powerwash the pit, pump the wash water to land-application sites and then fill the pit with soil

For open feedlots, proper closure will simply involve scraping the manure to be land-applied at agronomic rates and revegetating the lot. If a runoff basin is present, that will also need to be pumped out. Again, filling of the basin is recommended for safety reasons, but will typically not be necessary from an environmental standpoint.

What costs do these operations incur? Pumping of manure will cost \$0.005 to \$0.009 a gallon. However, the value of the manure as fertilizer is typically roughly equal to or higher than the cost of pumping it. Thus, manure removal will not usually be a significant liability. An exception can be feedlots located away from land-application sites. This was the case once near Duluth, at a facility called Morterud Eggs. This laying hen facility had accumulated many years of manure on site. The nearest appropriate land-application sites were 30 miles away. Also, some of the manure had been buried in a gravel pit. The net result was that the lender said more than \$100,000 had been spent to clean up the site after foreclosure. For sites in agricultural areas, costs for removing manure will be much lower.

County feedlot officers have reported the cost of excavating and filling pits to be between \$2,000 and \$8,000. For a particularly large facility, the cost will be higher. For example, the cost to scrape and spread solids from a 40-by-120-foot concrete pit is estimated to be about \$2,000. The cost to fill the pit with soil is estimated to be about \$4,000, for a total cost of \$6,000. Other costs associated with feedlot closure include demolishing the barn. It could cost as much as \$7,500 to demolish an average-size barn if a contractor is hired and demolition debris is hauled to a demolition facility. However, if the barn is in good condition, it would probably be left standing, and no demolition costs would be incurred.

One approach that some counties are using to address any potential future liabilities that they might inherit is to require a specified land base to be included with the project. For instance, Blue Earth County requires a minimum of 10 acres for feedlots with fewer than 1,000 animal units and 40 acres with feedlots with more than 1,000 animal units. Yellow Medicine County has similar requirements. Blue Earth County has a bonding requirement in its feedlot ordinance, but could not find a source for surety bonds for these facilities. The experience of both state and county staff has been that, if there is a significant value to the property, the property is transferred via the foreclosure process and cleanup occurs. Problems have occurred on occasion where livestock facilities are divided from any surrounding land. In such cases, the property can become a net liability, and finding funds to clean up the feedlot becomes more problematic. This has been relatively rare, but a handful of these situations have occurred.

B. County Perspective

In talking with approximately a dozen county feedlot officers, there was only a limited desire for a special program to create an animal waste liability account. (A summary of the county feedlot officers' responses can be found in Appendix A.)

The general feeling of these staff was that other problems were more pressing and that local efforts could address this problem. (It should be noted that liability issues with closed feedlots have occurred in areas where the county was not actively involved in the issue. This has not been a problem where a county has administered an effective county feedlot program.) There were some comments that access to an existing fund to pay for county cleanup of problem sites may be helpful. In particular, counties in east-central Minnesota were more interested in the state becoming involved in the cleanup of closed

feedlots. These counties have experienced a major decline in dairy farming and are generally less prosperous than more southerly counties. Thus, they may have more closed facilities and less ability on either the part of the owners or of the county to pay for needed cleanup. County staff suggested making available state cost-share funds or dollars from the Minnesota Environmental Rights Liability Account (MERLA) as possibilities.

There was also general agreement that today's problems with facility closure are with the smaller, older facilities. Often, these facilities are no longer financially viable. Sometimes, they are fully depreciated and have no economic value. The owner may be in financial distress, making money for any required cleanup hard to come by. Where financial failure has occurred, the lender may choose not to foreclose on the property if it is viewed as a net liability. (This occurred in the 1980s in Polk County at Thunderbird Egg Ranch. The facilities had not been managed well. Manure had accumulated to the point where the barn walls were breaking out and spilling manure to the ground. When the facility closed, the lender chose not to foreclose. Eventually, the property went back to the county on back taxes. Some of the manure was removed by a farmer who wanted it for fertilizer. However, most of the manure remained at the site for a long time.)

New, larger facilities represent a substantial investment that will likely be of significant value for a number of years even in difficult economic times. However, there is the question of whether these facilities might become a net liability in coming decades. This is possible if the buildings are on a minimal amount of land. This will more likely occur if the buildings' construction is shoddy or they are badly managed. However, even these scenarios did not seem to be a major risk to the county staff whom were interviewed.

In general, it appears that financial problems related to closure of livestock and poultry facilities are the exception rather than the rule for counties. It can also be concluded that counties have the authority to put in place controls to limit this financial exposure if they choose. Many counties have discussed this issue and have chosen not to institute a program to address this potential problem. The net liability is apparently not considered a priority in view of the many other problems and potential liabilities that are pressing county governments. Some counties have found ways to protect their interests that are not burdensome for the facility proposer. In view of this, MPCA staff do not recommend the creation of a new state program to address this issue.

C. Comparison of Feedlot Cleanup Costs to Pesticide/Fertilizer Cleanup Costs

Discussions with Minnesota Department of Agriculture staff who work with commercial fertilizer cleanups reveal that the costs associated with cleaning up and closing an abandoned feedlot would be very similar to those associated with a commercial fertilizer site where the contamination has occurred over a long period. Costs associated with this type of cleanup vary, depending on the quantity of contamination and environmental impacts.

D. Financial-Assurance Mechanisms

The section defines and discusses the strengths and weaknesses of the following financial-assurance mechanisms, which are commonly used to cover environmental liabilities:

- standby letter of credit
- trust fund with a pay-in period
- surety bond guaranteeing performance or payment into a trust fund
- insurance

1. Types of Financial-Assurance Mechanisms

Standby Letter of Credit

A standby letter of credit (LC) is a bank's agreement to pay a stated amount of money to the holder of the LC upon presentation of the LC to the issuing bank. The state, as holder of the LC, would draw upon the LC and deposit money into a standby trust fund in the event the facility owner failed to meet state closure, postclosure-care or contingency-action requirements.

Trust Fund with a Pay-in-Period

A trust fund is an account that holds money at an authorized bank or trust company, which acts as trustee. These funds may be released to the facility owner only with the state's approval. The trust fund is to be funded through monthly payments by the facility owner during the facility's operating life. In Minnesota, the operating life of a municipal solid waste landfill is a function of its available capacity, its waste receipts, and its compliance with permit and rule requirements.

Surety Bond Guaranteeing Performance or Payment into a Trust Fund

A surety bond is a contract by a qualified surety company to pay for or perform closure-, postclosure- and/or contingency-action costs if the facility owner fails to perform its obligation. Qualifying for a surety bond is based on financial strength and credit worthiness of the facility owner. A surety need not show full liabilities on their balance sheets. Payments by the surety are limited to the face value of the bonds.

Insurance

Insurance performs three functions. First, it transfers risk from parties who are comparatively risk adverse to enterprises more willing to bear risk. Second, insurance spreads risk by combining individual risks in a pool created by the insurer. By covering a large number of insureds against uncorrelated risks, the insurer diversifies its own risk and operates a risk-sharing arrangement. It is up to the insurer to define the scope of the risk pool. Third, insurance performs a risk-allocating function by charging premiums that reflect the level of risk posed by each individual or firm that is insured. In order to perform these functions effectively, the insurer must be able to closely predict the probability of risk posed by the insured.

2. Strengths and Weaknesses of Financial-Assurance Mechanisms

This section discusses the adequacy of various financial-assurance mechanisms to guarantee coverage of environmental liabilities. The mechanisms are discussed in order of their adequacy to provide the greatest assurance that environmental liabilities will be covered and not fall upon taxpayers. It is important to note that the MPCA and most states have had little actual experience testing the following mechanisms to determine their adequacy to meet environmental liabilities. However, these mechanisms have had wide use within other sectors of the economy, such as the construction industry and agriculture

Standby Letter of Credit

A LC is a good financial assurance mechanism because it provides full coverage of all financial-assurance costs from the first day of its inception. In addition, the holder of the LC is an independent neutral party who will almost certainly pay immediately the amount the state chooses to draw or request of the LC. The disadvantages of the LC are: (1) the issuing bank may choose not to renew the letter from one year to the next, and (2) the LC is carried on the financial statements or balance sheet of the facility owner as a contingent liability, and it reduces the borrowing power of the facility owner by the amount of the contingent liability (financial assurance).

Trust Fund with a Pay-in Period

Trust funds can be a low-priced financial-assurance option for facility owners as long as the facility owners have a period of time with which to meet financial-assurance obligations. Charges to administer funds can be withdrawn from the fund. Trustees (financial institutions which issue trust funds) are limited in how they may invest fund dollars, so the principal does not earn very high rates of return. This fact discourages some private businesses from using this option when they believe they can earn more through other investments. Another feature is that private businesses must pay taxes on interest earnings each year, but cannot use fund dollars for this purpose. In some instances, however, interest earnings are not required to be applied to the principle, so this issue is not a problem.

A regulatory agency's concern with reliance on trust funds is that, if a facility closes prematurely, there will not be enough reserves to meet financial-assurance needs. Similarly, if a contingency requiring corrective action occurs in the early years of the pay-in period, there may not be enough reserves to cover the contingency.

Surety Bond Guaranteeing Performance or Payment into a Trust Fund

Surety bonds may be attractive mechanisms for facility owners because, unlike the letter of credit mechanism, they need not be shown as a contingent liability on facility owners' balance sheets. The MPCA has concerns regarding the legitimacy and enforceability of surety bonds. These concerns stem from reports that some disreputable companies have issued fraudulent or worthless surety bonds in the past to cover environmental liabilities.

Concerns about enforceability result from the practice of some insurance and surety companies to litigate when claims are large or the term of the obligation is onerous.

Insurance

As part of a 1993 legislative directive, the MPCA prepared a report evaluating possible insurance options that could be used to meet financial-assurance requirements at landfills. Specifically, the captive may have no assets of its own. MPCA evaluated the ability of captive insurance companies, which are licensed as surplus lines carriers, to guarantee coverage of financial-assurance costs. Based on our investigation of one captive insurer, the following concerns were noted regarding captive insurance companies:

- captive insurance companies usually operate as surplus lines carriers and are therefore not licensed or regulated by the state, and do not participate in a state's guarantee fund;
- a captive insurance company's may not be adequately diversified;
- a captive insurance company's assets are usually in parent company stocks, which would not be worth their stated value in the event that the parent company experiences financial hardship or failure;
- there are usually no insulatory measures between a captive insurance company and its parent company in the event the parent company goes bankrupt;
- a captive insurance company may not record closure and postclosure-care expenses, which are probable and whose costs are reasonably well known, as a liability on its balance sheet; and
- the cash flowing into a captive insurer may be transferred immediately back to the parent company.

In addition, we question whether a company that is unable or unwilling to perform its obligations in its capacity as facility owner, would be more likely to perform them in its capacity as the company's captive insurer. The captive and the parent company are one and the same. A captive is not an independent entity or an impartial third party.

The report found that a captive insurer operating in this market may meet form requirements, but not meet substance requirements of an insurance provider. In the captive insurer that we evaluated, there was no real transfer of risk. In reality, a captive insurer may be nothing more than a promise to guarantee future coverage of financial-assurance requirements. Our experience is that a promise does not provide any guarantee that environmental liabilities will be covered. The report concluded that it is unlikely that a captive insurer would provide adequate guarantee that closure, postclosure-care, and contingency-action costs will be covered.

Table 2 Financial-Assurance Mechanism Ranking Against EPA Performance Criteria

Mechanism Type Criteria Ranking (1=best, 5=worst)	Adequate Funds	Timeliness	Guarantee Coverage	Flexibility	Enforceability
1	LC	LC	LC	LOGO	LC
2	SB	TF	SB	TF	TF
3	TF	SB	TF	SB	SB
4	IN	IN	IN	IN	IN
5	LOGO	LOGO	LOGO	LC	LOGO

LC: Letter of Credit

TF: Trust Fund

SB: Surety Bond

IN: Insurance

LOGO: Local Government Financial Test

3. A Financial Assurance Program in Another State

The State of Idaho has implemented a dairymen mill (so many cents per number of pounds of milk) to fund the cost of spills and cleanups associated with manure management. The Idaho Department of Agriculture performs environmental-compliance inspections along with the state sanitary milk inspection to ensure that the facility is complying with state regulations. The department has the ability to suspend milk licenses and/or downgrade milk if manure-management problems are identified at a facility.

4. Minnesota’s Agricultural Chemical Response and Reimbursement Account

The Agricultural Chemical Response and Reimbursement Account (ACRRA) was created by the 1989 Minnesota Ground Water Protection Act. The ACRRA fund was established primarily to reimburse persons for costs incurred after July 1, 1989, in cleaning up agricultural chemical (pesticide and fertilizer) incidents.

The account is funded by annual surcharges on pesticide and fertilizer manufacturers, distributors, applicators and dealers. The amount of the surcharges is largely determined by the current ACRRA fund balance. The account has a required statutory minimum balance of \$1,000,000 and a maximum balance of \$5,000,000. The Commissioner of Agriculture determines whether the surcharge should be increased.

Monies from the ACRRA fund can be used for reimbursement of costs resulting from cleanup of sudden incidents, or they can be used to reimburse persons for cleaning up sites contaminated with agricultural chemicals.

The Agricultural Chemical Compensation Board (ACCRA Board) administers the ACCRA fund. The five-member board is comprised of representatives of the Department of Commerce, Department of Agriculture, farm community and agricultural manufacturers and dealers.

V. SPILLS/RELEASES/EMERGENCY RESPONSE

At this time, a new MPCA Contingency Plan is being drafted to update and better reflect the agency's new organizational structure. Until the new plan is ready, the procedures of the existing Contingency Plan are being followed. One of those procedures deals with feedlot release response.

Typically, the efforts of the Emergency Response staff at a feedlot release are concentrated on protecting water resources. Their goals include:

- restricting untreated wastewater (feedlot materials) from entering waterways,
- containing spilled material,
- treating as much of the released waste as possible, and
- communicating with the Minnesota Department of Health to ensure that the public health is protected.

Logistically and operationally, actions might include:

- diking and/or damming ditches,
- pumping waste,
- aerating ditches and receiving waters,
- spraying/irrigating wastes onto land,
- sampling wastes and receiving waters,
- diluting wastes, and
- damage assessment.

The MPCA believes that its emergency response program has significantly improved and is now being done well. However, requests for information on the number and types of spills encountered have highlighted gaps in record-keeping for both complaints and spills. This record-keeping must be improved.

Money for state response comes from MERLA. Manure is a pollutant or contaminant under MERLA. There is no liability for the costs of the state's response to pollutant or contaminant releases. Therefore, any MERLA money spent on dealing with manure releases must be recovered under non-MERLA authorities or not recovered at all.

It is the responsibility of the spiller of any pollutant to report the spill to the State Duty Officer. The State Duty Officer is responsible for reporting the incident to the appropriate state agencies. Therefore, the Duty Officer reports feedlot incidents to the MPCA, Department of Natural Resources and Minnesota Department of Health, as appropriate. As a courtesy, the Duty Officer also notifies county public-safety officials.

After the appropriate state agencies have been notified, the Duty Officer acts as a contact person, resource person or message conveyor to assist state agencies in any way he or she can. The State Duty Officer has many resources, including maps, local enforcement telephone numbers, state resource telephone numbers and communication links. The State Duty Officer neither directs operations nor approves proposed actions.

The number of enforcement actions taken on feedlot incidents has increased dramatically since 1995. This is due in part to the increase in feedlot enforcement staff and the assistance received from county attorneys filing criminal charges and completing court actions. Since 1995, the state, working in cooperation with county attorneys' offices, has completed 60 enforcement actions. These included 12 notices of violations, 14 criminal cases filed, 25 administrative penalty orders issued, and 9 stipulation agreements executed.

The violations cited have been of various types. Examples are construction without a permit; pumping a manure storage basin to a receiving stream, lake or ditch; open lot runoff; substandard construction; manure stockpile runoff; and overflowing manure-storage basins.

MPCA staff presence in the field has increased to the point that the agency can respond to more complaints from citizens and follow up the inspections with appropriate enforcement actions. However, due to limited staff, the MPCA is still not responding to noted violations in a timely manner. It is the goal of the feedlot enforcement staff to complete an enforcement action within four months of the date of discovery. Recently, the agency reassigned staff to feedlot inspections and follow-up enforcement actions. With the additional staff, it is felt that response time will meet the agency's goal.

The interim memorandum of understanding between the Department of Natural Resources (DNR) and the MPCA concerning feedlot enforcement has worked well since it was signed in 1993 (see Appendix C). The DNR and MPCA have helped to bring many cases to county attorneys' offices for prosecution. At this time, the memorandum of understanding is being updated to ensure continued cooperation between the two agencies.

Farmers must become better informed about their responsibility to report spills or releases of manure to the State Duty Officer. They must realize that manure can be a pollutant and that they must exercise care to ensure that it is kept out of the state's waters. With better reporting on the part of the farming community, the state agencies responsible for water quality will be able to respond in a more timely manner and, in some cases, diminish the environmental damage caused by manure spills or releases.

Under the proposed feedlot rules, each feedlot operator must have an up-to-date manure-management plan on site. This plan should include the telephone numbers of state and county staff who should be notified as well as actions that should be taken to avoid or minimize environmental damage if a spill or release occurs.

The MPCA must take appropriate action when there is a spill or release that has the potential to affect the environment. There needs to be a deterrent to ensure that the State Duty Officer is notified of all manure spills or releases so that the state can respond in a timely manner.

Minnesota law (Minn.Stat.§115.061 and Chapter 115E) has four general duties for handlers of oil and hazardous substances regarding spills or discharges:

1. a duty to act to prevent discharges that might pollute;
2. a duty to act to prepare for response to discharges they might have;
3. a duty to report any discharges to the MPCA via the State Duty Officer; and
4. a duty to recover discharged materials and to take other necessary actions to prevent or minimize pollution.

The legal duty to report and recover discharges has applied to spills of all polluting materials since 1969. After experiencing numerous preventable spills by parties unprepared to respond, the Legislature added the duties to prevent and prepare for spills of petroleum and hazardous substances in 1991 by passage of Chapter 115E (often called the “Spill Bill”). Chapter 115E did not apply these duties to spills of manure or other polluting substances that are not legally defined as hazardous substances.

The MPCA has worked with feedlot facilities on prevention matters through the NPDES permit program, which requires safeguards, such as proper manure storage and land application, along with the duty to notify if there is a release or spill. Permits also require preparedness. No specific formal spill-prevention-and-response plan typically has been required of facilities, however.

VI. CONCLUSION

The issue of paying for proper closure of feedlots ranges from how to pay for these measures at a closed farm that has little economic value to how to plan for these costs with a newer facility that is not likely to close in coming years even if financial failure occurs. (A feedlot with a positive economic value will likely be transferred to someone with the financial resources to run it.) It is a general principal of life that everything wears out and decays. Thus, it is appropriate to plan for proper closure of even new, High-investment facilities.

There is a remaining policy question of whether financial assistance should be made available to counties or owners of property with defunct manure-storage facilities to assist in cleanup. If such assistance were to be made available, it is the agency’s opinion that this should be done through an existing mechanism, such as the state cost-share program, and that any funding be done on a one-time basis for a given biennium. In the long term, these costs should be assigned to the property owner, but some assistance may be helpful for what appears to be a large number of existing closed feedlots in some parts of the state. The proposed feedlot rule revisions account for feedlot closure by setting specific requirements for the closure of feedlots.

Regarding the “need for development of a statewide animal waste contingency plan for animal waste sites, including containment, closure, and clean-up,” the MPCA believes that a good state emergency-response plan is in place, but that facility owners need to be

required to have such plans for their facilities. Improvements are also needed in the MPCA's recording and reporting of feedlot spills and complaints.

APPENDIX A

COUNTY FEEDLOT OFFICER TELEPHONE SURVEY ANIMAL WASTE LIABILITY ACCOUNT NEEDS AND MECHANISMS

1. What, if any, environmental liabilities have you seen or do you see in your county related to closure of feedlots, either large or small?

Big Stone

One pretty big one closed up before he came there. A lot of manure, worn-out buildings. They worked with the owner to clean it up.

Currently, smaller farmers are having the problems.

Blue Earth

Jared Sharp is the only one. Have closed half dozen earthen basins, excavated soils, etc.

Brown

The older existing lagoons that are grandfathered. Not currently seeing a problem, but could change tomorrow.

Carver

Small dairies closed. Basins are emptied where dairies are closed, but not pushed shut in case it opens again. Who will maintain, close, etc. Loophole is that we don't hear if someone goes out of business.

Dodge

Ticking time bomb. Nonfarm people buying old farmsteads and closing them in unsound ways. Huge potential for more problems in the area of closure and just identification of potential problems. These are the older sites. There are other abandonment activities that are going on that they are not involved in.

(Do you see ability to pay as a problem?) Yes. In recent case, was not a problem, but generally speaking, the financial wherewithal is an issue.

Hearing from banks and financial institutions about new larger facilities. Full manure pit seen as a resource that is valuable that could be marketed or at least just taken.

The old earthen basins that are grown over and you don't even know they are there. No one there responsible.

Morrison

Who is responsible issue. A couple of situations in recent years where ag waste pits were left full and the property was handed to the lender. The lender has been paying.

Mower

In the last three years, have officially abandoned three earthen basins. Now working on a couple old nursery buildings to close. Doing earthen basins for \$2,000.

Murray

No situations like that. A couple feedlots tax-forfeited to county. Hog barns are still fairly new.

Stearns

Who is responsible?

2. What, if anything, is your county doing currently in this area? How does the program work?

Big Stone

Discussed, but did not put in an ordinance. They do have it in gravel pits in zoning ordinance.

Blue Earth

Require at least 10 acres for facilities of < 1,000 animal units (a.u.). Require 40 acres for facilities of > 1,000 a.u. Basin closure fund, but never implemented.

Brown

Have prohibited earthen lagoons for hogs. If they expand, need to replace with pits.

Carver

Nothing. On a case-by-case basis, starting to look at it.

Dodge

Don't require any bonding. It has been talked about. There is a real learning curve about the issue. Bonds don't always work that well. Was in the insurance business. Bonds would be an administrative nightmare.

Morrison

Nothing, but visited the issue in the feedlot ordinance revision. Didn't have good information on direction to go, so no action. Also in the event of nutrient overloading, not only N but P, also struggled with that issue. How to handle P issues.

Mower

Not done in county ordinance

Murray

No specific requirements yet. Have talked about 40 acres with the site.

3. What, if anything, would you like to see the state (either MPCA, MDA, Legislature or other entity) do regarding financial assurance regarding the closure of feedlots?

Big Stone

Put it in the rules that the owner is responsible for closure and cleanup.

Blue Earth

Rather than this, mandate counties to enforce feedlot program with money to do it. That is a greater concern than financial assurance.

Brown

MDA BMPs and maybe some cost sharing to ensure that it's done properly.

Carver

Something like a solid waste facility, where there is a bond or insurance. Taking more of a business approach.

Dodge

Create some sort of a central fund that is administered centrally that producers or CFOs could use when necessary. Something is useable. Quantify problem. Set up program accordingly. Make a priority for inventory efforts. Another working element for state-county partnership.

Morrison

Who is responsible for the clean up - need clarity. Also get called to answer the question of the integrity of the facilities, earthen basins, concrete pits, etc. That is a spot the MPCA with greater engineering skills for evaluation could be a great help.

Mower

*Not having any problems. County is able to handle it.
By the end of next year, everyone with livestock will have a permit.*

Murray

Draft rules. Some rules will definitely hurt small farmers. (e.g., engineer requirements). Maybe make that at certain limits. Site inspector required, not design.

4. Other comments?

Big Stone

Send more money. Inventory is not politically popular. Extra technical assistance for inventories.

Blue Earth

Haven't really seen a problem. Happy with the working relationship with MPCA.

Brown

Certification for CFOs. That would go a long way in standardization of programs.

Carver

Relatively smaller issue for them due to relative smaller farms, and farms quitting livestock but staying in crops. Land has a high value, so not an issue.

Dodge

No additional comments.

Morrison

No additional comments.

Mower

No additional comments.

Murray

No additional comments

APPENDIX B

**SECTIONS OF MPCA'S EMERGENCY RESPONSE PLAN
THAT APPLY
TO FEEDLOT INCIDENTS**

Part F

Section 520

**Municipal, Industrial and Feedlot Wastewater
Discharge Plan**

Municipal, Industrial and Feedlot Wastewater Part F Plan (Sec. 520)

Water Quality Division

September 25, 1995

1. Scope

This plan should be used for incidents involving spills from municipal wastewater treatment plants (WWTP), industrial WWTPs and from feedlots. Typically, spills at WWTPs would result from some type of malfunction or upset at the facility, by-pass, or from weather related events such as floods. Wastewater spills may be a few hundred to several million gallons of liquid sometimes containing high biological oxygen demand. There are also chemical spills which occur at wastewater treatment facilities. There are often several chemicals used at WWTPs to treat wastewater which may produce toxic conditions in receiving waters or be hazardous to public health. These are generally stored on site in bulk storage containers ranging from several hundred to a few thousand gallons. There is the possibility of air hazards from chemicals such as chlorine. Feedlot spills may be several hundred to tens of thousands of gallons of high oxygen demand liquids.

In the past, water quality permits required notification of an emergency bypass within 24 hours which caused a violation of permit limits or immediate notification if the bypass was a health hazard. Callers were generally received by the MPCA Division of Water Quality during business hours or the Minnesota Duty Officer or MPCA spills line after business hours. MPCA Water Quality staff were only contacted at home after hours if the bypass posed an immediate environment or human health threat or major threat to the wastewater treatment facility.

As of April, 21, 1994, all bypasses must be reported to the Minnesota Duty Officer no later than one hour of onset of bypassing and upon termination of the bypass to notify us of the duration of the event. Procedures have been developed between the Minnesota Duty Officer and the MPCA to notify the MPCA central and appropriate regional office by FAX within one business day of reported bypasses.

MPCA Water Quality staff will be contacted immediately (24 hours per day) if the operator determines the facility is not capable of handling the situation or immediate assistance is needed.

The discharger is responsible for appropriate follow-up in cases of basement backups and where there are impacts on downstream water uses including water supply. The discharger is also responsible for appropriate public notification in all cases.

2. Hazards (see tables 2.1 - 2.5)

- a. Environmental hazards typically would include impacts to nearby waterways where oxygen demand from the spilled material could kill aquatic life. There is also the possibility of toxicity due to ammonia, low or high pH, untreated or spilled toxic industrial chemicals, or toxic chemicals used by the WWTP.
- b. Public safety could be at risk from flooding, exposure to waterborne pathogens affecting drinking water and body contact, explosions and exposure to toxic chemicals through downstream drinking water supplies, air releases and direct contact.
- c. Responders should be concerned about confined space entry, flammable liquid spills, flooding, slippery surfaces and toxic chemicals. See Public Safety section of this plan. Responders should have safety training and training in emergency response policies and procedures.

3. Response Strategies

In general, the Spills Unit will be responsible for incident command on municipal, industrial and feedlot wastewater emergencies. Water quality staff is responsible to protect the water resources and provide assistance to operators in the form of identification of goals, and giving advice. Depending on the size and location of the facility and the severity of the emergency, activities and functions performed by MPCA staff may vary. Responsibilities of staff is further defined in section 7, Incident Command. In addition, responsibility for monitoring and assessment of the impact on water resources is contained in the Surface Water Response Part F Plan.

Water Quality Division staff should perform the following activities:

- a. Identify goals for the emergency response.
- b. Identify whether there are emergency response plans available that are specific to the facility. They may be contained in Operation and Maintenance (O & M) Manuals for the facility, facility permits, or they may be on file at the facility.
- c. Participate in the command structure. See section 7.

Typical goals of the emergency response in priority order are to:

- a. Restrict or prevent untreated or partially treated wastewater, plant chemicals or feedlot materials from entering waterways.
- b. Contain spilled materials.
- c. Achieve as much treatment of the spilled materials as possible. This may include: recycling by-passed wastewaters through the plant, aeration of wastewater to raise dissolved oxygen, or other techniques.
- d. Communicate with Health Department to ensure public health is protected.

4. Notification and Lead Divisional Staff

Water Quality staff to be notified in case of an emergency at a municipal or industrial wastewater facility or feedlot are listed on the next page.

Each listed individual has the responsibility of maintaining a list of those that need to be contacted to respond to the emergency (tier 2 responders as identified in Section 106 of this plan). This list must be available to the primary contact person at work, home, or other location at which he can be contacted. The list should include work and home phone numbers of those needing to be notified, and the circumstances under which they are to be called. A duplicate list of the contact staff should be provided to the spills unit. The list must be maintained and up-to-date at all times.

Projects may be assigned to particular regional and central office staff.. Project assignment lists will be available and updated periodically. The order for contacting staff should be regional staff first, central office enforcement staff assigned to project next, and the supervisor for backup.

If unable to reach the designated individual for the region, contact either of the other listed staff. It is recognized that the regional boundaries of the incident are not always evident. Therefore, any of the listed water quality division staff will take responsibility for responding upon notification.

Staff home phone numbers should remain confidential - do not distribute to general public.

**Municipal, Industrial and Feedlot Wastewater Part F Plan
Water Quality Division - Revised Contact List
Revised – September 25, 1995**

Municipal Facilities (area code 651 unless listed)

Location of Emergency	Staff	Office Phone	Home Phone
Metro	Jeff Smith	296-7367	
	Pete Gillen	297-1830	
	(Supervisor)	296-7236	
Region 1	Jeff Stollenwerk	(218)723-4957	
	Jeff Smith	296-7367	
	Pete Gillen	297-1830	
	(Supervisor)	296-7236	
Region 2	Herschel Blasing	(218)828-6064	
	Fay Sleeper	297-3365	
	Tod Eckberg	296-7751	
	Mary Knudson	296-7222	
Region 3	Tim James	(218)846-0749	
	Jim Courneya	(218)846-0735	
	Fay Sleeper	297-3365	
	Tod Eckberg	296-7751	
	Mary Knudson	296-7222	
Region 4	Craig Schafer	(507)537-6378	
	Marco Graziani	296-7205	
	Don Hauge	296-9285	
	Dave Kortan	296-6010	
Region 5	Wendy Turri		
	Dennis Hayes	(507)285-7243	
	Marco Graziani	296-7205	
	Don Hauge	296-9285	
	Dave Kortan	296-6010	

Industrial Wastewater Treatment Facilities

Staff	Office Phone	Home Phone
Don Kriens	296-7734	
Loren Voigt	296-7244	

Feedlot Facilities

Location	Staff	Office/Cellular Phone	Home Phone
Region 1	Pete Sandberg	296-7313 / 1-800-620-9675	
	Pat Mader (Supervisor)	297-7570	
Region 2		(218)828-6074	
	Pete Sandberg	296-731 / 1-800-620-9675	
	Pat Mader	297-7570	
Region 3		(218) 846-0776 / 1-800-620-2268	
	Mark Steuart	(218)846-7388	
	Pete Sandberg	296-7313 / 1-800-620-9675	
	Pat Mader (Supervisor)	297-7570	
Region 4		(507)537-7147	
	Pete Sandberg	296-7313 / 1-800-620-9675	
	Pat Mader (Supervisor)	297-7570	
Region 5	Jerry Hildebrandt	(507)285-7343	
	Pete Sandberg	296-7313 / 1-800-620-9675	
	Pat Mader (Supervisor)	297-7570	

5. Other MPCA Staff Involvement

- a. Spills staff for incident command. Spills staff will routinely be the first notified of an incident if it is called in on the Spills line. If the incident is called in to the Water Quality Division, contact the State Duty Officer at (651) 649-5451 or 1-800-422-0798.
- b. Permit, enforcement, operations outreach or regional staff that are familiar with the facility should be contacted as needed for specific site information.
- c. Regional offices must be notified routinely for any emergency within their geographical boundaries.
- d. Assessment and planning staff must be notified if there is a possibility of affecting any surface water. Their involvement will be guided by the Surface Water Response Part F Plan.

6. Notification list

Water Quality and Spills staff will coordinate notification of other units of government and parties affected by the spill. The following list provides phone numbers for organizations we may need to contact if an emergency occurs. The list may be used as a checklist, but please remember that each emergency is unique, and you should ensure anyone who may be affected is contacted. In addition, see the geographical note at the end of this section.

International:

ORGANIZATION	CONTACT PERSON	PHONE NUMBER
Ontario Ministry of the Environment	Spills Action Center Fax	(416)325-3000 (416)325-3011
Manitoba Ministry of the Environment	Max Morelli 24-hour emergency	(204)945-7032 (204)944-4888
Canada Spills Response	Jim Smith	(416)973-1058
Environment Canada	William Gummer David Donald	(306)7805322 (306)780-6723

Federal:

ORGANIZATION	CONTACT PERSON	PHONE NUMBER
United States Fish and Wildlife Service	Stan Smith Minneapolis	(612)725-3048
United States Environmental Protection Agency	National 24-hour response number	(800)424-8802
United States Environmental Protection Agency	For international incidents, ask that Max Dodson be notified	(303)293-1788 (800)227-9441
United States Coast Guard	National Response Center (NRC)	(800)424-8802
	Group Upper Mississippi	(319)524-7511
	St. Paul District(Business Hours Only)	(651)290-3991
	USCG Station	(218)720-5412
	Marine Safety Office (Business Hours Only)	(218)720-5286

Interstate:

ORGANIZATION	CONTACT PERSON	PHONE NUMBER
Michigan Department of Natural Resources	Pollution Control Alerting System (PEAS)	(800)292-4706
Wisconsin Department of Natural Resources	Northwest (Duluth- Taylors Falls)	(715)635-2101
	West Central (Taylors Falls - Iowa border)	(715)839-3700
Wisconsin Division of Emergency Government		(608)266-3232
Iowa Department of Natural Resources	Emergency Response	(515)281-8934
North Dakota	State Radio	(800)472-2121
North Dakota Department of Health	Francis J. Schwindt Fax Dennis Fewless	(701)328-5150 (701)328-5200 (701)328-5210
South Dakota Department of Water and Natural Resources	During Business Hours Other times	(605)773-3296 (605)773-3231

State:

ORGANIZATION	CONTACT PERSON	PHONE NUMBER
Minnesota Department of Natural Resources Ecological Services Division	Marilyn Danks	296-0777
Minnesota Department of Health Wellhead Protection	Gary Englund	215-0746

Local:

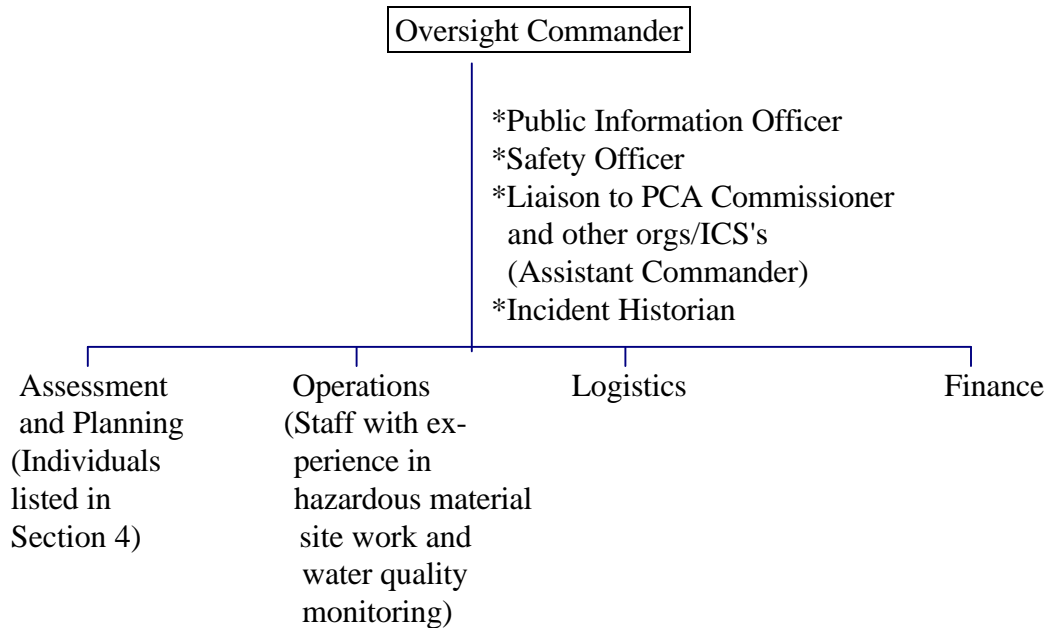
Fire Department, Police Department, Public Works, Industry representatives, County Sheriff, County Environment Department Watershed District, Soil and Water Conservation District
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Geographical Note:

For spills involving the Red River of the North, or any waterway flowing into Manitoba, our IJC representative (currently Gaylen Reetz) should notify Manitoba's IJC representative. In addition, see the Red River Contingency Plan, which is an appendix to this document. Additional plans for specific geographical areas may be appended to this plan.

7. Incident Command

For emergencies requiring setting up the incident command structure, staff from the Spills Unit will act as oversight commander. Water Quality staff will advise the incident commander and lead the Assessment and Planning activities. Assessment and Planning means the continuous assessment of the situation (including data collection and monitoring), devising strategies for handling the incident, and making recommendations to the Oversight Commander. Below is a diagram of the incident command structure.



8. Equipment Needs

a. Communication equipment. Radios and cellular phones are available from Spills Unit, Hazardous Waste Division. The equipment should be coordinated within the command structure to ensure ease of communication throughout the incident. Operations needs to communicate directly with assessment and planning.

b. Personal protection.

Hard Hats - Generally, individual staff are provided with their own.
Life vests - when working around rivers and lakes.

c. Record keeping. Video cameras are located in the Water Quality Division file room in the locked cabinet. Time/date cameras and dictaphones may be checked out from unit representatives.

d. Monitoring equipment -- see Surface Water Response Part F plan and checklist.

9. Transition

Post-emergency activities will be handled by staff responsible for enforcement of the facility's permit. In many cases, that person will have been involved from the beginning of the incident. Water Quality emergency staff and the Oversight Commander (Spills Unit) are responsible to ensure that the activities during the emergency were well documented, and that there is a smooth transition between phases of the incident.

TABLE 2.1 DANGEROUS EFFECTS OF COMMONLY USED WASTEWATER TREATMENT CHEMICALS

<i>CHEMICAL</i>	<i>USE</i>	<i>DANGER</i>
Anhydrous ammonia	Nutrient addition	Skin, eye and mucous membrane burns. Death by inhalation
Caustic soda	pH adjustment	Skin, eye and mucous membrane burns.
Chlorine	Disinfection, cleaning, sludge control	Skin, eye and mucous membrane burns. Death by inhalation.
Chlorine dioxide	Disinfection	Explosive
Copper sulfate	Algicide	Inhibitory to treatment process
Gasoline, diesel fuel and lubricating fluids	Fuel, and equipment maintenance	Explosive. Fire hazard.
Hydrogen peroxide	Odor control	Skin, eye and mucous membrane burns. Explosive in combination.
Hydrochloric acid	pH adjustment	Skin, eye and mucous membrane burns.
Methane	Building, heating power backup	Explosive. Fire hazard.
Ferric sulfate	Odor control and phosphorus removal	Skin, eye and mucous membrane burns.
Ferrous sulfate	Odor control and phosphorus removal	Skin, eye and mucous membrane burns.
Ferric chloride	Phosphorus removal	Skin, eye and mucous membrane burns.
Liquid oxygen	Biological aeration	Explosive in combination.
Methanol	Nutrient addition for denitrification	Explosive
Ozone	Disinfection	Skin, eye and mucous membrane burns. Death by inhalation.
Phosphoric acid	Nutrient addition	Skin, eye and mucous membrane burns.
Potassium	Odor control	Flammable in permanganate combination.

TABLE 2.1 DANGEROUS EFFECTS OF COMMONLY USED WASTEWATER TREATMENT CHEMICALS, cont.

<i>Chemical</i>	<i>Use</i>	<i>Danger</i>
Sodium chlorite	Used to make chlorine dioxide	Flammable in combination.
Sulfur dioxide	Dechlorination	Skin, eye and mucous membrane burns. Death by inhalation.
Sulfuric acid	pH adjustment	Skin, eye and mucous membrane burns. Death by inhalation.

TABLE 2.2 EXPOSURE LIMITS FOR SOME OF THE COMMONLY USED WASTEWATER CHEMICALS

<i>Chemical</i>	<i>Permissible exposure limit (PEL)</i>		<i>Immediately dangerous to life and health (IDLH)</i>	
	<i>ppm</i>	<i>mgm3</i>	<i>ppm</i>	<i>mgm3</i>
Ammonia	35.0*	27.0*	500.0	
Caustic soda		2.0**		200.0
Chlorine	0.5	1.5	30.0	
Chlorine dioxide	0.1	0.3	10.0	
Hydrogen sulfide	10.0	14.0	300.0	
Methanol	200.0	260.0	25000.0	
Phosphoric acid		1.0		
Sulfur dioxide	2.0	5.0	100.0	

* Short-term exposure limit (STEL) usually 15 minutes or less.

**Ceiling limit

TABLE 2.3 PHYSIOLOGICAL EFFECTS OF BREATHING AIR/CHLORINE MIXTURES

<i>Effect</i>	<i>Concentration, ppm</i>
Sight symptoms after several hours of exposure	1
Irritates throat	10-15
Causes cough	30
Dangerous in 30 minutes	40-60
Fatal in a few breaths	1000

TABLE 2.4 EVACUATION ZONES FOR COMMON WASTEWATER CHEMICALS

<i>Material</i>	<i>Isolate in all directions</i>		<i>Isolate in all directions</i>		<i>Then evacuate</i>	
	<i>meters</i>	<i>feet</i>	<i>meters</i>	<i>feet</i>	<i>downwind width, km (mi.)</i>	<i>direction length, km (mi.)</i>
Ammonia	30	100	60	200	0.6 (0.4)	1.1 (0.7)
Chlorine	75	250	160	520	2.1 (1.3)	3.2 (2.0)
Nitric acid	30	100	65	210	0.8 (0.5)	1.1 (0.7)
Sulfur dioxide	30	100	67	220	0.8 (0.5)	1.3 (0.8)

Initial isolation - spill or leak from small container

Initial isolation - large spill from a tank

TABLE 2.5 HYDROGEN SULFIDE CONCENTRATION VERSUS RANGE OF EFFECTS

<i>Concentration, ppm</i>	<i>Effects</i>
0.1	Odor detectable
3.0	Offensive odor, rotten egg odor
10.0	Headache, nausea, throat and eye irritation
50.0	Eye injury
100	Loss of sense of smell, conjunctivitis respiratory tract irritation, olfactory paralysis
300	Imminent life threat, pulmonary edema
500	Strong nervous system stimulation, apnea
1000-2000	Immediate collapse with respiratory paralysis, death

Part F

Section 521

Surface Water Survey and Monitoring Plan

Surface Water Response Part F Plan (Sec. 521)
Water Quality Division

Revised September 25,1995

1. Scope

This plan is to be used in conjunction with all emergency response Part F plans when spills or other environmental emergencies impact surface waters of the state. Water quality division staff are available to conduct surface water assessment surveys. Water quality equipment is available for use in these assessments. Emergencies that require surface water quality assessments may include large fires, train derailments, pipeline ruptures, improper disposal or dumping of hazardous chemicals, spills from wastewater treatment plants, among other incidents.

The purpose of these surveys is to:

- a. Assess the on-water extent of the impacted area;
- b. Assess the short- and long-term impacts of the emergency on surface waters;
- c. Determine the cause of the impact with reasonable assurance;
- d. Predict the impact of various mitigation efforts; and
- e. Assist DNR in documenting natural resources impairment for potential damage claims.

2. Hazards

- a. Environmental hazards would be specific to the emergency. Surface waters may be impacted by toxic materials, metals, oxygen demanding substances, excessive solids, excessive nutrients, pathogens or other substances.
- b. Public safety hazards would be specific to the emergency. Special attention should be paid to drinking water supplies, beaches, and recreational areas.

Responders from the Division of Water Quality are NOT available or authorized to be first responders in an emergency. Their purpose is to conduct surveys to assess environmental conditions. These surveys will NEVER be conducted inside the exclusion or contamination reduction zones, where level B respiratory protection is required.

Responders will comply with all MPCA safety policies and should have the following training.

- a. Health and Safety Training for Hazardous Waste Operations and Emergency Response.
- b. First Aid.
- c. CPR.
- d. Boating (Coast Guard Auxiliary, Power Squadron or Red Cross).

This awareness and preparedness training should be used to continually evaluate conditions for; slips, trips and falls, flammable and/or toxic atmosphere, and hazardous weather or water.

3. **Response Strategies**

- a. Survey to determine impacted area;
- b. Photograph or video tape for visual documentation;
- c. Sample for analytical documentation and determine nonvisible impacts:
 - 1) If the responsible party takes the lead for the sampling effort, Water Quality responders will:
 - a) initiate sampling if on the scene first;
 - b) review responsible party's sampling plan, offer comments and advise of requirements; and
 - c) perform quality assurance sampling.
 - 2) If the agency takes the lead for sampling, Water Quality responders will develop an appropriate sampling plan, take samples and ensure that proper sampling procedures and quality assurance practices are followed.
 - 3) If a state contractor takes the lead for sampling, Water Quality responders will:
 - a) initiate sampling if on the scene first;
 - b) develop an appropriate plan with the state contractor; and
 - c) perform quality assurance sampling.
 - d) Perform in situ biological testing to determine ongoing acute toxic effects.
 - e) Review long-term monitoring plans by responsible party, if necessary.

4. Notification and Lead Divisional Staff

<u>Group</u>	<u>Name</u>	<u>Office Phone</u>	<u>Home Phone</u>
<i>Water Quality Division</i>			
Monitoring & Assessment		(651) 296-8744	
	Harold Wiegner	(651) 296-9315	
	Jerry Flom	(651) 296-9315	
	Gery Blaha	(651) 296-7245	
	Patti King	(651) 296-8723	
	Carol Hubbard	(651) 296-7242	

5. Other MPCA Staff Involvement

- a. Spills staff or staff from the lead division for incident command. Water quality assessment staff will be notified through the notification procedures of this plan when assessments are necessary.
- b. Regional staff may be called on to assist in assessments, communication, support services, or their unique knowledge of the area or water resource.

6. Notification

The Minnesota Department of Natural Resources (DNR), Division of Fish and Wildlife should be contacted to document and enumerate biological impact of the spill. The U.S. Fish and Wildlife Service may need to be contacted in cases where migratory wildlife or refuge lands are impacted. In addition, expertise from other divisions of the DNR or the Minnesota Department of Health (MDH) may be required.

7. Incident Command

Staff from the Spills Unit will act as oversight commander. Water Quality staff will advise the oversight commander and participate in the Operations and Planning activities. Assessment and planning includes data collection and monitoring, devising strategies for handling the incident, and making recommendations to the Oversight Commander. Below is a diagram of the incident command structure.

Oversight Commander

- |
- |--Public Information Officer
- |--Safety Officer
- |--Liaison to MPCA Commissioner
| and other orgs/ICS's
| (Assistant Commander)
- |--Incident Historian
- |

Assessment and Planning (Dan Helwig, if necessary)	Operations (Staff with ex- perience in hazardous material site work and water quality monitoring)	Logistics	Admin and Cost Accounting
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8. **Equipment**

a. Sampling devices

1) Dedicated

None

2) Available

Virtually the entire Water Quality Division inventory if it is not in use or can be called back in time. Following are some of the common types.

- automatic sampler
- grab stick
- Van Dorn
- Kemmerer
- double and triple
- dissolved oxygen
- peristaltic pump
- drop core
- Eckman
- Ponar
- minnow cage
- Surber

b. Sample containers

1) Dedicated

Four coolers containing following bottles and appropriate preservative.

general chemistry
metals
cyanide
mercury
phenols
bacteria
VOC's

2) Available

Additional bottles and preservative are keep in stock in our warehouse or can be ordered from the Health Department.

c. Water quality instruments

1) Dedicated

None

2) Available

Virtually the entire Water Quality Division inventory if it is not in use or can be called back in time. Following are some of the common types.

dissolved oxygen
pH
specific ion -- ammonia
conductivity
fluorometer
flow gauging
chlorimeter

d. Documentation and record keeping. Video cameras and time/date cameras may be available from the Point Source Compliance Section.

e. Personal protection. The following items are available from the Water Quality division warehouse: rain gear, waders, hipboots, gloves, personal flotation devices (vests and/or floatcoats) and hard hats. Steel-toed safety shoes are issued to individuals.

f. Communication equipment. Radios and cellular phones are available from Spills Unit, Hazardous Waste Division. The equipment should be coordinated within the command structure to ensure ease of communication throughout the incident. Operations needs to communicate directly with assessment and planning.

g. Transportation

1) Dedicated

None

2) Available -- choice will be dependent on situation

Suburban (2)
cargo van (2)
passenger van
minivan (3)
stakebed
Skipstone 24' deckboat
Niaid 25' enclosed workboat
Pepin 16' sportboat
16' Jonboat
14' sportboat (3)
10' jonboat
canoe (2)

h. Support equipment

1) Dedicated - none

2) Available

ice chisels & augers
snowshoes
toboggan
portable shelter
coolers
tools
generators
binoculars
mobile laboratory trailer

9. **Transition**

Post-emergency activities will be coordinated among water quality assessment staff and enforcement/compliance staff. In many cases, the working relationship will be established during the emergency response to the incident. Water quality emergency staff are responsible to ensure that the activities during the emergency were well documented, and that there is a smooth transition between phases of the incident. It is important that all data, records, and observations are documented correctly, that quality assurance procedures for sampling, sample handling and analysis are followed, and that all evidentiary and chain of custody procedures are followed where applicable.

APPENDIX 1

RED RIVER CONTINGENCY PLAN

This plan does not supersede any local or national contingency plans now in existence. Rather it is an attempt to coordinate these plans so that when a spill occurs on the Red River, positive coordinated action including notification minimizes public health hazards and environmental damage.

The plan will become effective whenever the discharge of any pollutant within the Red River of the North drainage basin has the potential to adversely impact the Red River. It will also become effective at any time when exceedances of either Water Quality Objectives or Alert Levels are observed at the International monitoring site.

1.0 Exceedances:

A recorded reduction of 50 percent in the dissolved oxygen level within a 24-hour period or a reduction below 5.0 mg/L will constitute a significant dissolved oxygen depletion. Any other unusual values in terms of exceedances of either Water Quality Objectives or Alert Levels observed as part of the routine monitoring programs operated by the various member agencies shall constitute a situation where action is required. The agency observing such an event shall, through its member on the IRRPB Water Quality Objectives Committee, determine appropriate follow-up action as a basis for recommendation to the two Chairmen. The United States Chairman will coordinate any investigation and be responsible for resulting report.

2.0 Spills:

United States: The state in which the spill occurs or from which the pollutant originates will be designated as the lead agency. In the case of an unknown origin of a pollutant or spill, the state first receiving notification that a spill has occurred will be designated as the lead agency. The lead agency will coordinate media relations and preparation of a final report on the spill.

Immediately upon notification that a spill has occurred, the lead agency will determine whether the spill is an oil or toxic or a non-toxic spill and will call all numbers on the appropriate Phone Notification List. (A toxic spill is defined as consisting of a persistent or bioaccumulative substance which either by itself or as its toxic transformative product, has a half-life for degradation under natural environmental conditions of more than eight weeks.) Regardless of the type of spill, each state will notify all waterworks plants within its boundaries which have intakes potentially affected by the spill. The lead agency will have the responsibility to coordinate any investigation or follow-up study of the spill, clean-up activities, any sample collection and analysis, and distributing any results or findings. The lead agency will designate one person as the coordinator of these activities.

The lead agency will assume the responsibility of keeping all agencies involved in the Contingency Plan informed of progress and developments related to the spill.

Canada: the Province of Manitoba, Environmental Management Services Branch, will coordinate the response by the Canadian agencies to any spill. Environment Canada, Environmental Conservation Branch, will be responsible for operating the automatic water quality monitor at Emerson to measure the amount and timing of pollutants from the spills which enter Canada. Environment Canada will collaborate with Manitoba in studies to determine the impact of the spill downstream from Emerson. Manitoba will coordinate media relations and preparation of a final report on the spill.

List A

**PHONE NOTIFICATION LIST
RED RIVER CONTINGENCY PLAN
For D.O. Depletions and Non-toxic Spills**

United States Numbers

1. North Dakota Department of Health - Bismarck, North Dakota

Francis J. Schwindt (701)328-5150 (work)
(home)
(701) 328-5200 (fax)

Dennis Fewless (701) 328-5208 (work)
(home)
2. Environmental Protection Agency, Region VII - Denver, Colorado
24-hour telephone service emergency number - (303)293-1788 ask that
Max Dodson (U.S. Board Chairman) be notified - (303) 294-7594 (desk)
(303) 293-1600 (receptionist)
1-800-227-9441
3. Minnesota Pollution Control Agency - St. Paul, Minnesota

Don Kriens (612) 296-7742(work)
(home)
Gaylen Reetz (612) 296-8856 (work)
(home)

Canada Numbers

1. Manitoba Environmental Accident Reporting Line - Winnipeg, Manitoba, Canada

24-hour telephone service emergency number - (204) 944-4888
Max Morelli (204) 945-7032
Dennis Brown (204) 945-7033
2. Environment Canada, Environmental Conservation Branch, Ecosystem
Division - Regina, Saskatchewan, Canada

William Gummer (306)780-5322 (work)
(home)

David Donald (306) 780-6723 (work)
(home)

List B

**PHONE NOTIFICATION LIST
RED RIVER CONTINGENCY PLAN
For Oil and Toxic Spills**

United States Numbers

1. North Dakota Department of Health - Bismarck, North Dakota

Francis J. Schwindt (701) 328-5150 (work)
(home)
(701) 328-5200 (fax)

Dennis Fewless (701) 328-5210 (work)
(home)
2. Environmental Protection Agency, National 24-hour telephone service emergency number - 1-800-424-8802
3. Environmental Protection Agency, Region VIII - Denver, Colorado

24-hour telephone service emergency number - (303)293-1788 ask that Max Dodson (U.S. Board Chairman) be notified - (303) 294-7594 (desk)
(303) 293-1600 (receptionist)
1-800-227-9441 (toll free)
4. Minnesota Pollution Control Agency - St. Paul, Minnesota

24-hour telephone service emergency number - 1-800-422-0798 ask that Don Kriens (651) 296-7734 be notified

Canada Numbers

1. Manitoba Environmental Accident Reporting Line - Winnipeg, Manitoba, Canada

24-hour telephone service emergency number (204) 944-4888
Max Morelli (204) 945-7032
Dennis Brown (204) 945-7033
2. Environment Canada, Environmental Conservation Branch, Ecosystem Division - Regina, Saskatchewan, Canada

Val T. Chacko (204) 983-5035 (work)
(home)

David Donald (306) 780-6723 (work)
(home)

REGION III

<u>Town</u>	<u>Contractor and Number</u>	<u>Special Equipment</u>
Baudette	Police Department 218/634-1144	
	Village Power Plant 218/634-2155	
Bemidji	Lakehead Pipeline Co. 3025 Tower Avenue 218/751-5281 218/751-8049 715/394-5535 715/394-6547	500 boom, portable pumps, skimmer with hose, absorbants, boom trucks, Pipe Aztec 250, airplane, 16' boat
	Bemidji Blacktop 218/751-5114	
	Bill Johnson 218/751-1255	
	Wrights Service 218/751-1255	
Blackduck Strong	Forest Products Co. 218/835-7781	
Browns Valley	Baer Plumbing and Heating 612/695-2342	
Chokio	Busch's Dipping and Plumbing 612/324-7333	
Crookston	Otto J. Eickhof & Sons, Inc. 218/281-5250	
Dalton	Ted Delzer Excavating 218/589-8755 718/589-8787	
Fertile	Melvin Wang 945-6877	
Fisher	Farmer's Coop Elevator Co. 218/891-2255	
Fosston	Anderson Brothers 325 1/2 Third Street NW 218/435-1858	

<u>Town</u>	<u>Contractor and Number</u>	<u>Special Equipment</u>
Garfield	Lee's Dragline 218/834-2253	
Hentilly	Kelly Construction Co. 218/281-1557	
Halstad	Farmers Union Coop Oil Co. 218/456-2131	
Henning	Cliff's Enterprises 218/583-2667	
Leonard	Monson Oil Company 218/968-2339	
Moorhead	Transport, Inc. 218/236-6300 218/236-6303	
	Farmers Union Oil Co. 218/233-2497	
Morris	Podtburg Soft Water 612/589-2152	
Roseau	Beito Plumbing and Heating 218/463-1982	
	REA 218/463-2982	
Sabin	Independent Oil Company 218/789-7290	
Shelly	Farmers Union Coop Oil Co. 218/456-2131	
Stephen	Earl Benson 218/478-2416	
	Lundeen Oil Company 218/478-3818	
	Our Own Coop Association 218/478-3851	

<u>Town</u>	<u>Contractor and Number</u>	<u>Special Equipment</u>
Thief River Falls	Edson Construction Company 218/681-4788	
	Ehrenstrom Elwood Company 218/681-3698	
	Loeffler Elgin Construction Co. 218/681-7055	
	Prichard Brothers, Inc. 218/681-4324	
	Ranum Stanley Construction Co. 218/681-2114	
	Swenson Plumbing and Heating 218/681-1441	
Warren	Wedul Trucking 218/681-4366	
	March Liquid Fertilizer/Ammonia 218/745-4671	
	Marshall County Coop Assn. 218/745-5323	
Warroad	Roy V. Welberg 218/745-4996	
	Warroad Light and Power 218/386-1873	
Wheaton	Olson Plumbing 1105 4th Avenue N. 612/563-8275	
Underwood	Jacobsen Excavating 218/826-6600 218/495-3300	

Companies who can handle containment and cleanup of major spills on the Red River but are not located in the region include:

Arnold's Environmental Services
St. Paul
651/227-5636

Bay West
517 South 59th Avenue
Duluth, Minnesota
218/626-1093
24-hour number 218/628-1093

Companies located in Fargo, North Dakota include:

Ryckman's Emergency Action and Consulting team
2208 Welsch Industrial Court
P.O. Box 27310
St. Louis, MO 63141

Hot Line 1-800-325-1398
Office 314/569-0991

Satellite Response Center located in Fargo, ND
Company equipped to handle any spill emergency

Western Environmental Services
529 Mercury Blvd.
Chesterfield, MO 63017

Hot Line 1-800-547-0792
Office 314/532-7660

Fast Response Trailer Located in Fargo, N.D.
Any Spill Emergency

APPENDIX C

**INTERIM INTERAGENCY
MEMORANDUM OF UNDERSTANDING
CONCERNING FEEDLOT ENFORCEMENT**

**INTERIM INTERAGENCY
MEMORANDUM OF UNDERSTANDING
CONCERNING FEEDLOT ENFORCEMENT**

Background

This Memorandum clarifies and formalizes the working relationship between the Minnesota Department of Natural Resources (DNR) and the Minnesota Pollution Control Agency (PCA) concerning compliance with water quality requirements related to feedlots. The Pollution Control Agency has special expertise in the control of water pollution and has responsibility under Minn. Stat. Chapters 115 and 116 to regulate sources of water pollution including feedlots. DNR also plays a key role in protecting waters of the state because of the presence of conservation officers (CO) throughout the state who are in a unique position to identify and investigate feedlot problems. Further, DNR has statutory authority under, among others, Minn. Stat. § 103G.2372 (enforcement of laws preserving and protecting wetlands and under Minn Stat. § 103G.245 (permit requirement for work affecting public waters). Finally as law enforcement officers, the DNR conservation officers have a duty under Minn. Stat. § 115.071, subd. 2(b) to “take all action to the extent of their authority” to enforce the requirements of 115 and 116. By working together more closely, the two agencies will be able to more effectively, efficiently and consistently enforce state requirements related to feedlots.

General Procedures

The general principles underlying this memorandum are that the full range of enforcement tools available to the agencies including criminal enforcement should be utilized in achieving compliance with feedlot requirements and that to ensure these tools are used as effectively as possible, there should be close coordination between PCA and DNR on feedlot cases. To implement these principles, the following procedures will be followed.

1. After initial discovery of a potential violation by a CO and prior to the CO investigation going beyond the probable cause stage, COs should notify their immediate supervisor as soon as possible. Immediately following notification of the DNR supervisor, the CO should notify PCA feedlot program staff.
2. Depending upon the amount of information available from the initial investigation and the availability of PCA personnel, additional follow-up investigations including a joint PCA/DNR inspection may be undertaken.
3. After a joint inspection, all information related to the incident will be conveyed to the PCA Feedlot Program Supervisor and the DNR Enforcement Division for review and consideration of appropriate enforcement action.

4. The investigative data will be analyzed by PCA and DNR to determine the type of enforcement action that may be appropriate. Enforcement actions may include warning letters, notices of violation, administrative penalty orders, stipulation agreements, civil judicial enforcement including injunctive cases where an immediate response is necessary and criminal enforcement. If a civil enforcement option is chosen, PCA will pursue that enforcement action and keep DNR informed of the outcome.
5. Criminal enforcement ordinarily will be reserved for the most serious violations. In deciding whether to refer a case to a county attorney or other prosecuting authority, the PCA Feedlot Program Supervisor and the DNR counterpart may consider the following factors:
 - a) type and number of violations of statutes, rules, permits, certificates of compliance;
 - b) actions to conceal or mislead regulatory agencies or failure to give or supply notice and information.
 - c) health and environmental harm including potential adverse impacts on identified natural resources;
 - d) compliance history -- aggravated, repeat or recalcitrant actions;
 - e) knowledge and intent;
 - f) need and effect of parallel proceedings; and
 - g) economic gain.

The PCA and DNR will consider the factors listed above to the extent they are applicable, along with any other relevant factors, in determining whether to refer a case for possible criminal charges. The factors listed above are just examples of the types of factors that could be relevant. This list does not constitute a definitive set or checklist of requirements.

1. PCA will notify the Minnesota Department of Agriculture of any criminal enforcement action and of any referral of a case to a county attorney or other prosecuting authority for criminal prosecution.
2. The DNR and PCA mutually agree to assist the appropriate county attorney's office or other prosecuting authority in completing necessary criminal investigations.

Target Issues

Given the limited DNR and PCA enforcement resources, it is mutually agreed that initial joint enforcement efforts should be targeted to the following factual situations:

- a. feedlot situations involving a point source discharge (e.g., pipe, tile, hose, ditch, channel, man-made conveyance, etc.) into the waters of the state (e.g., drainage systems, ditches, lakes, streams, rivers, wetlands, etc.); and
- b. feedlot situations involving intentional pumping of manure or manure-contaminated runoff to waters of the state.

DNR and PCA may consider the factors in paragraph 5 in deciding whether to pursue a criminal enforcement action.

Process training

DNR and PCA will organize a joint training program for conservation officers on identifying feedlot problems and use of this interagency procedure. These joint training sessions may also be used to inform county attorneys of the feedlot enforcement efforts in the Minnesota River watershed.

Conclusion

These procedures should provide for better use of the full range of enforcement authority available to both DNR and PCA through better coordination and early involvement of the PCA in cases identified by DNR Cos.

The general objective of these interim interagency procedures is to promote and achieve feedlot compliance in an efficient, appropriate and consistent manner. Nothing in this formalization of procedures may be construed as altering the statutory authorities, obligations or duties of the PCA or the DNR. In addition, nothing in these procedures affects in any way the DNR's or PCA's enforcement authorities.

(signed)
RODNEY W. SANDO
Commissioner
MN Dept. of Natural Resources

3/16/93
Date

(signed)
CHARLES W. WILLIAMS
Commissioner
MN Pollution Control Agency

3/16/93
Date