

BEFORE THE
SURFACE TRANSPORTATION BOARD

222840

STB Ex Parte 677 (Sub-No 1)

COMMON CARRIER OBLIGATION OF RAILROADS –
TRANSPORTATION OF HAZARDOUS MATERIALS

**“Rail Transport of NH₃: The Safest & Most Energy Efficient Delivery
System for Nutrients Essential to American Agriculture and Those it Serves”**

**Testimony
Of
Alex McGregor, President
The McGregor Company and
McGregor Land and Livestock**

On behalf of the 350 people of our business, and the nearly three thousand farmers we serve across the Inland Pacific Northwest, I thank you for the opportunity to discuss the importance to farm families of anhydrous ammonia, a product the Association of American Railroads would prefer to leave on the siding as its Class I members claim to be nearing full shipping capacity. I'll share with you a 'hands on' analysis from the field as to the likely impacts upon the environment, upon highway safety, upon costs of food and energy, and upon the farm economy should AAR members be given reprieves from common carrier responsibility or allowed to pick and choose what they ship indirectly through onerous surcharges and other penalties.

I'm a third generation leader of a family farm, McGregor Land and Livestock, where we have raised wheat and livestock for 126 years, since territorial days. My dad, Sherman, and another fellow clerk at our ranch general store, Cliff Rollins, brought their first ten rail cars of ammonia to the Palouse in 1952, when I was a toddler, jury rigged Graham Hoeme plows to inject NH₃ into cultivated fields—as dad put it “neither of us ever worked so hard in our lives with hours from daylight until ten or midnight almost every night.” Working with a land grant scientist they hired

who saw the potential, they pioneered application equipment, injection shanks and other locally designed technology that made NH₃ field application ever more practical. During their working careers, and ours to follow, farmers, scientists, and local businesses like ours have helped increase production two and a half fold, reduce soil erosion more than eighty percent, while producing extraordinary crops—more than a hundred bushels per acre in the most favored districts—that have met burgeoning demands for foodstuffs in Pacific Rim countries and around the world. Whitman County, Washington—where we farm—has led all counties in the United States in wheat production for a century with several neighboring counties in the top twenty nationwide.

I also serve as president of The McGregor Company, a fertilizer, crop protection, equipment and seed business that grew from those pioneer days with NH₃. Today we have offices in 43 farm communities in a two hundred mile swath across the farm belt from the Cascades to the Rockies. When the farmers we serve face tough times—they take extraordinary risks while being good stewards of the land and producing plenty for us all—I've tried hard to help. I've served as president of the Washington Association of Wheat Growers, board member of The Fertilizer Institute and as an active participant in the grassroots Agriculture Energy Alliance. It was but two years ago that farm families, for the first time since the Great Depression, paid more for a gallon of fuel than they received for a bushel of wheat. The economic consequences of this attempt by the railroad lobby to get relief from feared demands of trial lawyers should they have an accident could have devastating consequences for those farm families.

The AAR takes an interesting tack here---seeking your support in allowing them to discourage-- through surcharges-- or refuse altogether shipments of the product upon which we depend while maintaining steadfastly that they've got a strong safety record in delivering it. Their focus has been upon two toxic inhalant (TIH) products—ammonia and chlorine. AAR states that "the rail hazmat safety record is extremely favorable." During 2005, the last year for which they have complete statistics, AAR reports, "99.997% of rail hazmat shipments reached their final destination without a release caused by an accident." The rail trade group credits railroads for having "reduced hazmat accidents by 86% from 1980 through 2005" and state that "accidents involving highly hazardous materials on railroads are exceedingly rare."

Despite this stellar record, railroad representatives in 2006 tried to short circuit the ongoing efforts by agencies, rail lines, and shippers to improve car design with their own "heavier is better"

idea converting NH₃ and chlorine cars into armored carriers resembling the Civil War era ironclad vessels Monitor and Merrimac. Edward Pritchard, Director of the Office of Safety Assurance and Compliance in the Federal Railroad Administration, expressed disappointment that they'd "set aside one hundred years of successful safety collaboration" in the process. "Future advances," he admonished the AAR, "will require each of us to refocus on solving issues as a group rather than along individual or industry lines." William Schoonover, Staff Director of the Hazardous Materials Division of the Federal Railroad Administration, noted that any increase in risk comes "as a result of train operation and railroad business decisions," that it "is simply not the case" that chlorine and NH₃ pose the greatest risk—"a micro-based approach to safety and not in line with the risk-based approach implemented by Federal regulations," as he described it. He stated that "whether or not the AAR Risk Analysis convincingly argues that improvements are possible to the cars typically used for chlorine and anhydrous ammonia, it fails totally in proving any inadequacy in the present designs and their serviceability."

AAR has upped the ante by urging Congress to force manufacturers of these products to replace them with "inherently safer technology." They also tell us that they've got plenty of business, that intermodal shipments are booming, that we're small fry shippers to them, and that they'd rather not take risks with us, "exceedingly rare" though accidents might be. Let's look at the consequences for agriculture of this frenzied risk avoidance tactic.

Anhydrous ammonia is the feedstock from which other nitrogen materials are made. It is also essential in the production of phosphate and sulfur products upon which we depend. At the production plant, you've got to start with anhydrous ammonia if you're going to produce the more dilute nitrogen products favored by AAR. One producer in the Northwest, for example, brings in anhydrous ammonia by rail from the Canadian prairies to eastern Washington, where they formulate UAN and other materials. We make liquid polyphosphate and aqua ammonia in the heart of the Palouse—mixing anhydrous ammonia, phosphoric acid, and water for the former, anhydrous ammonia and water for the latter. We add four parts water to anhydrous ammonia, 82% nitrogen by volume, to make aqua ammonia, 20% nitrogen. The closer to the farm field these formulations can be made the better for the environment—it's more expensive and energy intensive to haul diluted solution great distances. But the cornerstone for us has always been the most efficient system—taking 82% strength nitrogen directly to the field.

Take away rail access and you will put under siege a domestic fertilizer manufacturing industry that suffered plant closures year after year in the late nineties and the first several years of the new millennium. We import more than half of our nitrogen already. ten years ago, we imported less than a third. I'm reminded of the bumper sticker of the Oregon Wheat Growers League "If you like imported fuel, you're going to love imported food." The more we tie our ability to produce ample foodstuffs here at home to new nitrogen production in places like Venezuela the less we control our own destiny. Allowing the railroads to refuse to ship NH_3 to nitrogen production plants is wasteful of diesel fuel and harmful to food production across our nation.

Ammonia, since its pioneer days, has been our most efficient and cost effective nitrogen product for direct field application. It requires expensive technology we're forever improving. We've been participants and leaders in what one land grant scientist describes as an "equipment technology revolution" that has contributed mightily in the battle against our worst environmental nemesis on the twenty to forty degree slopes of the interior Northwest—soil erosion. Beginning with applicators we built in our shop back when I was in grade school that allowed nitrogen to be injected into well tilled fields, we've learned through trial and error how to apply simultaneously in the root zone the three most important nutrients—nitrogen, as ammonia, liquid phosphate and liquid sulfur—to produce better yields and minimize loss of product.

Each of the names given to the big and complex ammonia machines we've built in our shop, Triple Shooter, Ripper Shooter, Straw Boss, Highlander—indicates a step forward in our ability to fertilize and prepare a seedbed in heavier residue. First we could only "clear" finely tilled ground, then we could handle forty bushel straw, then sixty, then eighty. The newest and best cost \$75,000 or more each and we have several hundred available for use by growers, ready to go when they need them. Other firms have our machines, or similar designs, as do many farmers. Reducing tillage makes a difference. Gone are the chin high ditches and dust storms so thick I remember riding with my parents as they drove down the road to the then appropriately named town of Dusty, Washington desperately searching for road markings in a sky full of dirt. Hard to imagine either the deep ditches or the brown skies these days. We've come a long way and anhydrous ammonia has been a big part of a striking environmental success story.

We've handled over a million one hundred thousand tons of anhydrous ammonia since Sherman and Cliff pioneered its use. The two store clerks mishandled the first car—"they

performed a service by ammoniating the neighbors' toothpaste" said the local newspaper editor—but the more than twelve thousand rail cars we've handled since have been handled safely by well trained people. We once brought rail cars into each farm town but fifty years of that oxymoronic term "deferred maintenance" and indifferent service by the major carriers led to many tracks being pulled. We ship more than nine hundred cars per year to regional distribution points we've developed on the remaining short lines, including those saved from dismemberment when acquired by the State of Washington. (One of the distribution sites is shown in **photo #1**) From those distribution points we have as many as 26 semis during peak seasons distributing fertilizer, particularly anhydrous ammonia, to our shops and workplaces in small farm towns. From those community workplaces, we transport ammonia and simultaneously applied products on more than a hundred and twenty semi tractor frames we've "stretched" and rebuilt—nurse trucks, we call them—to handle ammonia, phosphate and sulfur, with beefed up suspension systems and numerous safety features (see **photo #2**). Specially designed tanks, trucks, applicators and skilled people to operate them (see **photos #3-6**)—it's a multimillion dollar system fine tuned over more than half a century designed to provide best value, and best results, in the field.

The most important component is the people—dedicated, long term people intensively trained to handle anhydrous ammonia. Ours serve as EMT's and fire department leaders and they've won many honors for their efforts—the Governor's Pollution Prevention Award, for leadership in reducing soil erosion with our NH₃ technology, five national, nine regional and sixteen statewide Environmental Respect Awards, our industry standard of excellence, National Family Business of the Year, for our training and teamwork. We provide farmers skilled people—229 people on our team have hazardous materials endorsements on commercial drivers licenses. They average thirteen years of service with us and are well trained as custodians of DOT certified tanks and trucks, and they're forever bolstering their training in NH₃ handling and mentoring newcomers so they know their "stuff," too. We've not had any serious injuries unloading rail cars during my lifetime around NH₃ and our record of NH₃ safety on the road and in the farm field is stellar. We've invested aggressively—millions of dollars over the years—in taking every step we can to ensure that anhydrous ammonia and other products are secure and safe at each rural workplace.

Nitrogen manufacturers ship ammonia to us at three major rail unloading sites, in the heart of our farm belt, and on rural spurs along the State owned line, too. Allow AAR participants, through punishing shipping charges or common carrier waivers, to renege on serving us and we'd

have to get ammonia from ocean going ports in Portland or Vancouver. We'd be averaging 660 round trip miles on the highway, not our current 128. The 866,276 additional truck and trailer 'semi' miles, at 4.5 miles per gallon and \$4.65/gallon of diesel, would mean a five-fold hike in diesel used to move NH₃, an increase of \$895,151.87. Our best estimate is that we would need a peak number of more than fifty trucks and trailers and operators, not our current twenty-six. Each round trip would take 13.75 hours, up from our current 2.67. We couldn't legally make that 660 mile trip in a single day. But not counting required added overnight stays, off-duty time, loading time, scale stops, breaks, meals, or benefits, and making the assumption we could somehow get by with our current number of trucks—even with all those factors not taken in to account, our NH₃ over-the-road transport labor bill would increase from \$60,208 to \$308,360. (See note 1 for financial information based upon our actual experiences of last year and assumptions of the "brave new world" favored by AAR.)

We'd help the folks at Les Schwab Tires keep busy. We'd need forty-two additional tractor steer tires (\$410.23 each), eighty more tractor drive tires (\$324.81 each), and forty-four more drop axle tires (\$253.32 each). We'd also need one hundred four more trailer tires (\$336.69 each), not including the extra trailer drop axle tires. We'd owe our friends at Les's \$90,196.76 more for tires. Our overall increased costs to replace a safe and efficient system with a balky, unsafe one—a million and a quarter dollars per year (\$1,246,063.62). Interminable delays, an unavoidable result of stretching a distribution system to the breaking point, would be disastrous in the farm field—timely applications are essential in producing good crops. We have a good safety record for our highway transport but all agree that long distance road transport of hazardous materials isn't as safe as rail. Does it make any sense to be handicapping American agriculture in this way?

If we tried to avoid this forced march toward financial lunacy by switching to more dilute products made from anhydrous ammonia—those AAR calls 'inherently safer technology'—the consequences would be different, but severe nonetheless. Take away practical access to a product of 82% nitrogen and replace it with 20%, 32% or 46% alternative sources and our over the road semis still have to beat up our beleaguered highway system—an additional 2,656 truckloads per year, more than double our current traffic, if we had to use UAN exclusively. We'd require more trips yet with aqua ammonia, 20% nitrogen, with which injuries are more common despite the green mantle with which AAR surrounds it. Urea, a pelleted dry fertilizer, wouldn't quite double our over the road semi trips though we don't have the tools, or the expertise, to ensure its uniform placement in

the root zone on our steep hillsides. We'd have to start from scratch and abandon fifty six years of hands-on experience in the field. Supplies were tight this past spring—neither we, nor other retailers, would have been able to get our hands on enough product to serve the needs of farm families with these much higher tonnages of deliveries.

Railroads would have to find a way to deliver at least an additional fifty percent or more railcars to distribution points if we were to use these more dilute NH₃ alternatives. This would be no small feat in itself—we cannot get cars delivered on time now! Planting seasons won't wait for the railroads to deliver fertilizer. If we, and other firms like ours, could somehow afford to absorb all these extra costs and design and build application systems not yet conceived, and if railroads could vastly increase the rail fleet and get it where needed on time, there'd still be some very bad news for farm families.

Costs vary by the day but we took a look at the cost differentials for our customers in April, as we got rolling with spring work. The producers we serve at that time would have paid seventeen percent more for dry urea than for NH₃. For them to switch to UAN would have cost twenty nine percent more than ammonia. On average the cost of nitrogen to producers would have increased more than twenty-five percent to switch to another product.

We've been fortunate, as farm families, to have had prices for wheat and other crops climb in 2008. The United States Department of Agriculture earlier this year estimated that the cost to produce wheat increased 67% in the last decade—from \$3.97 per bushel to \$6.64—with 233% increases in fuel and 91% increases in fertilizer leading the way. They've escalated further since. As growers we were already wincing about high costs even before the railroad association came up with an expensive new scheme to reduce their potential liabilities. As Randy Uhrich, president of the Washington Association of Wheat Growers, says of the prospect of losing NH₃ rail shipments: "You cannot make fundamental changes to a system without experiencing shortages and high prices, especially when the system is already under stress. With record high costs we can see revenues drop below cost of production for wheat. In many areas there are no alternative crops. We cannot change to a crop that has less nitrogen inputs." Allowing railroads to stop shipping ammonia fertilizer, because of liability concerns and because they've got more profitable long distance intermodal traffic, would escalate this crisis of rising energy costs and uncertainties of timely supply.

This idea of replacing a rail distribution system which has a hazmat safety record its representatives describe as "exceedingly favorable" and that those who regulate it describe as "remarkable" is hard to understand from a public policy perspective. Replacing it directly, or by piling on surcharges, with a replacement that squanders high cost fuel, that is less safe, and that will put our food production system at risk is something hard to fathom when seen from America's farmland. I'm reminded of my major professor in history graduate school who said of the New Deal plan to boost prices by slaughtering pigs, "This must have been the act of a very civilized people, since no primitive tribe would have served its economic institutions so well and its hungry people so badly." Here the short term self interest of the railroad risk managers is slaked while farmers, and those of us who consume foodstuffs, are served badly.

Ammonia shippers have already been hammered by exponentially increasing rail shipping rates—up as much as 300 to 400 percent since the beginning of 2005. Those costs make it to the farm directly or indirectly. As Heather Hansen, of the Washington Association of Wheat Growers, puts it, "Fertilizer, specifically anhydrous ammonia, is an essential ingredient in wheat production. Rail is the safest method of transporting this substance. In recent years, railroads have developed a dislike for hauling anhydrous ammonia. They often impose surcharges or other restrictions. Delayed shipments have also been an issue. These costs are passed along to the growers. Rather than working with industry to find a workable solution, the railroads have been obstructionist. As common carriers, we believe they should treat all freight alike." In testimony before the STB earlier this year, Scott Witt from Washington DOT raised similar concerns. David Cleavinger, president of the National Association of Wheat Growers, states "anhydrous ammonia is a vital and essential plant nutrient that is critical to the production of wheat and other staples of our nation's food supply." He goes on to state emphatically "rail is simply the only truly effective way to get this essential input to farmers."

The Agricultural Retailers Association fears "the railroad industry's efforts to arbitrarily change tariffs, imposing excessive fuel surcharges, favoring unit trains and creating cost barriers will stop shipments of critical agricultural fertilizer products, such as anhydrous ammonia." Class I's have made no secret that they'd be happy to be rid of NH₃. All of this at a time when frustration with rail service has been growing across our agricultural heartlands. Jackie Tee, general manager of an agricultural cooperative in Rosalia, Washington this spring wrote a representative of the Class

I railroad that serves one of her company's elevators. She had received news of a 26% surcharge, over and above fuel surcharges, for shipments on the rural line. She asked for alternatives, perhaps a break if they shipped larger numbers of cars at a time, some relief from a "very detrimental" increase that would "just chase away customers," some alternative but to go with cheaper freight options. "It will be a sad day," she wrote, when the railroad "decides to abandon the line because nobody is shipping on it anymore." "Maybe your team has some ideas for us that will be mutually beneficial," she hoped. Four months later, no response. The president of the National Association of State Departments of Agriculture came to the Capitol to share similar concerns this spring. "Lack of competition among the railroads has resulted in unreasonably high rates and unreliable service for agriculture producers."

Meanwhile we read of growing concerns here about the high cost of energy and of foodstuffs. The Senate Committee on Homeland Security and Government Affairs and the House Committee on Agriculture, and the House Committee on Small Business have conducted hearings over rising food and energy prices. Senators Kent Conrad and Saxby Chambliss recently called for a summit bringing together experts on energy policy.

Let's be realistic. None of us can plausibly make a case for changing a system that works with a costly, cumbersome and wasteful one that doesn't. We do understand that, though rail hazmat accidents are very rare, the consequences of railcars leaving the track can be serious. We in agriculture cannot manage railroad maintenance or prevent two trains from running into each other. We believe the public will be well served if the railroads focus full attention upon doing everything possible to keep rail tank cars safely on the tracks. According to the National Transportation Safety Board, the two most recent accidents, in Minot, N.D. and Graniteville, S.C., were both "the result of railroad operational and infrastructure failures."

With railroads working to enhance their record for hazmat safety, and those of us on the road and in the field maintaining our own records for excellence and stewardship, there remains the issue that underlies tank car modifications, egregious tariffs, and common carrier waiver requests—concerns about potential liability if an accident occurs. It is time for all of us—manufacturers, railroads, retailers, agencies and legislators—to take this on and to stop nibbling around the edges with draconian "solutions."

Kudos to The Fertilizer Institute for taking a major constructive step forward by offering, on behalf of shippers, to purchase \$1 billion in "excess" umbrella insurance, and to propose legislative action to cap overall liability, in exchange for putting a governor on rapidly surging rail shipping charges. AAR attorneys had antitrust concerns though it is hard to imagine complaints about capping freight costs. I am encouraged that AAR didn't slam the door and that TFI has been continuing the dialogue. It has been positive that all seven Class I railroads have agreed to meet with TFI and that the meetings have been productive. For all of us who care about affordable foodstuffs, and the farm families who produce them, it is high time to get beyond sparring and to work together to ensure safe and affordable delivery of plant food.

We hope you will encourage the process of addressing liability insurance initiated by TFI. The Price-Anderson Act, geared for the nuclear fuel industry, for which no insurance was available, isn't likely to be a good fit. Shippers and rail lines working together to address the issue is preferable. Severe and unrealistic proposals, as we've seen brought forward recently by AAR, are no answer. Neither is allowing the issue to drift with ever increasing surcharges and impediments. Please be careful of these back door approaches to eliminating service. We urge you to be unwavering in maintaining common carrier responsibilities for transporting hazardous materials and in encouraging good faith efforts to pursue the initiative now on the table.

Anhydrous ammonia is much more than a product to be moved down the road or the rail. As stated in the Scientific American ("Dining on Ammonia," August 1999) anhydrous ammonia "provides the proteins today for a billion humans at least" and a meat supply for half a billion more, via livestock feed. Anhydrous ammonia is an engine of productivity, directly and as a feedstock, that makes possible forty percent of the harvests of wheat, corn, and other crops that help keep the Class I rail lines busy. Anhydrous ammonia helps produce a large portion of the 14,800 carloads of corn soon to be shipped annually from the Midwest on Class I rails to two new ethanol plants in the Pacific Northwest. Pile on surcharges on needed nutrients and the already high cost of corn will become an impossible burden for these new facilities. Allow the railroad association to quit shipping NH₃ and their members will have less grain to haul. As my grandpa used to say back in pioneer days, "There is no such thing as a free lunch."

If ammonia is an engine of productivity, we retailers are the firemen and farm families are the engineers. Ours is not a large business in these days of national and international corporations.

But payroll and benefits for 350 long-term employees help stoke the coals of the local economies in the more than three dozen farm towns we serve. As retailers, those in the supply chain closest to the field, we've tried our best to help growers avoid the full brunt of energy hyperinflation. Following the advice of pioneer settlers—measuring twice and cutting once—would seem appropriate when our firm, and thousands like it across our heartland, have shown that we can handle ammonia safely and responsibly year after year.

Most important are the engineers of this productivity train, the farm families who manage 97% of our farmland. For thirty years people in this last bastion of family business persevered as food prices in real dollars fell 75% between 1975 and 2005. Only a surge in commodity demand has, so far, helped them get back on their feet despite skyrocketing energy costs. It's not pure happenstance that families—with a cast iron hope for better days ahead and a pride in doing important work and a love for the land—dominate the agricultural landscape. Returns are too erratic, often less than could be received for entry level work in a city job, and the risks are too great to interest absentee shareholders. Before allowing railroads to scuttle a system that works, for their own self-serving reasons, please consider carefully the consequences of handicapping farm families who've just begun to get back on their feet after the worst economic crisis of our lifetimes. We lost way too many farm families in the last few years—four or five in each of the dozens of farm towns we serve—to tolerate wasting diesel, wasting time, compromising safety and the environment and hurting farm families along the way as well.

The AAR reports that railroads in recent years "have seen financial results that are much better than their historical norm" though claiming that other industries do better. Publicly traded fertilizer manufacturing businesses have done well, too, during the recent upsurge in the agricultural economy after a preceding series of tough years. Growers are facing unprecedented high costs for fuel, fertilizer, seed and other inputs. As a grower, as a retailer, I urge railroads to follow the lead of nitrogen manufacturers and to reach a consensus on this vital matter. We've made our living for fifty-six years handling anhydrous ammonia responsibly, doing essential maintenance and training good people. We are fully responsible for our own actions and bear the potential liability should we fall short in our stewardship. Railroads handle many products that are flammable, corrosive or pose some potential risk. If you feel you must have some way to limit risk with this one, beyond good management and maintenance, then follow through on the initiative brought forward by TFI. I urge fertilizer manufacturers not to let this initiative die on the vine, either. Agriculture is a long term

business, we farmers have notoriously long memories, particularly when something “sticks in our craw,” and the farm economy is fragile and vulnerable to downturns. Sort this out and let’s get on with the real world and out of an Alice in Wonderland boardroom scheme where it becomes logical somehow to dump a safe transportation system while opening the floodgates to higher priced energy on the farm and higher priced foodstuffs in the supermarket.

I’m reminded of Nobel Prize winning plant breeder Norman Borlaug, sharp and focused as ever though now in his nineties, warning us that “if we as Americans let misconceptions, not science and good judgment, dictate the future of agriculture we will be guilty of displaying a diminished gene frequency for common sense.” Define “homeland security” any way you see fit—part of the equation must be producing a bounty of home-grown food that meets exacting regulatory standards, that protects the environment by using nutrients wisely and energy economically, allowing us to successfully feed fellow Americans and people around the globe.

Please, acting on behalf of all of us who produce, and consume, foodstuffs, please don’t let our efficient production system get overburdened with tariffs, prohibitively heavy ironclads for transport, or by letting our friends at AAR take the easy way out and avoid transporting essential nutrients so vital to our nation and the world. Scuttling, rather than improving, a safe and efficient system or glibly tossing around ideas about “safer technology” unencumbered with any working knowledge of them doesn’t make sense out in the real world of production agriculture. It’s so much more complicated than that. As former President Dwight Eisenhower once put it: “Farming looks mighty simple when your plow is a pencil and you’re a thousand miles from the corn field.” We are all for safety—and we have demonstrated our excellent record at our branches, on the road to the field, and on the farm. Please don’t handicap our efforts by letting any of us take the easy way out without consideration of the consequences for the remarkable people who are American agriculture.

Respectfully,

A handwritten signature in cursive script, appearing to read "Alex McGregor".

Alex McGregor

Photo # 1. Regional Ammonia rail unloading with "over the road" semi truck near filling station Central Ferry, Washington

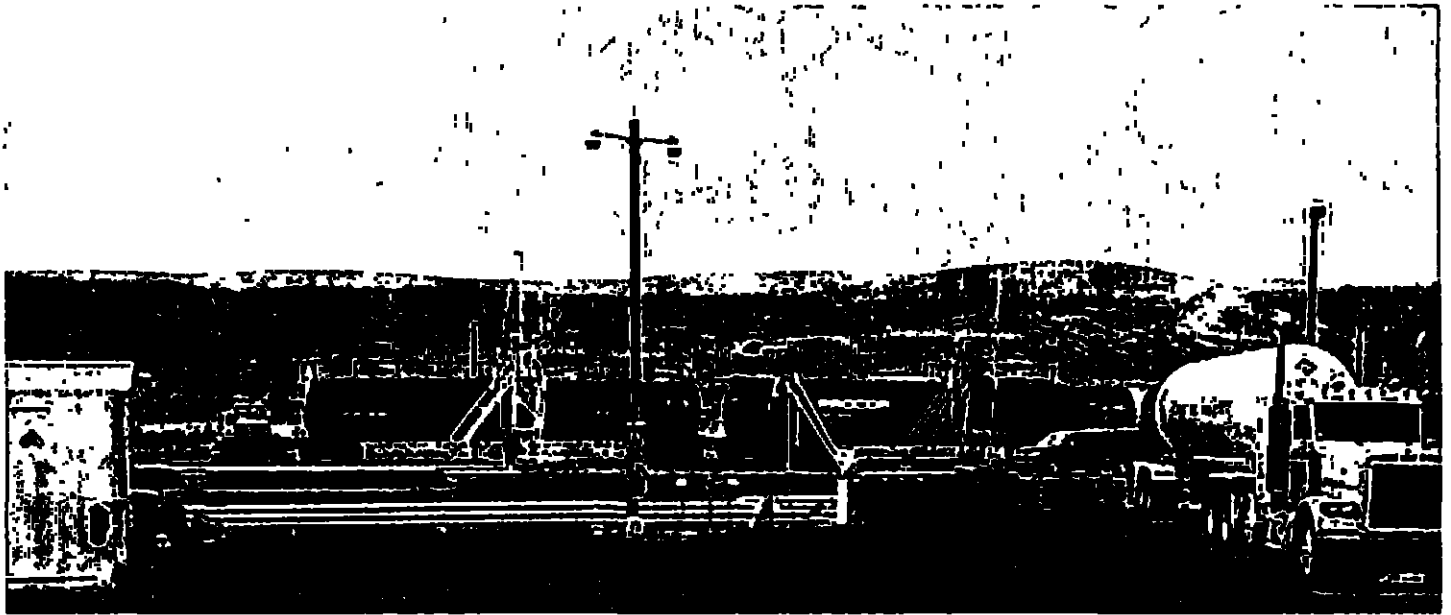


Photo # 2. Fleet of specially designed local ammonia delivery units for local hauls Total miles per year, each truck 5,000 or less Oakesdale, Washington



Photo #3 Local ammonia delivery truck with specially designed ammonia applicator in tow
Thornton, Washington



Photo #4. Specially trained service technician unloading NH₃ into field applicator



Photo #5 Specially designed applicator with power unit, to fertilize undisturbed crop residue. This ammonia delivery system helps significantly in the battle against soil erosion on the steeply sloped hills



Photo #6. Specially designed ammonia applicator and tractor on the slopes of the Palouse



The McGregor Company

2007 NH3 Information/Railcar (with existing local Rail Service)			
1,631 4.5	NH3 Loads Hauled MPG	105,092 Loaded NH3 Miles 210,184 Round Trip NH3 Miles	\$4.65 per gal of Diesel 48 MPH
(2007 Volume with no rail NH3) (Using Portland to Colfax)			
1,631 4.5	NH3 Loads Hauled MPG	538,230 Loaded NH3 Miles 1,076,460 Round Trip NH3 Miles	\$4.65 per gal of Diesel 48 MPH
		Increased Truck Miles/Year = 866,276	+412.20%

<u>Fuel, Tires & Service</u>	Increased Fuel Bill	Increased Tire Bill	Increased Service Bill	
Round Trip Miles (Local Rail) Fuel: \$217,190.13	} +\$895,151.87	Tires \$ 19,920.10	} +\$90,196.76	} +\$12,563.01
Round Trip Miles (w/ no rail NH3) Fuel: \$ 1,113,342.00		Tires: \$110,109.78		

Hours

Round Trip Hours (Local Rail) 4378.8	} +18,047 Hours	Driving Hours x \$13.75 = \$60,208.96 (basic payroll)	} (excluding benefits) +\$248,151.98
Round Trip Hours (w/ no rail NH3) 22,426.3		Driving Hours x \$13.75 = \$308,360.94 (basic payroll)	

(Excluding loading time, scales, brakes, meals, etc)

Round Trip Miles (Local Rail)	
<u>128</u>	2.67 Driving Hours
48 MPH	

Round Trip Miles (with no Rail NH3)	
<u>660</u>	13.75 Driving Hours
48 MPH	

Increased Cost No Rail NH3 (Using Portland to Colfax)	
Fuel	\$895,151.87
Tires	\$ 90,196.76
Service	\$ 12,563.01
Labor	<u>\$248,151.98</u>
	\$1,246,063.62