

**MT. MCKINLEY
MEAT & SAUSAGE COMPANY
REVIEW AND
RECOMMENDATIONS
FINAL REPORT**

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**MOUNT MCKINLEY MEAT AND SAUSAGE SLAUGHTERHOUSE AND
PROCESSING PLANT**

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Mt. McKinley Meat & Sausage Company Review & Recommendations

Team

The Business Planning Team is led by John Torgerson, Acting Director for the Division of Agriculture and includes:

Marian Romano-Development Specialist

Melanie Trost-Development Specialist

Ed Arobio-Natural Resource Manager

Dennis Wheeler-Attorney

The Team is tasked with the investigation of a number of agricultural related issues including:

Mount McKinley Meat and Sausage Plant

Vegetable Processing Center Feasibility

Farmers Market Development

Alaska Wild

Large Hog Growing Operation

Seed Grower Assistance

Mariculture

Reindeer Market

Methanol Production

The Team used data currently available from staff and stakeholders and research previously completed. Some primary research was conducted. This Team analyzed all the available data and made recommendations to the Director for each issue addressed.

Mt McKinley Meat and Sausage Company

Historical Perspective

The Mt McKinley Meat and Sausage Company (MMMS) was originally constructed as part of an ambitious plan to radically expand agriculture through state supported infrastructure development in the late 70's and early 80's. It was financed with \$2 million of Agricultural Revolving Loan Fund (ARLF) monies in 1983 and then further financed with private funds of \$1.2 million, to support cashflow.

A combination of factors, including an economic downturn predicated by reduced oil prices, a precipitous drop in grain prices, and a change of administration brought about the abandonment of the concept of agricultural infrastructure expansion. Many projects were abandoned, such as the grain elevator in Seward and the slaughterhouse facility in Fairbanks. Dairy farms went into foreclosure, as did the MMMS. The ARLF, in second position to the private lender, purchased the asset in a foreclosure sale in 1985.

The plant remained closed for several months, then was reopened in 1987 in conjunction with Department of Corrections (DOC), Alaska Correctional Industries (ACI) as a training and rehabilitation facility. The plant has operated under this scenario since then, with the original intention to transition it into private hands. Several attempts to lease the facility have been unsuccessful.

Over time, in an effort to reach breakeven status, the plant has regained its USDA inspection status, added custom cut and wrap services, counted on the settlement of Mental Health Trust lands to increase livestock production, began selling to institutions, purchased boxed meats to augment those sales, and intervened to prevent private sellers from selling products at distressed rates that undercut MMMS prices to institutions. Each of these action steps was intended to be the solution to the problem of operating losses; none were.

The MMMS has traditionally not met its operating expenses, not including DOC and ACI staff, until FY 2003. In FY 2003 and 2004, as the result of budget cuts, the Commissioner of DOC asked the Director of Agriculture to reimburse the cost of ACI and DOC staff as well as operating shortfalls. As a result of these new costs to the shrinking ARLF, from which monies come to support both the Division of Agriculture and MMMS, the Director has decided to look at alternative operating options for the plant.

As a result of this quest for other options, the following information has been gathered in order to have accurate, current data upon which to base future decisions.

A look back at various public hearings and Board of Agriculture meetings finds a series of common solutions that come to the forefront at each meeting. Recurring and persistent recommendations for success of the MMMS plant have been:

- Increased hog production
- A co-op to operate the facility
- A private person to operate the facility
- Diversification of the plant

An Increase in Hog Production

Although hog production has seen increases, they have been short-lived with a significant increase followed by a similar sized decrease, as a farmer leaves the industry. Then, after a few years, another producer tries his hand at hog production, increasing the numbers again for a period of time. A projected increase is currently on the horizon for 2004 and 2005. Unfortunately, these up and down spikes have not stabilized and have not provided the numbers necessary to support the operating expenses at MMMS.

Cooperative Development

The development of a co-op, which would take over operations of the plant, has been seen as an excellent solution to the problems at MMMS. In 1999 a co-op of Alaskan livestock producers was formed and the group developed and presented a proposal to the Division of Agriculture. This proposal included a five-year marketing program that would develop the market for Alaskan Grown meats and sell products currently

produced. At the end of year four the co-op would take control of the plant and continue selling and marketing products. The plan required a loan for operating capital and start up funds. The proposal did not meet the requirements of the Division and was rejected.

Privatize

Two separate attempts to place the MMMS in private hands have been made. The most recent attempt, in 2002, presented a lease with an option to purchase. The following is a summary of that effort.

2002 Request for Proposal (RFP)

A proposal to lease and operate the MMMS plant for \$1.00 per year was released in October 2002. The intent of this proposal was to pass the plant into private hands and out of state control. This proposal required the lessee to continue operations at the plant at not less than the current level of service. It required the lessee to slaughter all domestic Alaskan animals presented and to purchase said animals at prices currently established. The term of lease was for five years with option to purchase at the end of the lease.

Nine individuals expressed an interest in the RFP, but no proposals were submitted. Attempts were made to contact all individuals who expressed an interest in the 2002 proposal. Of those contacted two reported they had only a general interest in the project, but no intention of pursuing the issue. One local sausage maker was still interested but did not have the capital to fund the start up. One individual from California expressed a continuing interest in the plant. He cited the kill floor requirement as too great a financial burden, limited Alaskan livestock available, and limited skilled labor available as reasons for his lack of interest in responding to the RFP. He has made several trips to Alaska and is still interested in receiving any updated material related to the facility including photographs and documentation. Another local processor expressed continued interest in the MMMS, but felt the RFP lacked sufficient dependable data from which to create a proposal.

Diversification

Although the MMMS plant has implemented every diversification scheme presented to it, none has brought the increases necessary to bring the facility into the black. Diversification has, however, increased the cashflow and the gross profits available to the plant to pay for operating expenses. In FY02 and FY03, MMMS met and surpassed its operating expenses, showing a net profit, before DOC/ACI wages, for the first time in its history.

Current Situation

Although MMMS was designed to be able to kill 100 hogs per day or 50 head of cattle, it cannot reach that capacity due to design flaws in the original building. Historical usage data indicates a decrease in utilization since 1994. No data is available for the years 1995-1999.

Table 1.

Mt McKinley Meat Plant Animal Kill Numbers					
Year	Beef	Hogs	Sheep	Other	Total
1988	1243	124	0	0	1357
1989	1303	382	41	7	1733
1990	1177	375	65	276	1893
1991	887	960	94	166	2107
1992	986	1477	73	17	2553
1993	649	1500	57	31	2237
1994	659	1718	84	36	2497
2001	599	507	116	64	1286
2002	558	746	56	78	1438
2003	731	777	72	35	1615

The kill numbers for the plant in 2003 is:

- Cattle – 731 (15.23 per week)
- Hogs – 777 (16.19 per week)
- Other – 107 (2.23 per week)
 - Sheep – 72
 - Goats – 28
 - Buffalo – 1
 - Reindeer – 6

The 1615 animals slaughtered per year averages 33.65 per week, representing 852,000 pounds of live weight and 470,909 pounds of dressed carcass weight. The number of users in 03 was 135, however there have been 438 different users over a three-year period.

Looking at a combined capacity rate of 50 head of cattle per day and 100 hogs per day equals a 75 head per day capacity. Using a 48-week calendar and a 5-day a week kill schedule (240 days), capacity is 18,000 animals across the kill floor. Current kill floor utilization is at 9% of capacity.

Based on statistics¹ and MMMS kill report data, 20% of all beef and hog carcass weight in the state passes through MMMS. Statistics are gathered through voluntary completion of assessments mailed by the U.S. Department of Agriculture (USDA). For cattle, 130 assessments were mailed and 108 were returned, approximately 83%. Of those returned, only 65 addressed slaughter questions. The Agricultural Statistician reports that data is interpreted, compared to data received from slaughterhouses and projections of reasonable estimates are made reflecting total pounds of carcass weight produced in the state. Due to the less than exact nature of the data, the rate of 20% of all livestock killed going through MMMS is deemed an estimate. There is no other kill floor in the Mat-Su area and Mat-Su/Anchorage farmers are the primary users. In FY03, forty-four users came from the Delta area, seventeen from Kenai and thirteen from other areas around the state or were out-of-state users. The out-of-state user was Alaska Racing Pigs, an entertainment venue at the Alaska State Fair. (Appendix A)

With a utilization rate of 9%, the possibility of having the kill floor break even nears impossibility. The expectation that hog production will grow quickly enough to increase the utilization rate to breakeven are unrealistic based on historical evidence. (Appendix B) Growth of the hog industry, based on Alaska Agricultural Statistics, has been 2.3% per year for the last decade. Based on current growth rates and percentage of animals slaughtered at MMMS, production will be adequate to reach profitability in 3010. Although there is an expected increase in hog production in 2004 and 2005, current production is only 55% of the average production in the mid to late 90's. Closure of a large hog production facility precipitated the decline in hog production after 1999 and the expansion of three smaller facilities is expected to support the current projected increase. A look at historical data from 1960-2001 shows increases in hog production in 1984 and 1991-1999. These increases and decreases correspond to the opening and closing of large hog facilities.

Growth in the cattle industry is significantly different from the hog industry as it indicates a decline during the past decade. Over a forty-year period there has been slow growth with occasional spikes due to non-continuous events, such as the importation of very low cost cattle from Canada in the late 1990's. Change in the average pounds of dressed weight production of cattle in the 90's compared to that in the 80's shows a 13% decline. Dairy cattle are not separated from other cattle in this number.

Of the 1615 animals slaughtered at MMMS, 929 were purchased by the facility for resale and 686 were custom slaughtered and shipped out as hanging sides or cut and wrapped for customers.

The facility has had gross revenues of about \$1.4 million, consistently, for the past four years. Of these gross dollars, 2/3 are sales to institutions such as DOC, API, McLaughlin Youth Center and Military and Veteran groups. One-third of sales is to wholesale customers in the private sector. MMMS purchases about 2/3 of its inventory from local wholesalers in the form of boxed meats. Boxed meats are cuts of meat in sub-primal form, and shipped from the Lower 48. About 1/3 of inventory purchased is Alaskan

¹ Alaska Agricultural Statistics 2002, USDA

grown animals including beef, hogs, sheep, goats, bison and reindeer. This inventory purchase provided Alaskan farmers with \$281,075.80 in FY03.

Animals are weighed and purchased live. After slaughter, prices are adjusted according to yield weight. The price paid is based on current South St. Paul prices, plus \$0.10 per pound for shipping differential. The kill floor operates 2-3 days per week; processing occurs daily.

The following chart identifies the type and number of animals killed and purchased in FY03, the price paid per animal (average), and the total dollars in animal receipts per animal type.

Table 2.

Average Annual Dollars in Animal Receipts			
Type	Number	Cost	Total Cost
Calf	113	\$50	\$5,650
Dairy Cow	125	\$440	\$55,000
Dairy Cow	118	\$520	\$61,360
Graded Beef 20% (meat cuts)	22	\$750	\$16,500
Graded Beef 80% (hanging sides)	86	\$810	\$69,660
Bull Beef	37	\$600	\$22,200
BBQ Pig	338	\$90	\$30,420
Butcher Hogs	10	\$123	\$1,235
Sows	58	\$172	\$9,976
Boars	3	\$269	\$807
Goats	13	\$42	\$546
Sheep	6	\$37	\$222
		Total	\$273,576

Although the gross margin for Alaskan livestock is about 26%, the average gross margin for the MMMS plant over ten years is only 22%. This is due to the fact that the margin for box meats is only 20%. The combined rates weighted twice as heavy for boxed meats, bring the total average down. A significant increase in Alaska livestock, with less emphasis on cull cows would have a positive pressure on the gross margin, but the sheer volume of boxed meats, with their consistency and available market, generate twice as many gross dollars which can be used to offset operating expenses.

There are nine (9) operating dairies in the state, three (3) in the Interior and six (6) in the Mat-Su area. These nine dairies supplied 243 cull dairy cows and 113 cull calves to the slaughterhouse in FY03. The closure of Hamilton Farms provided 134 of the animals in 03. Cull cows and calves purchased by MMMS are primarily used for hamburger although some cuts from heavier cows can be sold at higher prices. Calves under 100 pounds provide hamburger only since the market for veal is very small and the calves are

not raised in a way that would earn the designation of true veal. Due to the limited wholesale/institutional market available to MMMS, cull cows are often purchased for more than they return in hamburger prices. This is always true for calves under 100 pounds. Additionally, calf hides are not salvageable under current circumstances, providing less opportunity to offset expenses.

Bull beef and graded beef amounted to 145 of the animals purchased by MMMS for resale. This category of animal tends to provide a small gross margin for MMMS with bull beef the lowest and graded beef significantly higher. Production Managers at the MMMS report that they have excellent markets for high quality beef. (Appendix C)

Hogs, including cull sows and boars, butcher hogs and Bar-B-Que pigs all provide a higher sale price than cost, although, it is not significant for any animal except Bar-B-Que pigs. MMMS has developed a market for each one of the 338 Bar-B-Que pigs it purchased in FY03 and resells these items at a retail price, providing a substantial return.

Table 3.

Percent of Gross Margin per Species				
Type	Number	Yield Per Animal (Lbs.)	Total Yield (Lbs.)	Gross Margin
Calf	113	20	2,260	-61%
Dairy Cow skinny	125	283	35,375	20%
Dairy Cow	118	380	44,840	28%
Graded Beef 20% (meat cuts)	22	437	9,614	24%
Graded Beef 80% (hanging sides)	86	620	53,320	29%
BBQ Pig	338	80	27,040	50%
Butcher Hogs	10	175	1,750	66%
Sows	58	192	11,136	44%
Boars ***	3	360	1,080	55%
Goats	13	46	598	69%
Sheep**	6	30	180	25%
Bull Beef****	37	361	13,357	-7%
Weighted average of all Alaskan Species				28%

Heads, tails, blood, hides, skin, bones, fat, trim, and other parts are sold to various market sectors in order to recoup the maximum dollars from each animal.

Products sold to the private sector are picked up at the plant, delivered locally by the Production Managers or shipped by local carrier to the Anchorage, Seward, Kenai and Fairbanks area. Bypass mail is used for shipments to Nome and Bethel correctional facilities.

Three Production Managers and 20-25 inmates, overseen by two Correctional Officers operate the facility. A Production Manager transports inmates at the Palmer Correctional

Center to and from the meat plant in a rented bus. Travel time of two hours is added to the eight-hour workday, thereby creating overtime for inmates. Correctional Officers begin their day at the plant. Inmates are paid at a starting rate of \$0.80 per hour and increase slowly over time. Estimated average hourly rate for MMMS inmates is \$1.10 per hour. Turn over of inmates is an unchangeable reality for MMMS operations that forces continual education on entry-level skills, procedures and sanitation. Losses of useable meat cuts and lack of speed due to low skill levels negate any gains achieved from low wages. Additionally, inmate labor at \$76,720 and Correctional Officer costs at \$131,869 represent a combined cost of labor of \$208,589, which could translate into 4-5 skilled meat cutters.

Plant inefficiencies due to excess capacity and the lack of skill and/or motivation of inmates preclude the possibility of operating efficiently in spite of efforts expended by the Production Managers. For example, MEA reports electricity usage at MMMS is one of the most efficient in the area, incurring costs of only \$0.08 per Kilowatt-hour, well below the local industrial average. These savings are directly related to management practices implemented by the Production Managers. Although the smokehouse is only activated at 75% of capacity, or more, the cost of operation is still high, since the equipment is powered by electricity and not natural gas, which is far less expensive. The large (2,400 square feet) processing room is kept at a refrigerated 40° F to facilitate the safe handling of meats. The processing floor, even with twice as many pounds of boxed meats as local meat, still only uses about 27% of capacity. This inefficiency cannot be erased by anything other than volume increases.

The kill floor, which operates at 9% of capacity, requires a large air compressor that can power all equipment necessary at 100% capacity. The compressor cannot be throttled down, thereby saving electricity, even though much of the excess capacity is wasted. These are examples of the kinds of inefficiencies that cannot be managed away at the facility.

Vehicles

The following vehicles are currently located at the MMMS plant:

- Box Truck-used occasionally for deliveries
- Dump Truck-used for hauling to the landfill
- Blood Tractor-to deposit blood on farm fields
- Blue Van-used for deliveries and many other errands including transport of inmates
- Gray Pick Up-diesel
- Bob Cat
- John Deere Tractor
- Forklifts
 - One for parts
 - One runs
 - One has two wheels

A Production Manager stated that most of the equipment was old and some of it was very costly to maintain, particularly the gray pick up, the bob cat, the forklifts and the blue

van. He emphasized that they needed one running forklift and kept three to insure they would always have one functional.

Financial review

To fully understand the operations of the MMMS plant, it was necessary to observe operations, meet with Production Managers and read historical data. Original financial data was received in QuickBooks format. This was available for three years, 2001- 2003. Various other years were also available from files, including years 1993, 1994 and part of 1995. Other information was available on years 1988-1994 related to number of animals killed and purchased by MMMS. The financial data available was difficult to interpret since the reporting categories were inconsistent from year to year, making comparisons impossible.

An auditor for ACI directed the team to AKSAS, the Alaska State Accounting System. Although this system did identify many more specific vendors it was not enough to untangle the stream of income produced by Alaskan livestock versus Outside purchases. In order to identify the actual dollars generated by Alaskan livestock sales the team returned to itemized entry records kept at the MMMS QuickBooks terminal. This material was not complete but did provide better detail on individual customer purchases. The team members worked with the Production Managers to uncover, animal by animal, the costs, yields, returns and disposition of all Alaskan livestock.

The ability to separate and identify the actual mark up and margin of various products allows potential operators to make realistic projections and valid offers to the State in future proposals. It also allows the Division of Agriculture to understand the role of the MMMS in the livestock industry and the products that create revenue and those that do not. This report attempts to provide accurate data upon which critical decisions can be made.

Findings of the data include:

- Gross margins of 22%, fairly consistently over 10 years
- Gross margins on box meats are significantly lower than on Alaska meats but represent twice as many pounds/dollars of product handled
- Net profit/losses have been erratic and appear to be predicated on factors other than gross sales
- DOC/ACI staff has increased over time
- Purchases of box meats has increased
- Number of animals killed at MMMS has declined since 1990
- Gross sales have been at approximately \$1.4 million for four years
- Net operating profits were achieved in years FY02 and FY03, not including DOO/ACI labor
- Utility expense has been between \$60,000 and \$70,000 per year, over the past ten years

- Inmate labor has declined from a high of \$90,000 to a low of \$71,000 over the last four years, with FY03 at \$77,000
- Total operating expenses have declined steadily over the past four years
- Long distance telephone charges have dropped from \$4,000-\$5,000 per year to \$2,400 per year

The services of an electrical engineer, employed at Matanuska Electric Association, were generously provided to the team to determine the usage of various electrical units. From these determinations it will be possible to estimate the cost savings from closing portions of the plant, if that is determined to be the best solution.

Finding efficiencies

One of the tasks of this team was to find operating efficiencies that could be implemented to reduce the impact to the ARLF. After reviewing all data available the following recommendations are identified:

- Reduce or eliminate Correctional Officers' (CO) presence at the meat plant
- If numbers are reduced, have CO begin day at prison and transport inmates, eliminating overtime for inmates and Production Managers and free Production Managers to begin workday earlier -or-
- Reduce number of inmates transported to MMMS, eliminating bus rental and have DOC use its internal transport system to move prisoners
- Increase kill price to meet statewide average
- Discontinue purchase of cull calves of 100 pounds or less
- Operate facility 4 days per week for 10 hours per day, reducing overtime and utility charges
- Have meals prepared at prison and sent with inmates instead of food purchase and meal preparation at facility
- Laundry done at prison instead of onsite

Other Alaskan Slaughterhouses

Willard Farms

Bruce Willard, of Willard Farms in Homer, Alaska, began raising cattle commercially in 1959. He works as a rancher and as a big game guide/outfitter. Willard previously owned a slaughterhouse in Homer and a ranch in Sitkinak Island but has sold both properties. He now leases the slaughter facility from the man to whom he sold it. The facility was USDA inspected for a period of about 7 years in the 1980's. Each year, Willard slaughters up to 80 of his 250 head of cattle. In an 8-hour day, he and an assistant can butcher approximately 10 head of cattle to hanging halves.

Willard Farms, Homer, Alaska. Bruce Willard, owner/operator, personal interview 9/29/03.

Nuniwarmiut Reindeer and Seafood Processing

Nuniwarmiut Reindeer and Seafood Processing (NRSP), formerly known as Bering Sea Reindeer Products Company, is located in Mekoryuk, Nunivak Island. The Bureau of Indian Affairs (BIA) managed reindeer operations on the island beginning in 1940. The original slaughter facility, built in the 1945, was destroyed by fire in the early 1970's. Construction of a new ~8,900 ft² facility took place in the late 1980's or early 1990's, after a delay of several years due to the lack of sufficient funds to complete the project. In 1990, the Bureau of Indian Affairs (BIA) turned the reindeer operations over to the Mekoryuk native tribal council, the Indian Reorganization Act council. The village corporation's Reindeer Committee is a board that makes recommendations to NRSP but does not have control over operations. The Nunivak herd is composed of about 4,000 reindeer. The USDA inspected slaughter facility operates for approximately 2½ months each year during winter. NRSP slaughtered 1,651 reindeer last year. Snowmobiles are used in winter to herd the animals from around the island to Mekoryuk. The southern half of Nunivak is a designated Wilderness area, which presents challenges in summertime herding, since use of motorized recreational vehicles is forbidden within the Wilderness area without adequate snow cover. Helicopter herding is cost prohibitive; NRSP intends to expand operations to a year-round schedule if herding on foot is feasible. The company has relatively low operating costs in some areas, while the highest costs are to operate the freezer and purchase shipping materials. The price for freight to Nunivak can be twice the cost of the supplies being delivered. Long-term plans for NRSP include processing value-added products.

Nuniwarmiut Reindeer and Seafood Processing, Mekoryuk, Nunivak Island, Alaska.
Steven Andrew, Assistant Manager, telephone interview, 10/6/2003.

Nuniwarmiut Reindeer and Seafood Processing, Mekoryuk, Nunivak Island, Alaska. Job
Weston, General Manager, telephone interview, 10/24/2003.

Additional information sources:

Associated Press. Alaska Hopes To Increase Demand For Reindeer Meat. 10/7/2003.
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10/20/2003. <http://www.nunivak.org/articles/horner_herding.html>.

Kiokun, Marvin. The Tradition of the Nunivak Island Reindeer Herders. 9/24/2003.
<http://www.nunivak.org/narrative/mkiokun_herding.html>.

B-Y Farms

B-Y Farms, in Fairbanks, Alaska is owned and operated by Robert Franklin. The facility offers custom-exempt slaughter and processing services. Operations continue throughout the year, with extended hours in the fall for game processing and a slow period during winter. At the completion of new construction, the total facility area will be 3500 ft². Slaughter fees are \$50 for cattle and large hogs and \$35 for smaller animals. Cut and wrap rates are 50¢/lb. for domestic livestock that is slaughtered onsite and 75¢/lb. for animals that are field dressed and brought to the facility for processing. Last year, the company slaughtered 50 cattle, 250 pigs, 30 goats, 20 sheep, 6 elk, 4 yaks and numerous game animals. B-Y farms could handle increased slaughter and cut and wrap business if greater demand for these services develops. State of Alaska DEC inspection covers processing. Bob Franklin and son Brett Franklin are working to gain USDA inspection for slaughter. Bob states that with such inspection, he could likely handle 3 times the number of animals he is currently slaughtering, including purchase of cull animals. B-Y farms imports 300 head of hog from Canada each year, but would prefer to market Alaska grown animals when they are available.

B-Y Farms, Fairbanks, Alaska. Robert Franklin, owner/operator, telephone interview, 10/13/2003.

B-Y Farms, Fairbanks, Alaska. Brett Franklin, son of Bob Franklin, telephone interview, 10/24/2003.

Additional information sources:

Mowry, Tim. Butcher Prefers T-bones to Moose Steaks. 10/3/2003.

http://www.adn.com/alaska_ap/v-printer/story/4019465p-4040570c.html

Phil's Fish and Game

Phil's Fish and Game in Kenny Lake offers slaughter and processing services. Slaughter fees are \$50 for cattle and \$45 for pigs. He performs custom kill but does not purchase animals. Cut and wrap prices are 50¢/lb., and Roe also offers value-added processing products including smoked bacon, hams, beef sticks, sausage, and hot dogs. Roe slaughtered and processed over 200 pigs, 40 cattle, and processed numerous game animals this year; he is also willing to take in reindeer, goats, sheep, buffalo, and elk. Phil's Fish and Game is open by appointment. The facility consists of a 2-story 20ft x 40ft building with an 8ft x 16ft cooler. Slaughter is performed outside at his facility in a "shoot 'em and stick 'em" fashion. Roe intends to expand the facility as business increases. A portion of the animals he slaughters are transported from Delta; he would like to set up a mobile operation so he can slaughter on-site at Delta area farms then transport the carcasses to his facility for processing.

Phil's Fish & Game, Kenny Lake, Alaska. Phil Roe, owner/operator, telephone interview, 10/10/2003.

Bering Pacific Ranches, Ltd.

Bering Pacific Ranches, Ltd. (BPR) owns a herd of cattle and a slaughter facility on Umnak Island. The original building was constructed in the 1960's for use as a sheep slaughtering facility. The dilapidated structure was rebuilt in 1996 and is now a 6,000 ft² USDA inspected slaughter facility located on land leased from the State of Alaska Department of Transportation through the Agricultural Revolving Loan Fund. Pat Harvey, a representative of BPR, indicates that operating expenses are difficult to cover. The facility, in BPR control for 10 years, has not been operating for the past 4 years as the company evaluates ways to successfully continue operations. The company has a total 6,000 head of cattle on Umnak and Unalaska. In 1997 and 1998, BPR carried out 3 slaughter sessions over a period of 4 to 6 weeks per season. 200 to 300 head of cattle were slaughtered during each session. BPR also slaughters a relatively small number of reindeer. The animals are boned out, boxed, and shipped to Seattle for further processing. The company anticipates increased slaughter numbers of 1,500 head of cattle in the next few years, and approximately 3,000 head of cattle in 10 years. BPR would like to sell the Umnak slaughterhouse while continuing to supply cattle to the new owner. BPR is discussing this prospect with a few native corporations.

Bering Pacific Ranches, Ltd., Umnak Island, Alaska. Main office: Alberta, Canada. Pat Harvey, company representative, telephone interview 10/13/2003.

Additional information sources:

Mostyn, Richard. Canadian wrangles wild beef cattle on remote Aleutians. 9/10/2003. <<http://www.yukonweb.com/community/yukon-news/1998/dec16.html#canadian>>.

Delta Meat & Sausage Co

Delta Meat & Sausage Co., located in Delta Junction, is a USDA inspected slaughterhouse/meat processing operation that includes a cattle and pig farm and a retail counter. Hours of operation are 8am-5pm Monday-Friday and 10am-4pm on Saturday. In their 7,000 ft² facility, Delta primarily processes and sells meat from the hormone and steroid free animals they raise. The company also offers custom slaughter and custom cut and wrap services. Approximately 190 cattle, 300 pigs, 25 elk, 10 reindeer, 9 sheep, 4 yaks, 2 goats, 1 buffalo, and 200-250 game animals were handled at the facility this year. All of the pigs and most of the cattle were raised on the company farm. Slaughter fees are \$40 for pigs, \$50 for cattle, and \$75 for large cattle. Cut and wrap rates are 75¢/lb. for less than 100 lbs. and 50¢/lb. for 100 lbs. or more. Delta indicates interest in accepting increased slaughter, cut and wrap, and animal purchase business. Only hormone and steroid free animals are accepted for purchase.

Delta Meat & Sausage Co., Delta Junction, Alaska. Jeannie Pinkelman, Manager, telephone interview, 10/21/2003.

Additional information sources:

Delta Meat & Sausage Co. 10/21/2003. <<http://www.deltameat.com/index.html>>.

Kodiak Smoking and Processing

Kodiak Smoking and Processing in Kodiak, Alaska, is owned and operated by a small cooperative. Charles Dorman, one of the four co-op members, indicates that the group was larger in the past. The 30 acres of federal land and old military buildings now owned by the co-op were given to the Borough. In 1972 the co-op bought the property from the Borough at a low cost. The Agricultural Revolving Loan Fund financed the purchase. This loan was paid off around 1983. The co-op built a 6,000 ft² slaughter/processing facility and rents out several of the older buildings on the property for storage. Building maintenance, repairs, and utilities are covered by a per-pound fee the members pay for using the facility. Processing services are available throughout the year. Cut and wrap prices are 60¢/lb. for wild game and 45¢/lb. for cattle. The co-op members each handle 20 to 30 animals each year, including cattle, pigs, buffalo, and game animals. This is the first year that Dorman is not slaughtering any animals. In the past, he slaughtered several hundred of his pigs each year, slaughtering year-round during a time when a USDA inspector was onsite throughout the year. Now, slaughter is performed once or twice each year, with an inspector traveling to Kodiak for the task. As the handful of co-op members grow older and become less involved in the facility, they are concerned what the future holds for operations at Kodiak Smoking and Processing.

Kodiak Smoking and Processing, Kodiak, Alaska. Charles Dorman, co-op member, telephone interview, 10/2/2003.

McNeil Canyon Meat Company

McNeil Canyon Meat Company, Homer, Alaska, in business since 1998, offers slaughter and processing services year-round. The rate for cut and wrap is 55¢/lb. Pigs, cattle, and game animals are processed at the facility. The company performs custom kills onsite at farmers' homes or ranches in the Homer area, slaughtering about 10 pigs and 1-2 cattle each year. Slaughter prices are \$40 for pigs and \$140 for cattle. Prices are higher for outlying areas, and there is a \$25 charge per pig for skinning. The company could handle increased slaughter and processing business if demand increased, with the limitation that the facility cooler has a capacity of 20 head of cattle.

McNeil Canyon Meat Company, Homer, Alaska. Chad Deekins, plant manager, telephone interview 10/20/2003.

McNeil Canyon Meat Company, Homer, Alaska. Collin Lott, owner, telephone interview 10/27/2003.

General Slaughterhouse Data

As with many industries in the United States, small local slaughterhouse operations have succumbed to larger, more efficient, corporations. Corporations with unique buying power, access to larger markets, and strong financial positions have slowly eroded the number of small slaughterhouse facilities in much the same way that corporations have eliminated many small family farms and Mom and Pop grocery stores. Huge facilities killing and processing a million animals per year are vertically integrated with complementary businesses and markets. It is impossible to compete with the economies of scale enjoyed by large corporate facilities. Small slaughter facilities struggle to break even all over the country.

In a report prepared by North Dakota State University², several possible scenarios were considered for small, mixed species slaughter facilities. This report looked at facilities that kill 1,600, 3,000 and 5,000 animals per year and the resulting feasibility of each. All facilities have kill floors, processing rooms and retail storefronts, taking the animal from on-the-hoof directly to the consumer. This enables the facility to remove all middlemen and maximize the profits per animal, selling at the highest possible price, retail. Although the profit margins are very slim and require excellent management practices, it does appear possible to be profitable in North Dakota with a small plant as long as it is at 85% of capacity. The specifications for a facility that can kill and process 1,600 animals, the number currently slaughtered at MMMS, are listed below. A comparison of the MMMS facility is also listed.

	Ideal Facility For 1,600 Kills Each Year Per North Dakota Study	As	MMMS Plant
Square Footage	2,250		15,000
Kill Floor Capacity Per day	8 Cattle		50 Cattle
Chill Cooler Capacity Per day	8		50
Holding Cooler Per day	16		50
Blast Freezer Pounds per day	4,000		Data not available
Blast Freezer/Cooler sq ft	Data not available		1,000
Smoke House	500 Pounds		800 pounds/500 sq ft
Retail	Includes Retail Floor		No Retail Floor
Staff	6.91		27 Total - 5 DOC/ACI - 22 inmates
Electrical Usage	131,343 kwh/yr		631,200 kwh/yr

² Wulff, Scott, Petry, Timothy, Hegelson, Delmer, and Coon, Randal. Feasibility of Establishing Small Livestock Slaughter Plants in North Dakota Department of Agricultural Economics, North Dakota State University, 1986

Cost Effectiveness in Slaughter Facilities

In a 1986 report to the Alaska Rural Development Council the following items were identified as factors related to cost effectiveness. When these factors are examined in light of the MMMS plant, each has an unfavorable outcome.

- Use of labor
- Degree of excess capacity
- Price of inputs
- Salvage of byproduct³

Use of Labor

The number of man-hours spent per kill and processing are measures of operating efficiency. One source related that cattle slaughter takes .5 man-hours and another .5-1.0 hours for fabrication of the carcass.⁴ Another source estimates 1.25 carcasses per man-hour for slaughter and 1,000 pounds of hanging carcass per employee per eight-hour day for processing.⁵ A local producer with slaughter experience reports that two men can kill and take to hanging halves, ten head of cattle in eight hours. Current inmate staff is inexperienced and subject to high turnover rates making it impossible to reach efficiencies in operation.

Excess Capacity

The degree of excess capacity is extreme at MMMS. The kill floor experiences an excess capacity rate of 81% and the processing floor about 72%, for a combined rate of 76.5%. The utilization rate is only 23%. It would be near impossible to “manage” ones way out of this amount of excess capacity.

Price of Inputs

The total cost of labor (inputs) at the MMMS plant is approximately \$426,943.00 per year for DOC/ACI/inmates. If 6.91 persons are required to operate a plant that kills and processes 1,600 animals, and the total wages currently paid are applied to that number of staff persons, then the average salary would be \$61,784.95 per person. These labor costs are too high, even for the Alaska market, thereby reducing the potential profits from sales to a miniscule amount, if any.

Salvage of Byproduct

Byproduct salvage value typically covers most of the slaughter costs in Lower 48 beef plants.⁶ No ready market for byproducts exists in Alaska and supply of byproducts is inconsistent and small, making it difficult to develop a local market. Non-edible wastes, which at one time were sold to pet owners and dog lot owners, are now taken to the landfill. Local feed suppliers now require payment to pick up the byproduct, making the landfill a more cost-effective solution.

³ Costello, W.J., Crawford, Terry, Thomas, Wayne. Red Meat Slaughter and Processing in Alaska: An Evaluation Agricultural Experiment Station, University of Alaska-Fairbanks 1986

⁴ Costello

⁵ Wulff

⁶ Costello

Some bones, blood, skin and hides are sold, as markets allow, but do not provide adequate return to offset the cost of slaughter. The large and diverse ethnic market segments in Alaska provide a source for sales of variety meats and organs.

Selling Price

A category not addressed in the list of factors for cost-effectiveness is selling price. Although the Alaskan market is often willing to pay a premium price for Alaskan products, at MMMS the product is sold for the least possible price in many cases. Since the ownership and operation of the plant is in the hands of the state, many avenues for marketing are closed to MMMS. Previous attempts to market retail products awakened loud opposition from for-profit competitors. Attempts to compete in the wholesale marketplace also met with opposition.

MMMS now has established a small wholesale trade to few local restaurants and some over-the-counter sales. The item that creates the best mark-up is the sale of Bar-B-Que pigs. The Production Managers are able to charge a near-retail price for this locally grown product. Hanging sides of graded beef are also sold to custom processors in the state at a reasonable mark-up. Cull dairy cows, bull beef and calves, however, are generally ground into hamburger and sold back into the state system at the lowest possible price: a competitive wholesale price to institutions. Cull sows are also sold primarily to institutions at low wholesale prices.

If the state were removed from the system at the point of sales, a private, for-profit company would be able to sell to market segments that would pay premium prices, without interference. This could substantially change the bottom line for Alaskan grown livestock, although it may not be able to overcome the overall operating inefficiencies of MMMS.

Livestock Industry in Alaska

The livestock industry in Alaska has grown over time. The industry experienced a significant jump in the mid 80's. This was likely a result of the combined influences of a booming economy and large cash injections by the state for support and development of agricultural infrastructure. Although the spike was not sustainable over time, gains made in the 80's never completely disappeared.

Pork production remained fairly steady from 1960 through the early 80's and then jumped radically in 1984 with the opening of a large farrow to finish operation in the Interior. The numbers for pork production declined until the end of the 80's to near pre-boom status but then recovered in the 90's and remained in the 500,000-600,000 pound range for the last half of the decade. Growth in the 90's has been at an average annual rate of 2.3%

Table 4.

Decade	Average Annual Dressed Weight Produced	Percent Change
1960's	152,500	
1970's	166,800	9%
1980's	413,000	248%
1990's	508,000	23%

The cattle industry has behaved somewhat differently. Although the industry experienced a bump in production in the 80's, it was not nearly as large as the pork industry experienced and cattle was not able to maintain the gains in the following decade.

Table 5.

Decade	Average Annual Dressed Weight Produced	Percent Change
1960's	717,300	
1970's	685,600	-5%
1980's	1,168,100	70%
1990's	1,040,300	-11%

The impact of dairy closures is incorporated into these numbers and may skew the interpretation of production for beef.

The number of pounds of dressed meat produced in the state constitutes a mere 1-2% of total meat consumed by Alaskans. The overwhelming portion of meat consumed is imported with a portion of the total consisting of wild game.

Barriers to Livestock Production

In a business plan produced in 1999, thirty-one (31) Alaskan producers identified the following as barriers to livestock expansion:

- Small market demand
- Low profitability
- Inconsistent slaughter facility
- More land needed
- Ability to winter over at less expense⁷

Unfortunately, there appears to be no change in these issues today, which would seem to imply that no large or immediate growth can be expected in the livestock industry.

The same business plan also reported that of the thirty-seven producers interviewed throughout the state, thirteen, or 42%, do not send any product to MMMS, and an additional four, or 13%, send less than 50% of their product to MMMS. The remaining

⁷ Cooperative Development Center, Alaska Village Initiatives [Marketing Red Meat Business Plan 1997](#)

45% send from 50% to 100% of their product to MMMS. Although exact counts were not available, the implication is that significant alternatives exist to the MMMS plant, including custom slaughter.

In order to evaluate the importance of the MMMS in the dairy industry specifically, all nine operating dairies were contacted. Producers were asked a series of questions related to their cull cow and calf numbers and how they are disposed. They were also asked about the impact to their dairy if the plant were to close or if the kill floor remained operational but no meat was purchased. The following table summarizes their responses.

Table 6.

Dairy Producer Responses					
Dairy Farmer	Number of culls? Cows/Calves	Where do you take cull animals? MMMS/Delta/Other	Price received? Cow/Calf	What if Plant Closes Completely?	What If Kill Floor Remains Open?
1	25/15	5/20/0	\$550-\$600	Minimal impact	Minimal impact
2	30/20	0/0/50	\$500	No impact	No impact
3	34/8	42/0/0	\$500/\$50	Very severe impact May put out of business	Very severe impact
4	15/20	32/0/3	\$450-\$500	Serious Impact	Would approach private sector to sell meat
5	3%	0/0/3%	\$500-1,000	No impact	No impact
6	3/3	5/1/0	\$500	Serious impact	Serious impact
7	24/unknown	24/0/unknown	\$600	Serious impact	Serious impact Would sell off the farm
8	75/30	105/0/0	\$500/\$50	Very severe impact May put out of business	Very severe impact
9	12/30	30/0/3	\$600	Serious impact	Serious impact

Impact of the Livestock Industry

A recent report prepared by Ed Arobio, Manager of the Northern Region Office, Division of Agriculture, estimated wages related to livestock sector are \$1.1 million. However, the current total impact on the Alaskan economy because of the livestock sector is estimated at \$9.2 million.⁸

⁸ Arobio, Ed. Alaska's Livestock Industry. Alaska Department of Agriculture 2003

Market Findings

Preference for Pork

Earlier studies identified the market for both beef and pork in Alaska with the primary request for Alaskan pork. The reason for preference of pork over beef is related to the travel time for fresh meats from the Lower 48. Beef travel better and experiences less adverse impacts over time than does pork. The 5-7 days of added shelf life is the primary reason for greater interest in Alaskan pork.⁹ Regardless of interest, most supermarkets are not interested in purchasing product until it reaches a consistent supply level, adequate to meet their entire market need.

No Organized Marketing Effort

Although there is a well-established Alaska Grown marketing campaign in the state, there is a preference toward vegetables. Since the Alaska Grown campaign began at a time when there was resistance from supermarkets to purchase local product, and since resistance had lessened over time, it would appear that the campaign has been successful. There are very limited dollars available to the marketing program, so television and print media advertisements tend to run during the harvest season.

If commitment existed from livestock producers to expand their reach to the broader consumer market, then a campaign focused on Alaska Grown meats may be justified. Currently, many producers are finding their own markets in local, off-farm sales. Another segment depends on MMMS to identify and develop their markets for them. The current anticipated expansion of hog production is expecting to produce 900 hogs per year to ship to MMMS and have them find retail markets for their product.

There is no coordinated effort among livestock growers to market their product collectively at this time, although the Director of Agriculture has begun discussion regarding the creation of a marketing cooperative for this express purpose.

Because much of the meat that is purchased by MMMS is sold at the lowest wholesale price, institutions, the potential gain from retail sales is lost. If producers better established a retail market then more could be sold at a significantly better price, increasing the revenues available to offset operating costs.

Alaska Bid Preference Not Fully Utilized

Alaska statute 36.015.050 provides for a 7% bid preference for Alaskan products. MMMS sells about 80% imported boxed meats and 20% Alaskan meats to the institutions. As a result the blended product loses the Alaskan bid preference opportunity. Additionally, MMMS Production Manager reports that there is little to no will to purchase Alaskan products if they carry the additional 7% increase.

Private Enterprise Blocks State Marketing Efforts

Efforts by MMMS to sell sausage at retail outlets have been blocked by for-profit sausage makers and sellers. Their letters to legislators and Commissioners caused a reversal of

⁹ Costello

efforts and no retail products are currently available. Some wholesale to private businesses still continues on a limited basis. Customers typically come to the plant in order to make purchases and no overt advertising occurs. It is primarily word of mouth that brings in whatever business MMMS has developed.

Current Market Consists of Imported Meat

The current retail, wholesale and restaurant industry is almost entirely supplied by imported meat products. Small niche markets have not developed for livestock sales at the rate that they have for vegetables. Farmers' markets have been instrumental in helping farmers achieve higher value per pound for local produce. The fresh and/or organic properties of local produce allow for higher mark ups. There is every reason to believe that similar marketing for Alaskan livestock could be successful.

One success in niche marketing for livestock in Alaska has been the Delta Meat and Sausage Plant. This operation grows its own animals to insure a steady supply of hormone and antibiotic free beef and pork products, slaughters and processes these products and markets them both in-store and online.

Alaska reindeer have also found ready markets. The Nunivak slaughterhouse reports slaughtering 1650 animals per year with a ready market for all of the animals to both individuals and retail stores.

Potential Increase in Slaughter Hogs for 2004

An additional 1,000-2,000 slaughter hogs are anticipated in 2004-2005 from a combination of three operations around the state. If the farmer does nothing to develop a market for these hogs, then hogs arriving at MMMS will likely be sold to institutions at price of \$1.39/ pound. This will include substantial processing of the product as well as the kill and chill requirements. The resale price of a butcher hog sold to institutions is \$243.25, netting \$143,724.00 for 1200 additional hogs.

If a market is developed by the farmer, or by some other entity, then more can be sold as hanging halves at \$1.65 with cut and wrap services charged at \$0.40 per pound, thereby recouping costs involved in processing. Meat sold to individuals is ultimately priced at \$2.05 per pound vs. \$1.39 per pound increasing revenues and potential gross profits with which to pay operating expenses. Animals sold at retail will net \$135.27 per animal with a total \$162,324.00 for 1200 hogs.

Barriers to Success

There are a significant number of barriers faced by the MMMS, several of the most onerous are based on the fact that is operated by state agencies.

- The inability of the state to market freely to the retail sector is a huge barrier forcing the meat plant to sell Alaskan meat at the lowest possible price to state institutions.
- The fact that the MMMS is required, through the lease agreement, to purchase whatever farmers bring to them removes incentive to produce more desirable

products, to pay attention to consumer desires or to spend any energy developing consumer markets.

- MMMS is mandated to pay for animals at the current price of South St. Paul plus \$0.10, regardless of the fact that some animals will return less than that amount when sold back into the system at low wholesale prices. The fact that other facilities grade more carefully and pay by grade encourages more producers to supply the MMMS plant with lower grade animals. This continues to encourage a cycle of poor product receiving premium prices and reselling that product at the greatest discount.
- Kill fees, set many years ago, do not reflect current market prices and set an unfair competitive edge between for-profit slaughter facilities.
- The cost for cut and wrap of products done for custom kills is \$0.40 per pound. This is the bottom of the scale for cost of cut and wrap in the state.
- Production Managers must deal with many factors related to inmate labor; inexperience, motivation, turn-over and absence from work due to punishment. As a result of these factors the finished product of either a slaughter or cut and wrap order may be less than standard quality. Inconsistency of product causes some clients to seek other processors for their work. Additionally, efficiency of labor usage is key to cost effective operations, and is impossible to achieve under these conditions.
- High labor costs help force the bottom line into the red. State employees, with higher salaries than private sector and costly fringe benefits raise the labor costs to 29% of gross sales. Even though inmate labor averages \$1.10 per hour, Correctional Officers required to monitor them are paid significantly higher. The total wages paid to state and inmate labor in FY03 was equal to \$426,934.00, including benefits. This would equate to a salary of \$61,784.95 each, for 6.91 employees, the amount recommended to run a facility that kills 1,600 animals and operates a retail outlet as well.

In addition to problems faced by state ownership, there are several related to producers and other entities. Some of those are:

- An inconsistent supply of animals. Farmers often raise animals through the summer and butcher the majority of their inventory in the fall. Others spread out the slaughter rate throughout the summer but there are several months per year when the numbers are very low. Even when the numbers are more even, the species type may vary. This inconsistency makes it difficult to supply retail markets.
- Limited supply. The total number of animals available to the MMMS was 1615 in FY03, of which 927 were purchased for resale. Of those 927, many were slated for hamburger and only a few could be resold in to the wholesale market at premium prices. This is an extremely small supply, again making it difficult to build relationships with retailers.

- Inconsistent quality of meat. Animals purchased by MMMS range from cull cattle and hogs to premium beef and Bar-B-Que pigs. Within these categories there is additional variation of quality.
- Size of the facility. This slaughterhouse was built in the early 80's, tied to the optimistic projections for production created and financed by the state at the time. The entire project folded within a few years and left a facility ten times larger than necessary for the industry. Even with the best efficiencies in place, which is impossible in the current scenario, this plant has high costs for utilities and operating expense.

Alternative Options

The MMMS plant has been in operation for twenty years and under the operational control of Department of Corrections for sixteen. The reduction of general fund dollars to DOC has forced them to look for alternative ways to meet their expenses. The MMMS has traditionally not met its operational expenses, although it did in FY 2002 and 2003. Division of Agriculture was asked to cover staff costs for the facility in FY 2003 and FY 2004 and has agreed to do so. Division of Agriculture is currently seeking alternative options for plant operation.

After a detailed review of all data available, interviews with other slaughterhouses, dairy farmers, producers and many in-depth conversations with the Production Managers, the following alternatives are suggested for further investigation.

Option I

Closing the facility stops the drain on the ARLF, encourages private enterprise to move in and fill a need, removes the impediment to niche marketing of local product, stops the state from providing artificially low-cost services to certain segments of the market and will likely encourage the production of more consistent and higher quality animal products.

As part of the grand plan of the 80's, MMMS was a cog in the machine. Most of the other cogs have been disposed of or are being leased in a way that does not bring significant revenue, but does not require cash for support. In the original plan, private sector was to be encouraged through low interest loans and generous terms. It did not appear to be the intention of the plan to have the state pay operating expenses for the MMMS facility. Unfortunately, the state has been covering operating expenses for MMMS for the past sixteen years through either DOC or Division of Agriculture.

Continued funding from the ARLF contributes to the demise of the fund, which supports the entire agricultural industry and is currently one of the best performing loan funds operated by the state.

Many of the previous consultants that have looked at this facility over the past seventeen years have also identified the extreme difficulty the facility would have in to ever becoming viable. This consistent observation appears to be tempered with the notion that

a slaughter facility is essential and the state must provide it. The existence of at least one other private, for profit, USDA kill floor in the state indicates that there is a possibility of private enterprise providing this service, as long as it is free to sell product at retail and is size- appropriate to the market.

At the current rate of growth in the livestock industry and with the percentage of animals that come to MMMS remaining consistent, it would be 3010 before there were enough animals killed at MMMS to be profitable. This is an indication that there will be no significant change in the profitability in the near future. Even with the expected increases in hog production in 2004 and 2005, the levels will only be slightly higher than they were in 1999, before the closure of a large hog finishing facility.

Only 20-30% of all beef and pork dressed carcass weight produced in the state is slaughtered at MMMS. This indicates that the rest of Alaska livestock growers are finding alternative options for slaughter and processing. In interviews with dairy farmers it was reported that only seven of the nine remaining farms use the MMMS plant. Two dairies reported that they would be severely impacted and two dairies said they would have to find a way to market, but it would be inconvenient and a burden.

Closing the plant could happen over an eighteen-month period, with services slowly withdrawn, giving private enterprise an opportunity to fill the void. One way the closure could be implemented is to begin by refusing to take any calves and reducing the payment made on cull animals to not more than the amount they return in sales. After six months, the processing floor could be closed and the grinding operation moved to the hanging room. All slaughtered animals would be reduced to hanging halves and available for pick up or resale. Cull animals would still be processed into hamburger and sold to institutions, unless producers found higher paying markets. After one year, only hanging halves would be produced at the MMMS plant. At the end of eighteen months the plant would be shut down.

Other kill floors in operation in Fairbanks, Delta and Kenny Lake could begin to absorb some of the animals currently slaughtered at MMMS. These facilities may choose to apply for loans to upgrade their facilities to handle more animals or seek USDA inspection (Delta Meats currently is a USDA inspected facility).

Hopefully, during this eighteen month period, producers would be motivated to explore other possible outlets for their product and increase their individual return. With more and more meats going to private cut and wrap operations markets could be expanded through those outlets. Producers may even come together to form a cooperative to market their product. Federal dollars could be tapped for marketing efforts.

During this time the Division of Agriculture would make available a low interest, long term loan to private sector individuals interested in building a USDA inspected kill floor in the Mat-Su area.

An ancillary option to closing the plant is for the state, with federal dollars, to fund a new smaller facility in a new location. The encroaching suburban population is likely to make this site untenable in the relatively near future. The state could continue to lease or fund this smaller, and hopefully more efficient, operation while selling, leasing or otherwise disposing of the current meat plant asset.

Option II

Continue to have DOC operate the plant and find efficiencies in the operation while developing an exit strategy. Some of the possible steps for reducing expenses include:

- Two less guards or one less guard and one less production manager
- Ten less inmates
- Reduce bus size, have DOC use internal transport for inmates
- Operate on a 4/10 schedule
- Reduce kill days to two days per week
- Stop or reduce the purchase of box meats
- Reduce electrical expense by shutting down some of the refrigeration units
- Close the smoke room and hot product cooler
- Stop purchasing and preparing meals onsite
- Ship Freight on Board from the plant, thereby reducing freight costs
- Produce limited items, e.g. hamburger, stew meat and cube steak
- Continue to slaughter and process Alaskan animals

While margins are better on Alaskan animals than on boxed meats, the sheer volume of boxed product moving through the plant produces over \$200,000 in gross profits. The elimination of all boxed meats reduces the number of dollars available to offset expenses and the savings in labor and electricity do not significantly change the bottom line. The recommendation is to continue to purchase and resell as much boxed meats as possible with reduced inmate staff. The emphasis could be shifted to meats that require no additional processing.

Reducing electrical costs may be achieved by shutting down some of the refrigeration units. However, nearly all of the units are required in order to maintain the current level of operations. Shutting down equipment related to meat smoking is the most logical plan. The smoking process is time consuming and the equipment is expensive to operate; it is not cost effective. The smokers are generally not filled to capacity and are operated on an intermittent basis, at times when a number of hogs are received at MMMS. The hot product cooler is often empty but it is running at all times. Hazard Analysis and Critical Control Point (HACCP) regulations order that refrigeration temperatures be checked twice per day, requiring the opening of each refrigeration unit to verify temperature. Opening this empty unit causes a rapid increase in temperature and an inordinate amount of electricity utilized to return the unit to acceptable temperatures.

In June of this year, the U.S. Department of Agriculture's Food Safety and Inspection Service announced an interim final rule (9 CFR 430) requiring federal establishments producing certain ready-to-eat (RTE) meat and poultry products to take steps to further reduce the incidence of *Listeria monocytogenes*. The rule requires meat processing facilities to develop written programs (within HACCP plans and SOPs) to control

Listeria monocytogenes and to verify the effectiveness of those programs through testing. Implementation of these requirements may render sausage-making activity too time-consuming to be profitable.

The cost savings realized by closing down meat smoking operations is approximately \$3,600 per year. This includes the cost to run the hot product cooler (\$2,717.40/year), Smokehouse 1 and Smokehouse 2 (\$455.04/year per smokehouse), and smokehouse processing equipment (\$32.74/year). The difficulties in producing smoked product at a profit make closure of smoking operations advisable. See Appendix E for a detailed account of the cost to operate MMMS equipment and refrigeration.

Option III

One possible solution is to reduce the subsidized services to a kill floor only. Although kill floor operations are the most marginal of the services provided and the least likely to ever bring return on investment, they are the most essential. While it is possible for farmers to find markets for their product and several cut and wrap services already exist in private sector, only two USDA inspected kill floors exist on the road system, Delta and MMMS. Of the 1,615 animals slaughtered at MMMS in 2003, nearly 700 of those animals were pre-sold before they arrived at the plant. This is particularly true for butcher hogs, where 167 of 177 animals slaughtered were pre-sold to markets developed by the farmer.

Operating the kill floor only, by DOC or Division of Agriculture, would allow the facility to close all of its refrigeration and freezer units, close the 2,400 square foot, refrigerated processing floor and close the smoke room. Two or three persons could process all the animals brought in for slaughter in three days per week. This three-day per week operation would save considerable costs if it were operated by a private contractor or by part-time state employees.

Unfortunately, 927 of the animals slaughtered at MMMS were purchased, processed and sold by MMMS, making the closure of the processing room a hardship on the bulk of the producers. Producers would have to cultivate their own markets or reduce production.

An alternative to the closure of the processing room would be to move necessary equipment into the hanging area, also refrigerated, and process all cull animals into hamburger for resale into the state system. This could likely be accomplished by three full time staff persons, still reduce the electric expense significantly and provide an outlet for cull animal meat sales.

Option IV

Another alternative to the current situation is the release of a Request for Proposals to provide slaughter services to the users of MMMS. An RFP could, for a specified dollar amount, ask for slaughter-only services. Lessee would collect and keep kill fees. The state would continue to pay utilities. The RFP would require the proposer to lease the balance of the facility for a percentage of his gross sales, based on industry averages. This percentage would not likely cover the cost of all utilities at first, but would provide

some return on the state's asset. Additionally, the new lessee would be able to sell product at retail prices, increasing the gross revenues and the return to the state.

A growing retail market for Alaskan grown animals would be a positive action for all producers, the lessee, the consuming public and the state. It would also begin to move the facility out of the state's hands and into private sector. Previous attempts to encourage private sector lease the facility for \$1 per year have received no response. The likely cause is the inability of private sector to cover the cost incurred at the oversized facility.

This scenario would provide a return to the state that will vary depending on gross sales. If sales were \$500,000, approximately 1/3 of current gross sales, and the percentage agreed upon was 10% of gross sales, the return to the state would be \$50,000.

Details of the negotiated lease could include such items as a floor and/or ceiling on lease payments, an incentive for reduction of utility costs and/or gradual reduction of state support of kill floor.

The state could support the continued success of the operation by continuing to buy Alaska product through institutions until the retail market is fully developed and implementing a marketing plan to educate and encourage Alaskans to buy Alaskan grown meats.

Option V

Another option is for the Division of Agriculture to continue to operate the MMMS and encourage the development of a cooperative for marketing Alaskan grown meats. The Division of Agriculture would operate the kill floor and charge kill fees for all animals slaughtered. They would process animals into quarters only. The co-op would then be responsible for the processing of the animals into retail or wholesale cuts. They would be able to utilize the kill floor staff for processing. All co-op members would share the profits or losses of the operation and be allowed to lease the facility for \$1 per year. By July 2006, the cooperative would take over full control of the facility and release Division of Agriculture from any financial responsibility.

As a cooperative the group would have the ability to tap into several pools of federal cash for marketing money or perhaps some funds for operating expenses.

In addition to the options listed above other proposals have been suggested to the division. In a meeting with Eklutna Inc, a Native Corporation, the possibility of finding subsidy dollars was discussed. Native corporations throughout the state may wish to assist MMMS by providing operating funds for the plant where as much as 60%-70% of the workers are Native, according to Production Managers. These conversations are in preliminary stages and may or may not yield any fruits.

Current Action Taken

Although the long-term strategy for the Division of Agriculture is to remove itself from the operation of the MMMS and return it to private sector operation with little or no

financial support, an exit strategy is planned over time. The selected date for complete severing of state funding to MMMS is July 1, 2006. This transition may be a blend of the options listed above or entirely new options not yet recognized by the state.

In a recent round of talks with Department of Corrections, the Director of Agriculture proposed a number of items for consideration that may improve operating efficiency and lower costs. The Director also proposed several measures that the Division of Agriculture would implement to increase revenues and reduce expenses. After consideration by DOC the final resolution was agreed upon on Friday, October 31, 2003.

The following is a synopsis of the agreement.

- Division of Agriculture will take over operation of the plant on December 1, 2003
- Three Production Managers will continue to work at the plant and become Division of Agriculture employees
- Inmate worker number will be reduced to 6-10, down from 21-28
- A smaller rental bus may be secured if cost effective
- Inmates will bring sack lunches from the prison instead of having meals cooked onsite
- Some refrigeration units will be turned off to save electricity
- All employees will move to a 4/10 work schedule, reducing overtime and facility costs
- Accounting will remain with DOC for a period of time while Division of Agriculture makes arrangements to take over this function.

Legislative Recommendations

The State of Alaska can assist and encourage the livestock industry by providing some additional support. Some of the possible avenues open to the state are:

- Strengthen the 7% preference by adding compliance officer to the Division of Agriculture
- Consider mandating purchase of Alaskan product by state agencies as is done in some states
- Ask for an executive order for the purchase of Alaskan meat by state agencies

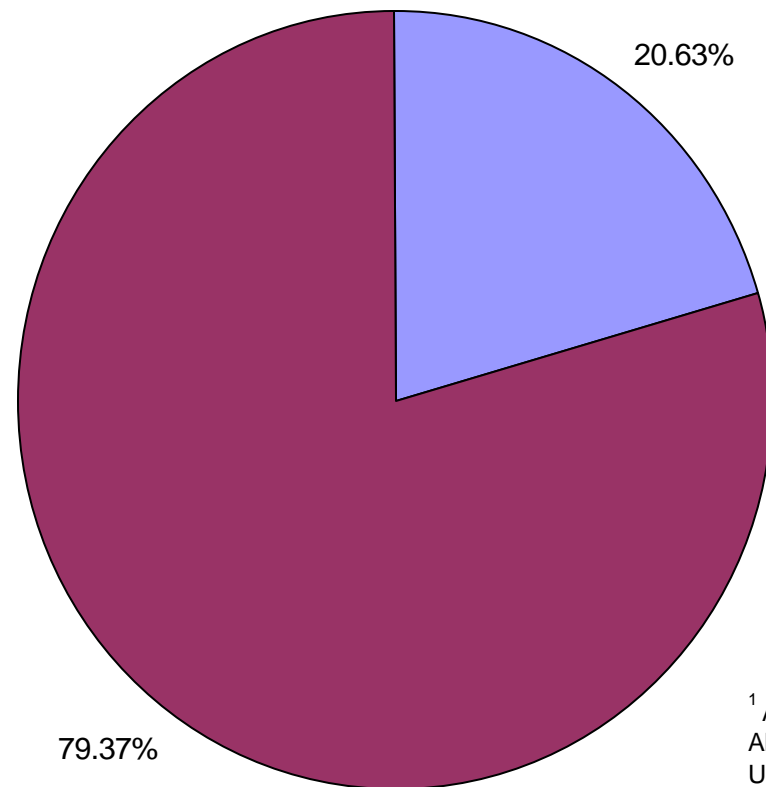
Appendix A
MMMS User Pie Charts

2002 Alaska Beef & Pork Production

Alaska Total Production: 1,812,000¹ lbs. dressed weight

Slaughtered at MMMS: 373,857.7² lbs. dressed weight

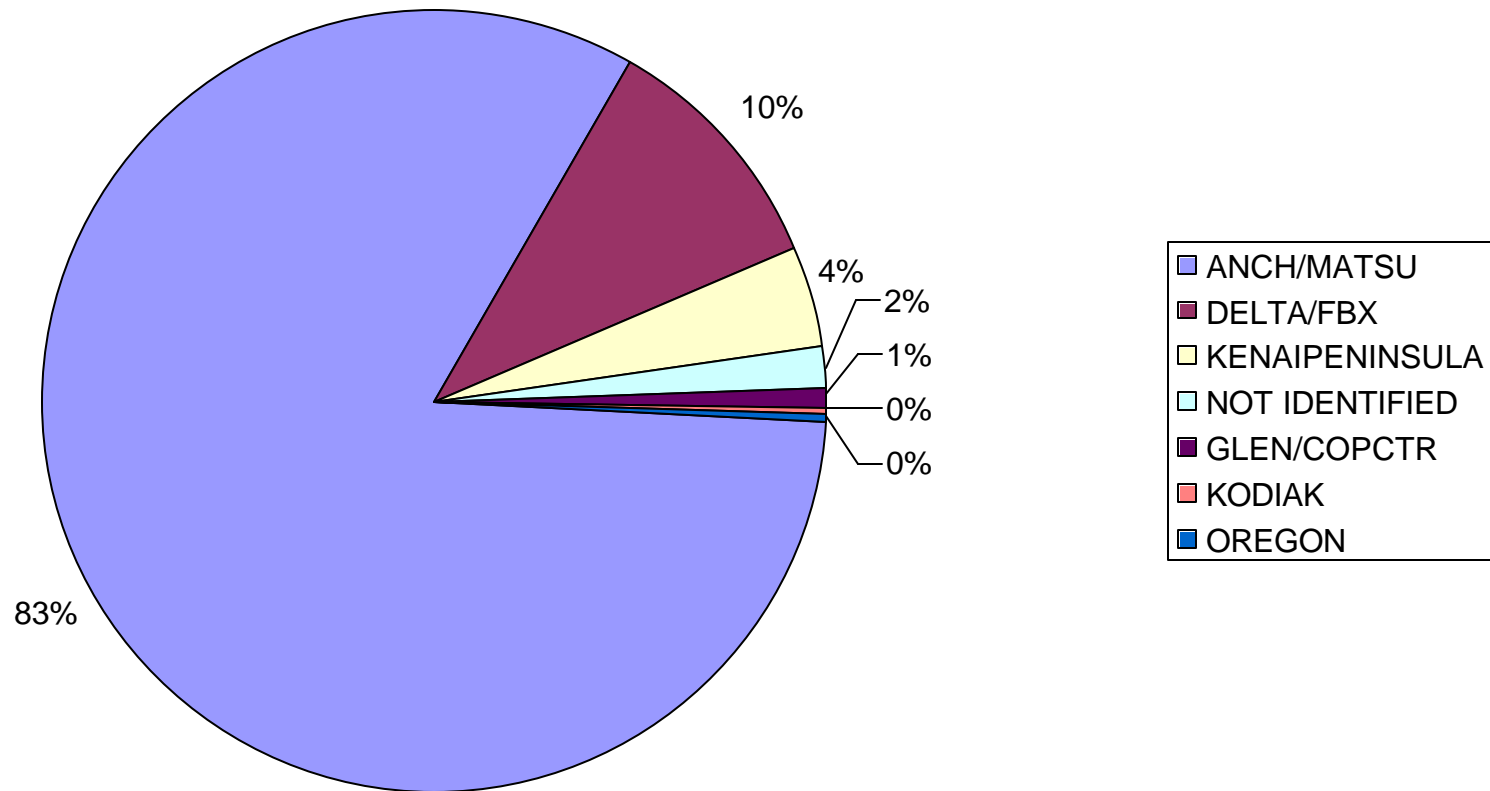
■ Beef & pork slaughtered at MMMS 2002 ■ Beef & pork NOT slaughtered at MMMS 2002



¹ Alaska Agricultural Statistics 2003, Alaska Agricultural Statistics Service, USDA, Palmer, Alaska, 2003, *in press*.

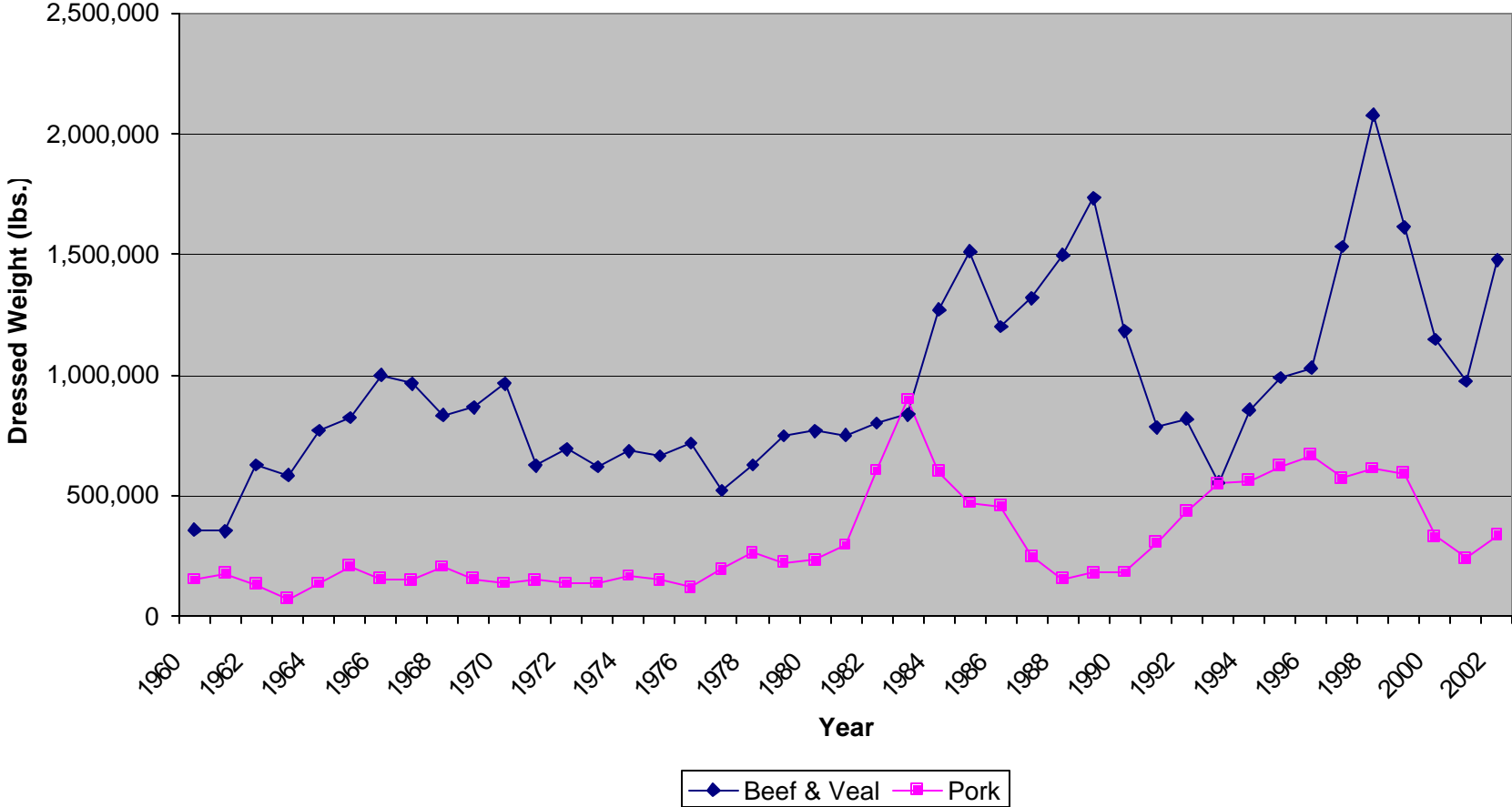
² MMMS animal records database.

MMMS Users' Locale

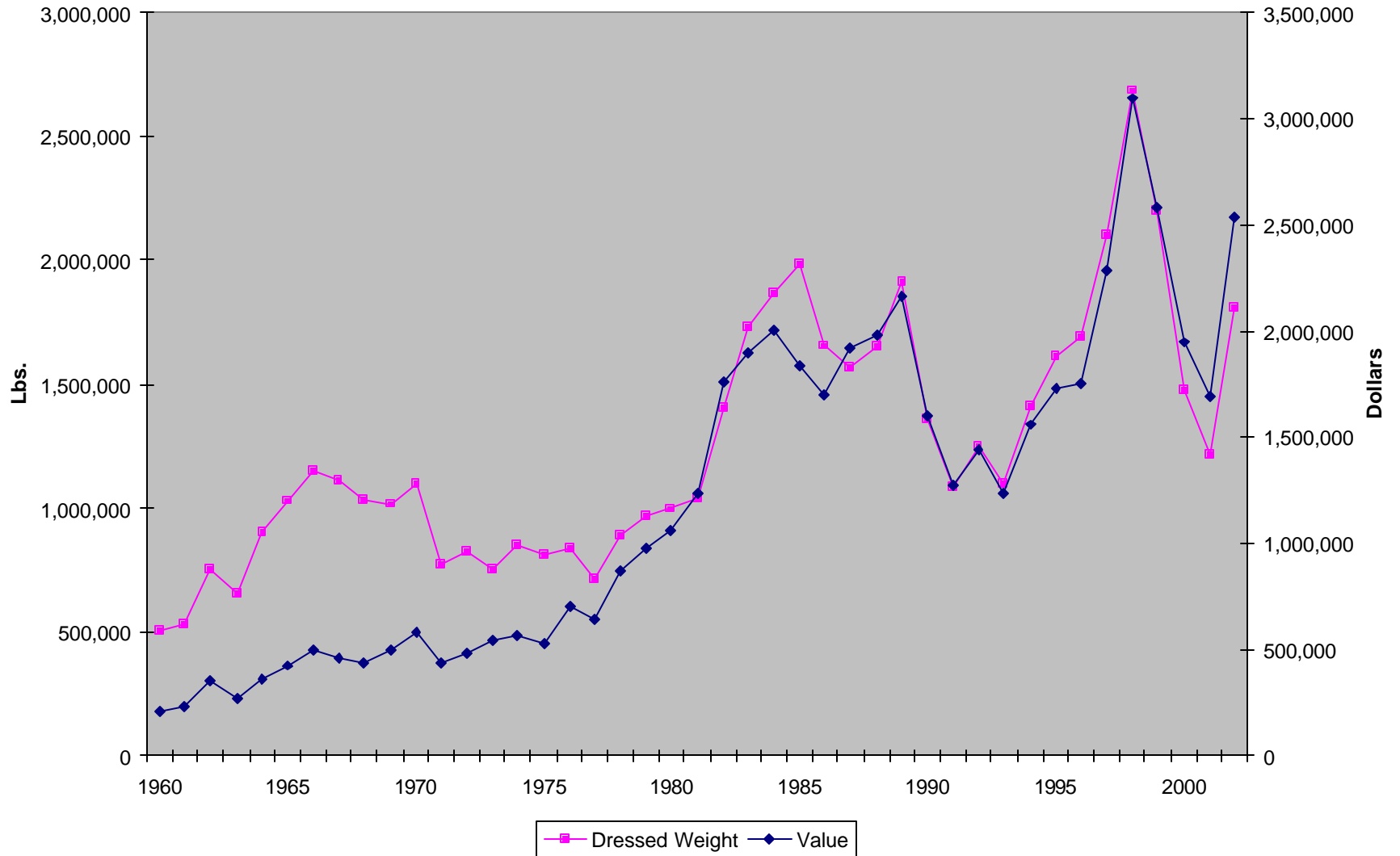


Appendix B
Historical Beef and Hog Production Rates

Beef & Veal and Pork Production 1960-2002



Combined Beef & Pork Production 1960-2002



Appendix C
Animal Revenues and Purchase Price

MMM&S Animal Revenue and Purchase Price FY03

Cost Per Animal to Slaughter as per Current Subsidy: \$185.75

1615 animals Subsidy: \$300,000

Animal Cost vs. Animal Revenue FY03

Type	Number	\$/#	Cost	Weight	Yield	Yld #	Price/ #	Total Rev	Profit /Loss	Rev aftr Ex	Retail
Calf	113		\$ 50.00	100 #	40%	20#	\$1.55	\$ 31.00	\$ 19.00	\$ (2,147)	\$ 3,503
Dairy Cow	125	0.44	\$ 440.00	1,000	46%	283#	mixed	\$ 552.00	\$ 112.00	\$ 14,000	\$ 69,000
Dairy Cow	118	0.52	\$ 520.00	1,000	48%	380#	mixed	\$ 762.00	\$ 242.00	\$ 28,556	\$ 89,916
Graded Beef 20%	22	0.75	\$ 750.00	1,000	61%	437#	\$2.25	\$ 983.25	\$ 233.25	\$ 5,131	\$ 21,632
Grd Bf 80%(sides)	86	0.81	\$ 810.00	1,000	61%	620#	\$1.85	\$ 1,147.00	\$ 337.00	\$ 28,982	\$ 98,642
BBQ Pig	338	1.25	\$ 90.00	80#			\$2.25	\$ 180.00	\$ 90.00	\$ 30,420	\$ 60,840
Butcher Hogs	10	0.55	\$ 123.48	225#	78%	175#	\$1.65	\$ 359.78	\$ 236.30	\$ 2,363.00	\$ 3,598
Sows	58	0.40	\$ 172.00	430#	64%	192#	See below	\$ 305.28	\$ 133.28	\$ 7,730	\$ 17,706
Boars ***	3	0.33	\$ 269.00	816#	63%	360#	\$1.65	\$ 594.00	\$ 325.00	\$ 975.00	\$ 1,782
Goats	13	0.42	\$ 42.00	100#	46%	46#	2.75-3.21*	\$ 137.08	\$ 95.08	\$ 1,236.04	\$ 1,782
Sheep**	6	0.37	\$ 37.00	100#	50%	30#	\$1.65	\$ 49.50	\$ 12.50	\$ 75.00	\$ 297
Bull Beef****	37	0.50	\$ 600.00	1200	43%	361#	\$1.55	\$ 559.86	\$ 40.14	\$ 1,485.18	\$ 20,715
Total	929									\$ 118,806	\$ 389,412

*Average \$2.98

**Adult sheep are boned & made into sausage

*** Boars are boned & made into sausage

****Boned For Burger

Butcher Hogs sold as hanging halves
plus Cut and Wrap @ .40/ pound

Sows prices per Retail Cut

53% @ 1.65 Butt, Belly, Boston Butt, Picnic, Jowl
4% @ 2.45 Spareribs
16% @ 3.30 Loin
28% @ .35 Trim, fat, head, hocks

Costs and price per pound taken from actual
receipts. Yields for two types of cull cows taken from
recent yield tests.

Appendix D
Proforma Income Statement

		<u>FY02</u>	<u>Proposed</u>
	Ordinary Income/Expense		
Income	From DOC		
	Sales to Public		
	Kill Floor	1,458,966.01	1,458,966.01
	Total 40010 - Industries Sales	<u>1,458,966.01</u>	<u>1,458,966.01</u>
Total Income		1,458,966.01	1,458,966.01
	Cost of Goods Sold		
	50000 - Cost of Goods Sold	797,929.79	797,929.79
	73460 - Freight out	33,414.00	0.00
	74457i - Meat Purchases	305,871.55	273,575.80
	74600 - Purchases (animal)	<u>0.00</u>	<u>0.00</u>
Total COGS		<u>1,137,215.34</u>	<u>1,071,505.59</u>
Gross Profit		321,750.67	387,460.42
	Expense		
	72280 - Instate Transportation	246.50	246.50
	73270 - Professional Services	297.96	297.96
	73283 - Test Monitor/Review	0.00	0.00
	73286 - Federal Inspections	1,562.14	1,562.14
	73320 - Telephone	0.00	0.00
	73321 - Long Distance Toll Fees	4,100.54	2,400.00
	73322 - Local Fees	1,814.84	1,814.84
	73327 - Cellular Phone	23.87	23.87
	73341 - Fax Charges	236.90	236.90
	73373 - Data lines	1,043.29	1,043.29
	73380 - Postage		
	73917 - Mail Services	0.00	0.00
	73380 - Postage - Other	<u>12,133.85</u>	<u>0.00</u>
	Total 73380 - Postage	12,133.85	0.00
	73400 - DOT SEF - Summary		
	73421 - DOT SEF - Fuel	5,939.82	5,939.82

73424 · DOT SEF Charges	0.00	0.00
73428 · DOT SEF - FC	0.00	0.00
73429 · DOT SEF - Unallow FC	0.00	0.00
Total 73400 · DOT SEF - Summary	5,939.82	5,939.82
73422 · Fuel Vendor	92.00	92.00
73426 · Vehicle Parts & Supplies	4,741.11	4,741.11
73480 · Freight & Delivery	5.00	5.00
73540 · Advertising	42.00	42.00
73561 · Printing and Binding	220.82	220.82
73562 · Subscriptions	280.00	280.00
73610 · Natural Gas	11,366.28	11,366.28
73620 · Electricity	58,365.00	40,855.50
		Reduced by 30%
73630 · Water & Sewer	4,408.82	4,408.82
73640 · Trash Disposal	6,782.20	6,782.20
73780 · Repairs & Maint - Equipment	13,436.46	13,436.46
73782 · Copier-Maint.	0.00	0.00
73841 Property Tax	7,030.76	0.00
		Borough Forgiveness
73860 · Rent/Lease - Tools & Equip	48.00	48.00
73866 · COPIER-FIXED COST	0.00	0.00
73870 · Vehicle Rental	8,450.00	3,900.00
		Reduced bus rental
73900 · Other Expenses	4,694.29	4,694.29
73902 · Bad Debt Expense	0.00	0.00
73913 · Employee Tuition	0.00	0.00
73914 · Membership Dues & Fees	195.00	195.00
73991 · Late Fees & Charges	16.26	16.26
74200 · Office Supplies	0.00	0.00
74221 · Stationary & Supplies	0.00	0.00
74223 · Supplies - DP Hardware	1,139.58	1,139.58
74225 · Supplies - Duplicating	0.00	0.00
74226 · Supplies - Office Equipment	0.00	0.00
74229 · Supplies - General Office	3,454.35	3,454.35
74440 · Supplies - Agricultural	954.70	954.70
74458 · Seafood	0.00	0.00

74459 · Supplies - Instit / Other Food	0.00	0.00	
74480 · Supplies - Insitutional	17,247.73	17,247.73	
74481 · FOOD SUPPLIES	0.00	0.00	
74485 · Supplies - Other R&M/Janitorial	13,257.94	13,257.94	
74490 · Supplies -Instit/Kitch-Non Food	26,477.65	0.00	Meals provided by PCC
74566 · Supplies - DP Software	0.00	0.00	
74606 · Supplies - Other Oper/Safety	267.18	267.18	
74608 · Supplies - Instit/Uniforms	0.00	0.00	
74650 · Repair/Maintne Supplies	0.00	0.00	
74696 · Supplies - R&M/Plumbing & Elec	1,367.40	1,367.40	
74697 · Mechanical	0.00	0.00	
74750 · Supplies - Other Repair/Maint	16,064.00	16,064.00	
74752 · Supplies - Other R&M/Lube Oil	0.00	0.00	
74754 · Supplies - Other R&M/Parts	0.00	0.00	
74768 · Supplies - Other R&M/Bulk Gas	0.00	0.00	
74769 · VEHICLE PARTS & SUP	0.00	0.00	
74820 · Supplies - Sm Tools/Minor Equip	156.79	156.79	
77321 · Indirect Labor	71,484.98	35,000.00	Decreased to 10 prisoners
Total Expense	<u>299,446.01</u>	<u>193,558.73</u>	
Net Ordinary Income	22,304.66	193,901.69	
Net Income	<u><u>22,304.66</u></u>	<u><u>193,901.69</u></u>	
DOC/ACI Wages	350,217.00	218,348.00	Decreased to reflect no guards
Net Income/Loss	-327,912.34	-24,446.31	

Projected operating budget is based on FY02 income statement. This year was selected because it appears to be a representative year of category expenses. However, inconsistency in category postings makes projections subject to error. Also, it was not possible to accurately identify and tract freight charges and/or reimbursements causing projections to be less reliable.

Appendix E
Cost to Operate Equipment and Refrigeration

TABLE 1. MMMS COST TO OPERATE EQUIPMENT - BRIEF SUMMARY

Equipment	Cost per Month	Cost per Year
Freezer 1 (Blast freezer)	\$734.97	\$8,819.69
Freezer 2	\$572.09	\$6,865.05
Freezer 3	\$572.09	\$6,865.05
Cooler 1 (Finished Product Cooler)	\$484.69	\$5,816.23
Cooler 2 (Holding Cooler)	\$230.42	\$2,765.09
Cooler 3 (Chill Cooler)	\$715.11	\$8,581.32
Hot Product Cooler	\$226.45	\$2,717.42
Smokehouse 1	\$37.92	\$455.04
Smokehouse 2	\$37.92	\$455.04
Smokehouse processing equipment	\$2.73	\$32.74
Processing Room Refrigeration	\$226.45	\$2,717.42
Processing Room Lights & Equipment	\$161.30	\$1,935.58
Kill Floor Lights & Equipment	\$90.24	\$1,082.88
Main Air Compressor for Entire Bldg	\$240.00	\$2,880.00
Total Cost	\$4,332.38	\$51,988.54

TABLE 2. MMMS COST TO OPERATE EQUIPMENT - DETAILED

hrs/ day	days/ wk	hrs/ wk	days/ mo	hrs/ mo	Equipment	Voltage (V)	HP	Phase	Amp. (60Hz)	Cost per Hour - Each Unit	Number of Units	Total Cost per Hour	Total Cost per Hour - Each Category	Cost per Month	Cost per Year				
					Freezer 1							\$1.85	\$734.97	\$8,819.69					
Not Available - See Table 3 for Refrigeration Cost Calculation					Koch Compressor Motor	460	0	3	31.3	\$1.65	1	\$1.65							
					Koch Condenser Motor Fan (3 motors total, <u>each</u> with these specifications)	460	.75	1	2.6	\$0.05	3	\$0.14							
					Evaporator Fan (2 motors total, <u>each</u> with these specifications)	460	.5	1	1.9	\$0.03	2	\$0.06							
					Freezer 2							\$1.44	\$572.09	\$6,865.05					
Not Available - See Table 3 for Refrigeration Cost Calculation					Evaporator Fan (2 motors total, <u>each</u> with these specifications)	460	1/2	1	21.1	\$0.03	2	\$0.06							
					Freezer 3							\$1.44	\$572.09	\$6,865.05					
Not Available - See Table 3 for Refrigeration Cost Calculation					Evaporator Fan (2 motors total, <u>each</u> with these specifications)	460	1/2	1	21.1	\$0.03	2	\$0.06							
					Freezer 2 & Freezer 3 (Shared compressor)							\$2.88							
Not Available - See Table 3 for Refrigeration Cost Calculation					Koch Compressor Motor	460	0	3	48.5	\$2.56	1	\$2.56							
					Koch Condenser Motor Fan (4 motors total, <u>each</u> with these specifications)	460	3/4	1	2.6	\$0.05	4	\$0.20							
					Cooler 1 (Finished Product Cooler)							\$1.22	\$484.69	\$5,816.23					
Not Available - See Table 3 for Refrigeration Cost Calculation					Bohnametic Compressor Motor	460	0	3	21	\$1.11	1	\$1.11							
					Koch Condenser Motor Fan (2 motors total, <u>each</u> with these specifications)	460	1/2	1	2.1	\$0.04	2	\$0.08							
					Evaporator Fan (2 motors total, <u>each</u> with these specifications)	460	1/4	3	2.1	\$0.02	2	\$0.03							

hrs/ day	days/ wk	hrs/ wk	days/ mo	hrs/ mo	Equipment	Voltage (V)	HP	Phase	Amp. (60Hz)	Cost per Hour - Each Unit	Number of Units	Total Cost per Hour	Total Cost per Hour - Each Category	Cost per Month	Cost per Year
					Cooler 2 (Holding Cooler)								\$0.58	\$230.42	\$2,765.09
Not Available - See Table 3 for Refrigeration Cost Calculation					Koch Compressor Motor	460	0	3	9.6	\$0.51	1	\$0.51			
					Koch Condenser Motor Fan (2 motors total, each with these specifications)	460	1/4	1	1.1	\$0.02	2	\$0.04			
					Evaporator Fan (8 motors total, each with these specifications)	115	1/15	1	8.4	\$0.004	8	\$0.03			
					Cooler 3 (Chill Cooler)								\$1.80	\$715.11	\$8,581.32
Not Available - See Table 3 for Refrigeration Cost Calculation					Koch Compressor Motor	460	0	3	29.8	\$1.57	1	\$1.57			
					Koch Condenser Motor Fan (3 motors total, each with these specifications)	460	.75	1	2.6	\$0.045	3	\$0.14			
					Evaporator Fan (6 motors total, each with these specifications)	460	.25	1	0.9	\$0.015	6	\$0.09			
					Hot Product Cooler								\$0.57	\$226.45	\$2,717.42
Not Available - See Table 3 for Refrigeration Cost Calculation					Compressor	460					1	\$0.55			
					Evaporator Fan	460	.25	1	1.0	\$0.015	1	\$0.02			
					Smokehouse 1								\$2.37	\$37.92	\$455.04
-	-	4		16	Fan Motor	460	7.5	3	10	\$0.45	1	\$0.45		\$7.20	
-	-	4		16	Thermal Unit - See separate table							\$1.92		\$30.72	
					Smokehouse 2								\$2.37	\$37.92	\$455.04
-	-	4		16	Fan Motor	460	7.5	3	10	\$0.45	1	\$0.45		\$7.20	
-	-	4		16	Thermal Unit - See separate table							\$1.92		\$30.72	
					Smokehouse Processing Equipment								\$0.13	\$2.73	\$32.74
-	-	4		16	VacuFresh Vacuum Sealer	460	0.8	3	5.6	\$0.05	1	\$0.05		\$0.77	
-	-	8		32	Butcher Boy Vacuum Sealer	115	1	1	15.3	\$0.060	1	\$0.06		\$1.92	
-	-	-	-	2	Jarvis Wellsaw	115	.333	1	15	\$0.020	1	\$0.02		\$0.04	

hrs/ day	days/ wk	hrs/ wk	days/ mo	hrs/ mo	Equipment	Voltage (V)	HP	Phase	Amp. (60Hz)	Cost per Hour - Each Unit	Number of Units	Total Cost per Hour	Total Cost per Hour - Each Category	Cost per Month	Cost per Year	
Processing Room Refrigeration													\$0.57	\$226.45	\$2,717.42	
Not Available - See Table 3 for Refrigeration Cost Calculation						Bohnametic Compressor Motor	460	0	3	9.6	\$0.51	1	\$0.51			
						Koch Condenser Motor Fan (2 motors total, each with these specifications)	460	.25	1	1.1	\$0.015	2	\$0.03			
						Evaporator Fans (4 units w/ 4 motors per unit; 16 total, each with these specifications)	115	.035 7	1	6.8	\$0.002	16	\$0.03			
Processing Room Lights & Equipment													\$2.12	\$161.30	\$1,935.58	
8	5	40	-	160	Fluorescent lights (20 bands, 2 lights each)	277				\$0.26	1	\$0.26		\$40.96		
4	5	20	-	80	Hobart Vacuum Sealer	120	0	1	15	\$0.12	1	\$0.12		\$9.54		
5	5	25	-	100	Grinder (1)	440	10	3	15	\$0.60	1	\$0.60		\$60.00		
4	-	-	1	4	Grinder(2) [standby grinder]	230	7.5	3	26	\$0.45	1	\$0.45		\$1.80		
Karl Schnell Stuffer																
4	5	20	-	80	Stuffer - Motor 1	440	4	3	10.2	\$0.32	1	\$0.32		\$25.60		
4	5	20	-	80	Stuffer - Motor 2	440	1	3	2.3	\$0.08	1	\$0.08		\$6.40		
4	5	20	-	80	Stuffer - Motor 3	440	1.5	3	4.15	\$0.12	1	\$0.12		\$9.60		
Fatosa, S.A. Chopper																
not in use						Chopper - Motor 1	440	25	3		\$1.50	1	\$1.50		-	
not in use						Chopper - Motor 2	440	2	3	1	\$0.12	1	\$0.12		-	
Patty Machine																
6	2	12	-	48	Patty Machine - Motor 1	230	2	3	10.5	\$0.12	1	\$0.12		\$5.76		
6	2	12	-	48	Patty Machine - Motor 2	460	.5	3	1.1	\$0.03	1	\$0.03		\$1.44		
0.5	5	2.5	-	10	Hobart Ground Beef Fat Percentage Indicator	115	0	1	4.5	\$0.02	1	\$0.02		\$0.20		

hrs/ day	days/ wk	hrs/ wk	days/ mo	hrs/ mo	Equipment	Voltage (V)	HP	Phase	Amp. (60Hz)	Cost per Hour - Each Unit	Number of Units	Total Cost per Hour	Total Cost per Hour - Each Category	Cost per Month	Cost per Year
					Kill Floor Lights & Equipment								\$1.00	\$90.24	\$1,082.88
8	3	24	-	96	Kill Floor lights (Total of 8 sodium lamps,1000 watts each)	8000				\$0.64	1	\$0.64		\$61.44	
4	5	20	-	80	Breaker Saw	460	3	3	4.3	\$0.18	1	\$0.18		\$14.40	
4	5	20	-	80	Portion Saw	440	3	3	4.5	\$0.18	1	\$0.18		\$14.40	
not in use					Busch Vacuum Sealer	380	5.5	3	12	\$0.44	1	\$0.44		-	
8	5	40	-	160	Main Air Compressor for Entire Building	460	25	3	31.5	\$1.50	1	\$1.50	\$1.50	\$240.00	\$2,880.00
													Cost for Operation of Equipment	\$570.11	\$6,841.28
													Cost for Operation of Refrigeration Units	\$3,762.27	\$45,147.26
													Cost for Operation of All Equipment and Refrigeration Units	\$4,332.38	\$51,988.54

TABLE 3. MMMS COST TO OPERATE REFRIGERATION UNITS

Refrigeration Units	Total Cost per Hour for Each Unit	Percent of Total Refrigeration Unit Cost	Cost/Month	Cost/Year
Freezer 1 (Blast freezer)	\$1.85	20%	\$734.97	\$8,819.69
Freezer 2	\$1.44	15%	\$572.09	\$6,865.05
Freezer 3	\$1.44	15%	\$572.09	\$6,865.05
Cooler 1 (Finished Product Cooler)	\$1.22	13%	\$484.69	\$5,816.23
Cooler 2 (Holding Cooler)	\$0.58	6%	\$230.42	\$2,765.09
Cooler 3 (Chill Cooler)	\$1.80	19%	\$715.11	\$8,581.32
Hot Product Cooler	\$0.57	6%	\$226.45	\$2,717.42
Processing Room Refrigeration	\$0.57	6%	\$226.45	\$2,717.42
Total	\$9.47	100%	\$3,762.27	\$45,147.26

The cost per year to operate all refrigeration units is \$45,147.26 (Calculation: FY03 electric bill [\$51,988.54] minus the cost to operate all other equipment [\$6,841.28]).

Appendix F
Information Sources

Persons Contacted During Investigation September 2003 – December 2003

Andrew, Steven. Nuniwarmiut Reindeer and Seafood Processing, Mekoryuk, Nunivak Island, Alaska. Slaughter/Processing Facility Assistant Manager.

Arobio, Ed. State of Alaska, Department of Natural Resources, Division of Agriculture. Natural Resource Manager II.

Bagley, Dan. State of Alaska, Department of Natural Resources, Division of Agriculture. Agricultural Inspector I.

Baskin, Merlene. Dairy Farmer. Wasilla, Alaska.

Benz, Susan. USDA Alaska Agricultural Statistics Service, Palmer, Alaska. Agricultural Statistician.

Beus, Kyle. Dairy Farmer. Wasilla, Alaska.

Brainard, Don. Board of Agriculture and Conservation. Commercial Agriculture Production Representative. Palmer, Alaska.
Brost, Wayne. Dairy Farmer. Wasilla, Alaska.

Crigger, James. Mt. McKinley Meat & Sausage Plant. Production Manager I.

Deekins, Chad. McNeil Canyon Meat Company, Homer, Alaska. Slaughter/Processing Facility Plant Manager.

Diamond, Ernie. Mt. McKinley Meat & Sausage Plant. Production Manager I.

Dorman, Charles. Kodiak Smoking and Processing, Kodiak, Alaska. Slaughter/Processing Facility Co-op Member.

Easley, Candy. State of Alaska, Department of Natural Resources, Division of Agriculture. Loan/Collection Officer I.

Fellman, Pete. Dairy Farmer. Delta Junction, Alaska.

Franklin, Bob. B-Y Farms, Fairbanks, Alaska. Slaughter/Processing Facility Owner/Operator.

Franklin, Brett. B-Y Farms, Fairbanks, Alaska. Slaughter/Processing Facility Operator.

Gedicks, Wolfgang and Cathy. Mat Valley Meats, Wasilla, Alaska. Slaughter/Processing Facility Owner/Operator.

Harvey, Pat. Bering Pacific Ranches, Ltd., Unmak Island, Alaska/Alberta Canada. Slaughter/Processing Facility Company Representative.

Havemeister, Bob. Dairy Farmer. Palmer, Alaska.

Hecker, Rachel. Dairy Farmer. Wasilla, Alaska.

Huffman, Frank. Mt. McKinley Meat & Sausage Plant. Production Manager II.

Kern, Ed. . State of Alaska, Department of Natural Resources, Division of Agriculture. Retired Marketing Director.

Knopp, Paul. Dairy Farmer. Delta Junction, Alaska.

Lintelman, Don. Dairy Farmer. Delta Junction, Alaska.

Lott, Collin. McNeil Canyon Meat Company, Homer, Alaska. Slaughter/Processing Facility Owner.

Morgan, Ray. Matanuska Electric Association, Palmer, Alaska. Professional Engineer.

Nix, Ray. State of Alaska, Department of Natural Resources, Division of Agriculture. Natural Resource Specialist II.

Pinkelman, Jeannie. Delta Meat and Sausage, Delta Junction, Alaska. Slaughter/Processing Facility Manager.

Roe, Phil. Phil's Fish & Game, Kenny Lake, Alaska. Slaughter/Processing Facility Owner/Operator.

Sandvik, Curt. State of Alaska, Department of Natural Resources, Division of Agriculture. Administrative Assistant.

Torgerson, John. State of Alaska, Department of Natural Resources, Division of Agriculture. Manager and Acting Director.

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Ward, Bill. Alaska Farm Bureau Board Member and Farmer. Delta Junction, Alaska.

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