HIAWATHA FIRE-RESCUE

MEMORANDUM

TO: MAYOR, HIAWATHA CITY COUNCIL, CITY STAFF

FROM: MIKE NESSLAGE, FIRE CHIEF

SUBJECT: PURCHASE OF POWERED COTS AND LOADING SYSTEM

DATE: 11/1/2019

I am asking your approval to proceed with the purchase of Stryker Power-LOAD and Power-PRO XT cot system for all three ambulance units, from Klocke's Emergency Vehicles of Sterling Il. For a total of $133,515 for all three units. The money is budgeted in the FY20 CIP.

We have attempted to fund this via FEMA grant 3 times. Once again this year, we have been denied. I can no longer justify not providing this important safety item to our crews. We need to move forward purchasing this system. Power cot systems eliminate most of the lifting involved in patient transport. I have attached two articles identifying the reduction in back injuries. In the first study, EMSStat of central Oklahoma had decreased their cot lifting injuries to ZERO since 2013. A second peer reviewed study out of Canada, found that powered stretchers could reduce the number of injuries to providers by 78%. Both studies are attached. We are currently the only ambulance service in Linn County that does not have power cots. It is critical that we add these to our units.

I was able to contact three vendors for equipment and installation. Not only is Klocke the low bid, but they are also our current ambulance vendor. They will coordinate the installation on the first unit currently at the factory. They will also install the second two units. They have the lower installation price due to the convenience of installing during the rebuild of ambulance M8.

Vendor	Equipment	Installation	Total
Klocke's	$128,715	$4,800	$133,525
Stryker with install by Inst-a-Tech	$131,644.47	$5,400	$137,044.47
North Central Ambulance with install by us.	$131,673.63	No Quote Provided (Would have to use Inst-a-Tech for $5,400)	$137,073.63

Please let me know if you have any questions.

stryker

Powered
loading system

69%
of the U.S. adult population is overweight[1]

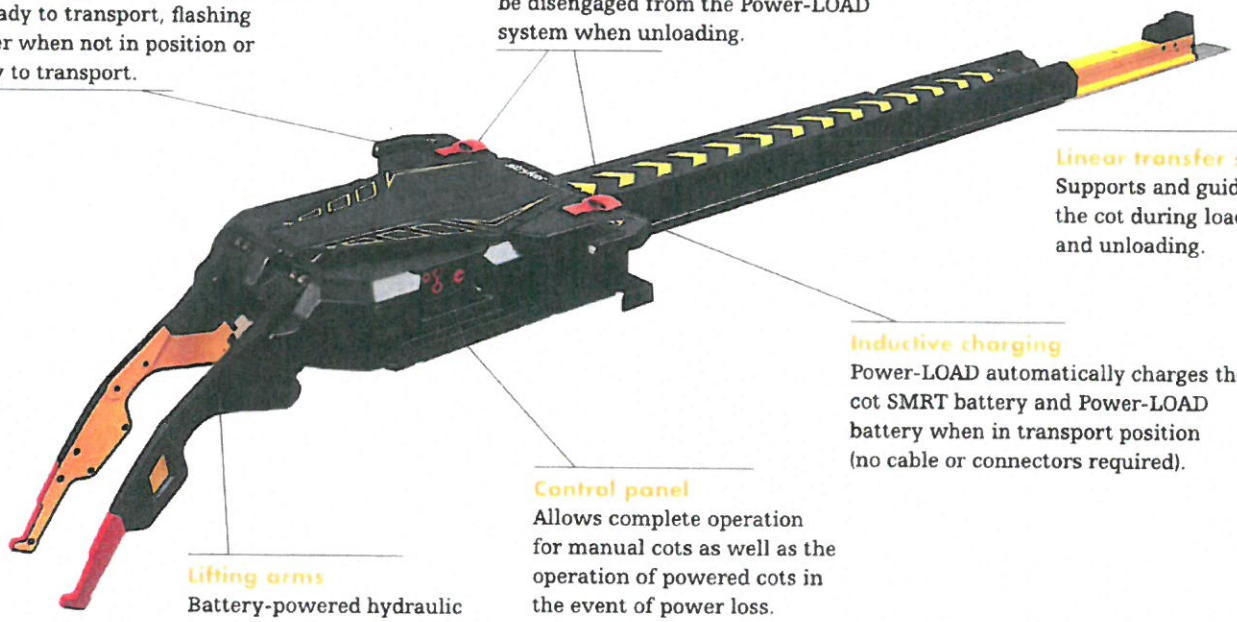
A typical strain injury has a total cost of
$70,408
to a department ($33,528 direct and $36,880 indirect costs)[4]

The average age of an EMS worker is
40 years old[2]

Power-LOAD®
powered cot fastener system

Reduce the risk of injuries when loading and unloading cots.

The Power-LOAD cot fastener system improves operator and patient safety by supporting the cot throughout the loading and unloading process. The reduction in spinal load helps prevent cumulative trauma injuries. Power-LOAD meets SAE J3027 dynamic crash test standards and minimizes patient drops by supporting the cot until the wheels are on the ground.



Head end LED indicators
Keep operator informed of position status. Solid green when in position or ready to transport, flashing amber when not in position or ready to transport.

Cot release handles
Red release handles allow the cot to be disengaged from the Power-LOAD system when unloading.

Linear transfer system
Supports and guides the cot during loading and unloading.

Inductive charging
Power-LOAD automatically charges the cot SMRT battery and Power-LOAD battery when in transport position (no cable or connectors required).

Control panel
Allows complete operation for manual cots as well as the operation of powered cots in the event of power loss.

Lifting arms
Battery-powered hydraulic lift system supports the cot and patient during loading and unloading.

Proven to save guarantee

Stryker will guarantee that you will see at least a 50 percent reduction in cot-related injuries pertaining to raising and lowering cots, or Stryker will replace all Power-PRO cots with equivalently configured manual cots price after the first year.*

*Eligibility dependent on documentation

1. http://www.cdc.gov/nchs/fastats/obesity-overweight.htm
2. http://www.emsl.com/ems-management/articles/1193622-EMS-recruitment-strategiesfor-managers/
3. http://www.emsworld.com/press_release/11360397/firefighter-invents-product-toreduce-back-injuries
4. https://www.osha.gov/dcsp/smallbusiness/safetypays/estimator.html
5. http://www.emsworld.com/press_release/11360397/firefighter-invents-product-toreduce-back-injuries
6. Sanders, Mick J. (2011) Mosby's Paramedic Textbook (4th ed., p. 36)
7. http://ems.stryker.com/ Stryker's Powered System shown to reduce back related injuries
8. Reference: Stryker. (2012). Superior Ambulance Case Study [Case Study on Power-PRO XT cots] Retrieved from: http://ems.stryker.com
9. Reference: The entire contents of the results section are from: T.K. Fredericks, S.E. Butt, K.S. Harms, J.D. Burns (2013). "Evaluation of Medical Cot Design Considering Biomedical Impact on Emergency Response Personnel." International Society for Occupation Ergonomics & Safety.

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Low back strain was the cause of

78%

of compensation days in the U.S.[5]

1 in 4

EMS workers suffer from a career-ending back injury within the first four years of employment.[6]

Lifting causes more than

70%

of back injuries of EMTs[4]

Power-PRO XT
powered ambulance cot

Now the standard of care, the Power-PRO XT was designed with extensive input from medics, resulting in a cot that reduces manual lifting. The innovative battery-powered hydraulic system raises and lowers the cot with the touch of a button* and the retractable head section shortens the cot for 360-degree mobility in any height position.

Retractable Head Section
Retractable head section provides 360-degree mobility in any height position.

XPS
Adjustable with seven locking positions and includes a wider mattress that reduces transfer gap and designed with patient comfort in mind.

Shock, Flat Leg, or Optional Knee Gatch Positioning
Knee gatch provides patient comfort and greater lift clearance.

SMRT Battery
Zero memory charging solution designed to give superior performance to your Power-LOAD cot

Hydraulic Lift System
Battery-powered hydraulic lift system with manual back-up for operator confidence.

Compatiblity Kit
Allows for Power-PRO XT cots to work with Power-LOAD, Performance LOAD or both

X-Restraint Package
Meets SAE J3027 dynamic crash test safety standards.

Steer-Lock
Maximizes cot mobility control by locking the head end casters into a straight position preventing cot drift and enhancing its turning precision.

100%

reduction in back injuries was experienced by one service with the assistance of the Power-LOAD cot fastener system and Power-PRO XT cot.[8]

up to **35%**

decrease in the rating of perceived exertion when using a powered fastener and powered cot as compared to manual equipment throughout the lifting, loading, and unloading process.[9]

up to **62%**

decrease in the risk of developing a low back disorder when adding powered fasteners and powered cots to the loading process.[9]

Power-PRO XT

Specifications

Model Number	**6506**
Height[1] (infinite height positioning between lowest and highest position)	
Highest Position	41.5 in. (105 cm)
Lowest Position	14 in. (36 cm)
Length	
Standard	81 in. (206 cm)
Minimum	63 in. (160 cm)
Width	23 in. (58 cm)
Weight[2]	125 lb (57 kg)
Wheels	
Diameter	6 in. (15 cm)
Width	2 in. (5 cm)

Articulation	
Backrest	0–73°
Shock Position	+15°
Optional Knee Gatch	30°
Maximum Weight Capacity[3]	700 lb (318 kg)
Minimum Operator Required	
Occupied Cot	2
Unoccupied Cot	1
Recommended Fastener System	
Power-LOAD	Model 6390
Floor Mount	Model 6370 or 6377
Wall Mount	Model 6371
Recommended Loading Height[4]	Up to 36 in (91 cm)

[1] Height measured from bottom of mattress, at seat section, to ground level.

[2] Cot is weighed with one battery pack, without mattress and restraints.

[3] 700 lb weight capacity with an unassisted lift capacity of 500 lb (Cot loads over 300 lb (136 kg) may require additional assistance to meet the set cot load height).

[4] Can accommodate load decks up to 36 in. Load height can be set between 26 in and 36 in.

Stryker reserves the right to change specifications without notice.

In-service video included with every order.

The Power-PRO XT is designed to conform to the Federal Specification for the Star-of-Life Ambulance KKK-A-1822.

The Power-PRO XT is designed to be compatible with competitive cot fastener systems.

Meets dynamic crash standards with Power-LOAD cot fastening system (AS/NZS-4535, BS EN-1789 with X-restraints and SAE J3027) and Performance-LOAD cot fastening system (SAE J3027 with X-restraints).

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The yellow and black color scheme is a registered trademark of Stryker Corporation

Power-LOAD

Specifications

Model Number	6390
Length	
Overall length	95 in (241 cm)
Minimum length	89.5 in (228 cm)
Width	24.5 in (62 cm)
Weight	
Total weight	211.5 lb (96.5 kg)
Floor plate assembly	16.5 lb (7.5 kg)
Anchor assembly	23 lb (10.5 kg)
Transfer assembly	67 lb (30.5 kg)
Trolley assembly	105 lb (48 kg)

Maximum weight capacity[1]	700 lb (318 cm)
Minimum operator required	
Occupied cot	2
Unoccupied cot	1
Recommended loading height	22 in to 36 in (56 cm to 91 cm)
Battery (6390-001-468)	12 VDC, 5 Ah lead acid battery

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1. Maximum weight capacity represents patient weight. Safe working load of 870 lb (395 kg) represents the sum of the cot total weight and patient.

The Power-LOAD Cot Fastener System is designed to conform to the Federal Specification for the Star-of-Life Ambulance KKK-A-1822.

*Source: Ada County Paramedics Case Study, ems.stryker.com/knowledgecenter

**Source: Evaluation of Medical Cot Design Considering the Biomechanical Impact on Emergency Response Personnel Tycho K. Fredericks, Steven E. Butt, Kimberly S. Harms, and James D. Burns. ems.stryker.com/knowledgecenter

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Study: Powered stretchers could reduce injuries, keep paramedics on the job

Moving from manual to powered stretchers could reduce the number of injuries to paramedics by 78 percent

Apr 17, 2017

University of Waterloo

WATERLOO, Ontario — Moving from manual to powered stretchers could reduce the number of injuries to paramedics by 78 percent, a University of Waterloo study has found.

The study, published in Applied Ergonomics, found that paramedics who had access to stretchers with a battery-powered hydraulic system and an assisted ambulance-loading feature experienced significantly fewer musculoskeletal injuries on the job.

"In many cases, paramedics face spine compression that is well above the threshold limit. A manual stretcher alone can weigh nearly 100 pounds. Add on a 200-pound patient and a paramedic team is handling 300 pounds every time they raise, lower, lift or load the stretcher," said Steven Fischer, assistant professor of kinesiology. "We estimate that a paramedic is lifting more than 1,700 pounds per shift on average, approximately the same weight as moving all of the furniture in a one-bedroom apartment."

The study compared injury rates at Niagara Emergency Medical Service, which had implemented powered stretchers at the time of the study, with Hamilton Paramedic Services, which used manual stretchers.

One year after introducing powered stretchers, stretcher-related injuries among Niagara paramedics dropped from 20 injuries 100 workers per year to 4.3. In Hamilton, injuries increased from 17.9 injuries per 100 workers to 24.6 over the same period.

Each unit can cost approximately of $40,000, and their availability varies among health regions.

"Although the units may seem expensive, they appear to offer a significant return on investment," said Daniel Armstrong, the study's lead author and a graduate student in the Department of Kinesiology. "We found that the added cost to purchase power stretchers and load systems would be recovered within their expected seven-year service life due to the reduction in injury-related costs."

Paramedics experience the highest incidence of work-related injury. Data from the Ontario Workplace Safety and Insurance Board indicates the incidence rates among paramedics are nearly five times higher than rates in any other sector.

"For paramedics, lifting and loading is a common element to almost each and every call," said Fischer. "Knowing that initial costs can be recovered should help ease the concerns of decision makers considering a transition to powered stretcher and load systems. Without them, it's not a question of if injuries will happen, but when and how many."

Tags > Health and Wellness • International • Safety

JOIN THE DISCUSSION

Be the first to comment

Please sign in or register to write your own comments below.
Before commenting, please read EMS1's Commenting Policy

Case study: How EMSStat saw a 100% reduction in cot-related injuries for four years

Learn how Stryker's Powered System has extended the careers of paramedics, protected patients and reduced on-the-job injuries

May 7, 2019

Content provided by Stryker

EMSStat serves the people of central Oklahoma, covering over 400 square miles in the Norman, Moore and immediate surrounding areas. As the paramedic department of the Norman Regional Health System, EMSStat is dedicated to the highest quality patient care, patient outcomes and community service.

THE CHALLENGE: REDUCING COT LIFTING INJURIES AMONG EMS PROVIDERS

As an early adopter of the Stryker Powered System, EMSStat has experienced the benefits of the Power PRO XT cot and Power-LOAD cot fastening system since 2013. (image/Stryker)

In 2014, Stryker released a case study highlighting the injury reductions experienced by EMSStat in their first year using the Powered System. After implementation in August, 2013, EMSStat decreased their cot lifting injuries to zero in the first full year of service. Since that study was released, EMSStat has seen a 42% increase in call volume and added seven ambulances to their fleet[1].In spite of these increases, EMSStat has not experienced a single cot related injury[2], which has resulted in significant cost savings.

THE SOLUTION: STRYKER BRINGS YEAR-OVER-YEAR INJURY REDUCTION AND SIGNIFICANT COST SAVINGS

In the years 2011 and 2012, EMSStat recorded 28 injury claims costing the organization $343,000. Of the 28 claims, 10 resulted from lifting cots which accounted for more than 73% of total injury costs at an average of $25,176.90 per claim[3]. With this in mind, EMSStat knew there must be an opportunity for improvement. As Director of Safety and Security for Norman Regional Health System, Shane Cohea took on the task of finding ways to reduce injuries for medics.

"After 1.5 years of research it was clear that the Stryker Power-PRO and Power-LOAD would be a key asset for injury reduction," said Cohea.

How Stryker's Powered System continues to drive positive results (image/Stryker) Mkt Lit-1626 27 JUN 2018 Rev A.1

THE RESULTS: EMSSTAT SEES IMPROVEMENTS IN CAREGIVER SATISFACTION

EMSStat

By the numbers

118
field employees

21
ambulances

21
Powered Systems

Since implementing the Powered System in August, 2013, EMSStat has not experienced a single cot related injury. Assuming that EMSStat experienced the same number of claims and the average cost of $25,176.90 per injury was carried over through the end of 2017, cot-related injuries would have cost the organization $545,499.50 in direct costs paid out for cot related injury claims.

"This is one of the best Cost Analysis I have ever compiled for our Executive Team, said Cohea.

In addition to sustained injury reduction and organizational cost savings, EMSStat has seen improvements in caregiver satisfaction[4]. 41 field employees responded to a survey with their perceptions on the Powered System.

EMSStat looks to continue to be on the leading edge of prehospital care, and adopting the Powered System is just
one way that they are taking care of their employees. As a part of the larger Norman Regional Health System, EMSStat is proud to provide the organization with a positive return on investment since implementation, and is hopeful to see continued improvements in staff satisfaction, efficiencies, and patient care for years to come.

The statistics and statements throughout this case study were gathered from employees of EMSStat via survey approved by Crew Chief, Norman Regional HealthSystem. (image/Stryker) Mkt Lit-1626 27 JUN 2018 Rev A.1

The statistics and statements throughout this case study were gathered from employees of EMSStat via survey approved by Crew Chief, Norman Regional HealthSystem. (image/Stryker) Mkt Lit-1626 27 JUN 2018 Rev A.1

1. Statistics provided by EMSStat Crew Chief.
2. Through December 31, 2017.
3. Injury costs and statistics provided by Director of Safety and Security, Norman Regional Health System.
4. Statistics and statements gathered from employees of EMSStat via survey approved by Crew Chief, Norman Regional Health
System. The views and opinions expressed herein are those of the survey respondents. Percentages include "Strongly Agree" and "Agree" responses combined and are rounded to the nearest whole percentage.

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Klocke's Emergency Vehicles
P. O. Box 851
Sterling, Illinois 61081

Phone: (815) 499-6577

Web site: www.klockesev.com

KK00863

QUOTATION

TO: HIAWATHA FIRE DEPARTMENT
101 EMMONS STREET
HIAWATHA , IA 52233

DATE: 10/24/19

ATTN: MICHAEL NESSLAGE

REFERENCE:

We are pleased to submit the following quotation in accordance with your request and subject to the Terms and Conditions listed below and on the reverse side hereof.

QTY.	DESCRIPTION	EACH	NET PRICE
1	STRYKER POWER LOAD SYSTEM	$ 23,245.00	$ 23,245.00
1	STRYKER POWER COT WITH XPS, POWER LOAD KIT 3 STAGE IV POLE, AND 02 MOUNT	$ 18,765.00	$ 18,765.00
1	STEER LOCK AND POCKETED BACKREST POUCH X RESTRAINT PACKAGAGE	$ 895.00	$ 895.00
1	LABOR FOR LIFE LINE TO INSTALL POWER LOAD SYSTEM	$ 1,600.00	$ 1,600.00
		Total	$ 44,505.00

ACCEPTED BY:_____

TITLE:_____ Date:_____

ESTIMATED DELIVERY:

PROPOSED BY:_____
KEVIN KLOCKE, PRESIDENT

stryker

PowerLOAD and PowerPRO

Quote Number:	10013421	Remit to:	P.O. Box 93308
Version:	1		Chicago, IL 60673-3308
Prepared For:	HIAWATHA FIRE DEPT	Rep:	Ryan From
	Attn:	Email:	ryan.from@stryker.com
		Phone Number:	(319) 331-9111

Quote Date: 10/23/2019
Expiration Date: 01/28/2020

Delivery Address		End User - Shipping - Billing		Bill To Account	
Name:	HIAWATHA FIRE DEPT	Name:	HIAWATHA FIRE DEPT	Name:	HIAWATHA FIRE DEPT
Account #:	1154974	Account #:	1154974	Account #:	1154974
Address:	101 EMMONS ST	Address:	101 EMMONS ST	Address:	101 EMMONS ST
	HIAWATHA		HIAWATHA		HIAWATHA
	Iowa 52233		Iowa 52233		Iowa 52233

Equipment Products:

#	Product	Description	Qty	Sell Price	Total
1.0	639005550001	MTS POWER LOAD	3	$24,641.01	$73,923.03
2.0	6506000000	Power-PRO XT	3	$14,317.20	$42,951.60
2.1	6506040000	XPS Option		$1,801.54	$5,404.62
2.2	6506127000	Power-LOAD Compatible Option		$1,526.02	$4,578.06
2.3	6506038000	Steer Lock Option		$690.44	$2,071.32
2.4	6500315000	3 Stage IV Pole PR Option		$310.78	$932.34
2.5	6500241000	Fowler O2 Bottle Holder		$235.34	$706.02
2.6	6500130000	Pocketed Back Rest Pouch		$233.70	$701.10
2.7	6500128000	Head End Storage Flat		$125.46	$376.38
2.8	6500003130	KNEE GATCH BOLSTER MATRSS, XPS		$0.00	$0.00
2.9	6500028000	120V AC SMRT Charging Kit		$0.00	$0.00
2.10	6085033000	PR Cot Retaining Post		$0.00	$0.00
2.11	7777881669	3 Yr X-Frame Powertrain Wrnty		$0.00	$0.00
2.12	7777881670	2 Yr Bumper to Bumper Warranty		$0.00	$0.00
2.13	6506026000	Power Pro Standard Components		$0.00	$0.00
2.14	6500001430	X-RESTRAINT PACKAGE		$0.00	$0.00
2.15	0054030000	DOM SHIP (NOT HI, AK, PR, GM)		$0.00	$0.00
2.16	650606160000	ONE PER ORDER, MANUAL, ENG OPT		$0.00	$0.00
2.17	6060036017	SAFETY HOOK, SHORT		$0.00	$0.00
2.18	0054200994	No Runner/HE O2		$0.00	$0.00

stryker

PowerLOAD and PowerPRO

Quote Number:	10013421	Remit to:	P.O. Box 93308
Version:	1		Chicago, IL 60673-3308
Prepared For:	HIAWATHA FIRE DEPT	Rep:	Ryan From
	Attn:	Email:	ryan.from@stryker.com
		Phone Number:	(319) 331-9111

Quote Date: 10/23/2019

Expiration Date: 01/28/2020

#	Product	Description	Qty	Sell Price	Total
2.19	6506012003	STANDARD FOWLER		$0.00	$0.00
2.20	6085031000	Trendelenburg		$0.00	$0.00
2.21	6506036000	No HE Section O2 Bottle		$0.00	$0.00
			Equipment Total:		$131,644.47

Price Totals:

Grand Total:	$131,644.47

Prices: In effect for 60 days.

Terms: Net 30 Days

Ask your Stryker Sales Rep about our flexible financing options.

AUTHORIZED CUSTOMER SIGNATURE

Deal Consummation: This is a quote and not a commitment. This quote is subject to final credit, pricing, and documentation approval. Legal documentation must be signed before your equipment can be delivered. Documentation will be provided upon completion of our review process and your selection of a payment schedule.

Confidentiality Notice: Recipient will not disclose to any third party the terms of this quote or any other information, including any pricing or discounts, offered to be provided by Stryker to Recipient in connection with this quote, without Stryker's prior written approval, except as may be requested by law or by lawful order of any applicable government agency.

Terms: Net 30 days. FOB origin. A copy of Stryker Medical's standard terms and conditions can be obtained by calling Stryker Medical's Customer Service at 1-800-Stryker.

In the event of any conflict between Stryker Medical's Standard Terms and Conditions and any other terms and conditions, as may be included in any purchase order or purchase contract, Stryker's terms and conditions shall govern.

Cancellation and Return Policy: In the event of damaged or defective shipments, please notify Stryker within 30 days and we will remedy the situation. Cancellation of orders must be received 30 days prior to the agreed upon delivery date. If the order is cancelled within the 30 day window, a fee of 25% of the total purchase order price and return shipping charges will apply.

Inst-A-Tech LLC
518 Rust Ln
Belton, KY 42324
(270) 399-1202
instatech2012@yahoo.com

ADDRESS
HIAWATHA FIRE DEPT

Estimate 1398

DATE 10/23/2019

ACTIVITY	QTY	RATE	AMOUNT
Installation Of Power Load System #4	3	1,800.00	5,400.00

TOTAL **$5,400.00**

Accepted By

Accepted Date

10.30.2019

Quote 103019HFD

To
Hiawatha Fire
Department
101 Emmons St
Hiawatha, IA 52233

Ship To
Same as recipient

Instructions
Customer to provide install

Quantity	Description	Unit Price	Total
3	MTS Power Loads	$ 24,645.01	$ 73,935.03
3	Power Pro Cot	$ 14,320.20	$ 42,960.60
3	Power Cot Option Package	$ 4,926.00	$ 14,778.00
	Subtotal		$131,673.63
	Sales Tax		Exempt
	Shipping & Handling		Inc
	Total Due		**$131,673.63**

Thank you for your business!

North Central Ambulance Sales and Service

Tel 320-395-2911
Fax 320-613-6057

18448 County Road 9
Lester Prairie, MN 55354

www.newambulances.com
fpawelk@northcentralambulance.com

NORTH CENTRAL EMERGENCY VEHICLES

DRAFT

RESOLUTION NO. 19-
City Council

RESOLUTION AUTHORIZING THE FIRE DEPARTMENT PURCHASE OF THREE (3) POWERED COT LIFTING SYSTEMS FOR ALL THREE (3) AMBULANCES

WHEREAS, The Hiawatha Fire Department has a need for the purchase of three (3) powered cot lifting systems for all three (3) ambulances to eliminate most of the lifting involved in patient transport, and

WHEREAS, The Hiawatha Fire Department received three (3) bids and after review recommends the responsive responsible bid of Klocke's as follows:

Company	Equipment	Installation	Total
Klocke's	$128,715	$4,800	$133,515

, and

WHEREAS, funding for the purchase of three (3) powered cot lifting systems is available in FY20 CIP in an amount not to exceed $160,000, and

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF HIAWATHA, IOWA to authorize the purchase of three (3) powered cot lifting systems for all three (3) ambulances at a total cost not to exceed $133,515.00, with Klocke's.

AYES:
NAYS:
ABSENT:

PASSED AND APPROVED this 6th day of November, 2019.

_____
Bill Bennett, Mayor

ATTEST:

_____
Amy Scheer, Deputy City Clerk