

CHIEF ENGINEER PRESENTATION

STAFFING OPERATIONS AND MAINTENANCE OF THE
PHYSICAL PLANT AND EQUIPMENT FOR THE NATIONAL
ACADEMIES OF SCIENCES, ENGINEERING, AND MEDICINE

OSCAR G. JOHNSON VAMC

IRON MOUNTAIN, MICHIGAN

ARTHUR G. ONTTO, P.E., CHFM

CHIEF, ENGINEERING SERVICE





OSCAR G. JOHNSON VA MEDICAL CENTER

- Facility is a complexity level 3
- Most rural VAMC in the country
- City population is 7,624

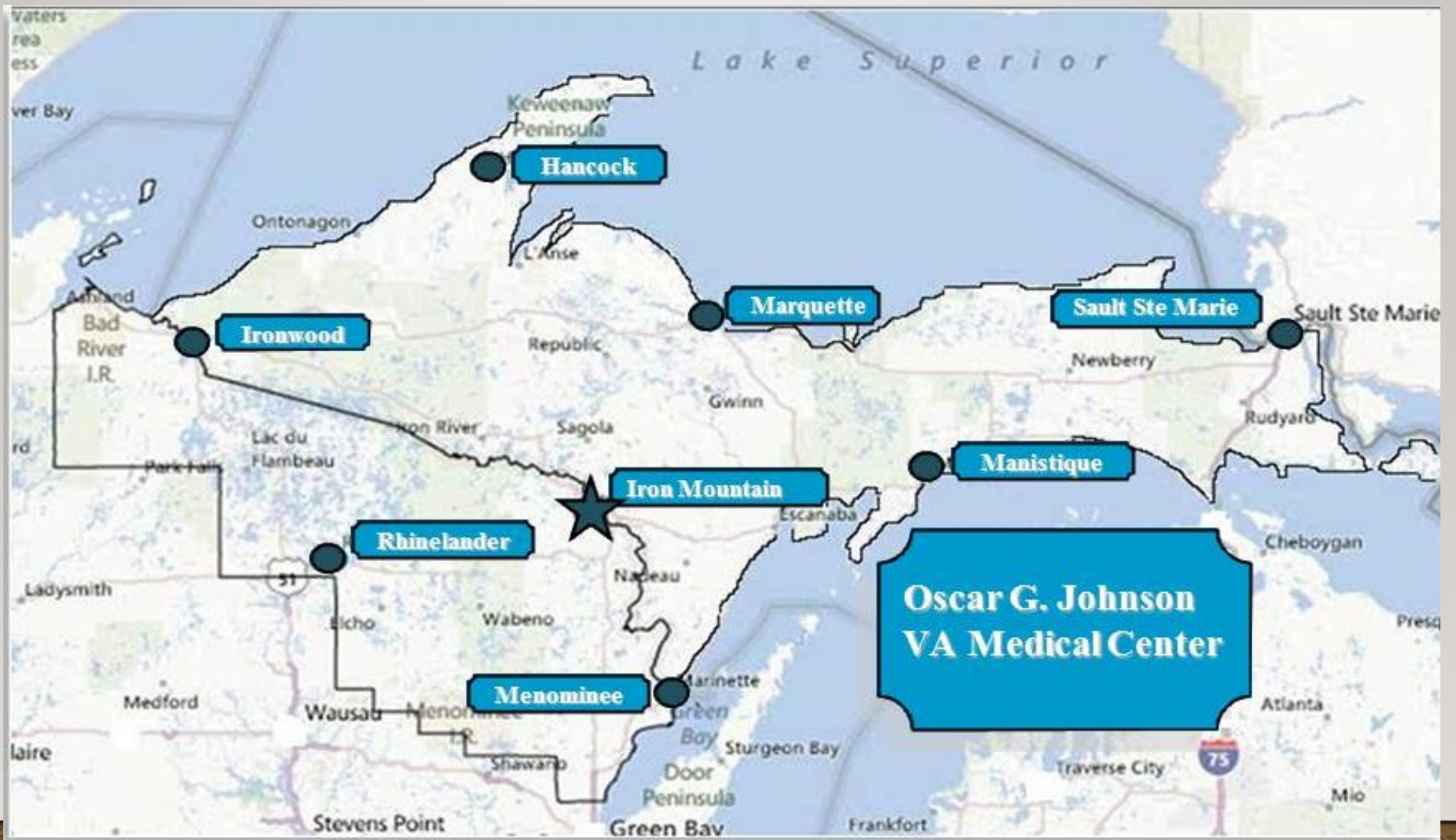
Medical Center Campus consists of:

- 17 buildings
- 27 acre campus
- 317,600 owned square feet of space
- Facility constructed in 1948
- capital improvements since 2006 approximately \$110,000,000

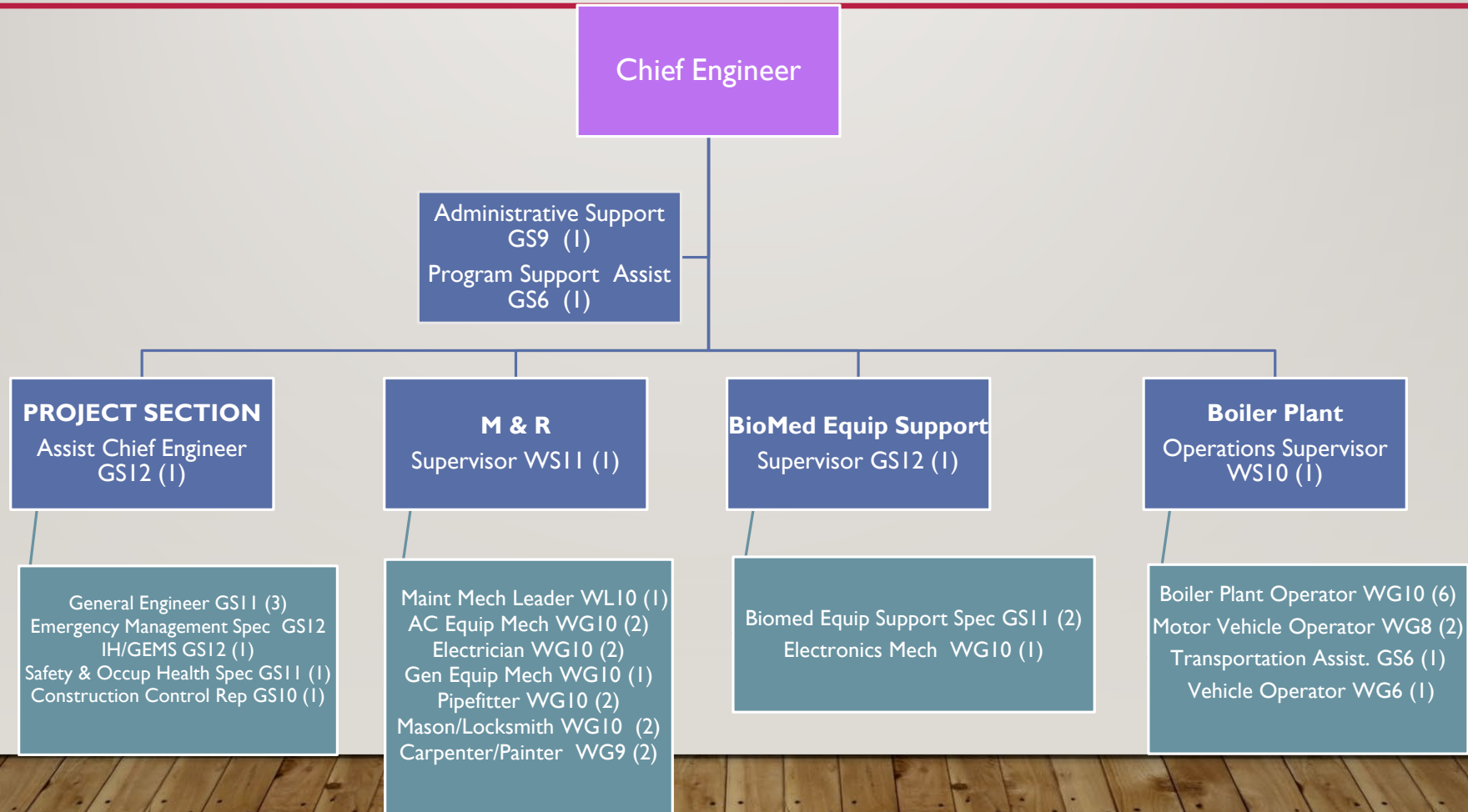
7 Community Based Outpatient Clinics (CBOC)

- 30,800 leased square feet
- Closest CBOC is 80 miles away and the farthest CBOC is located 225 miles away

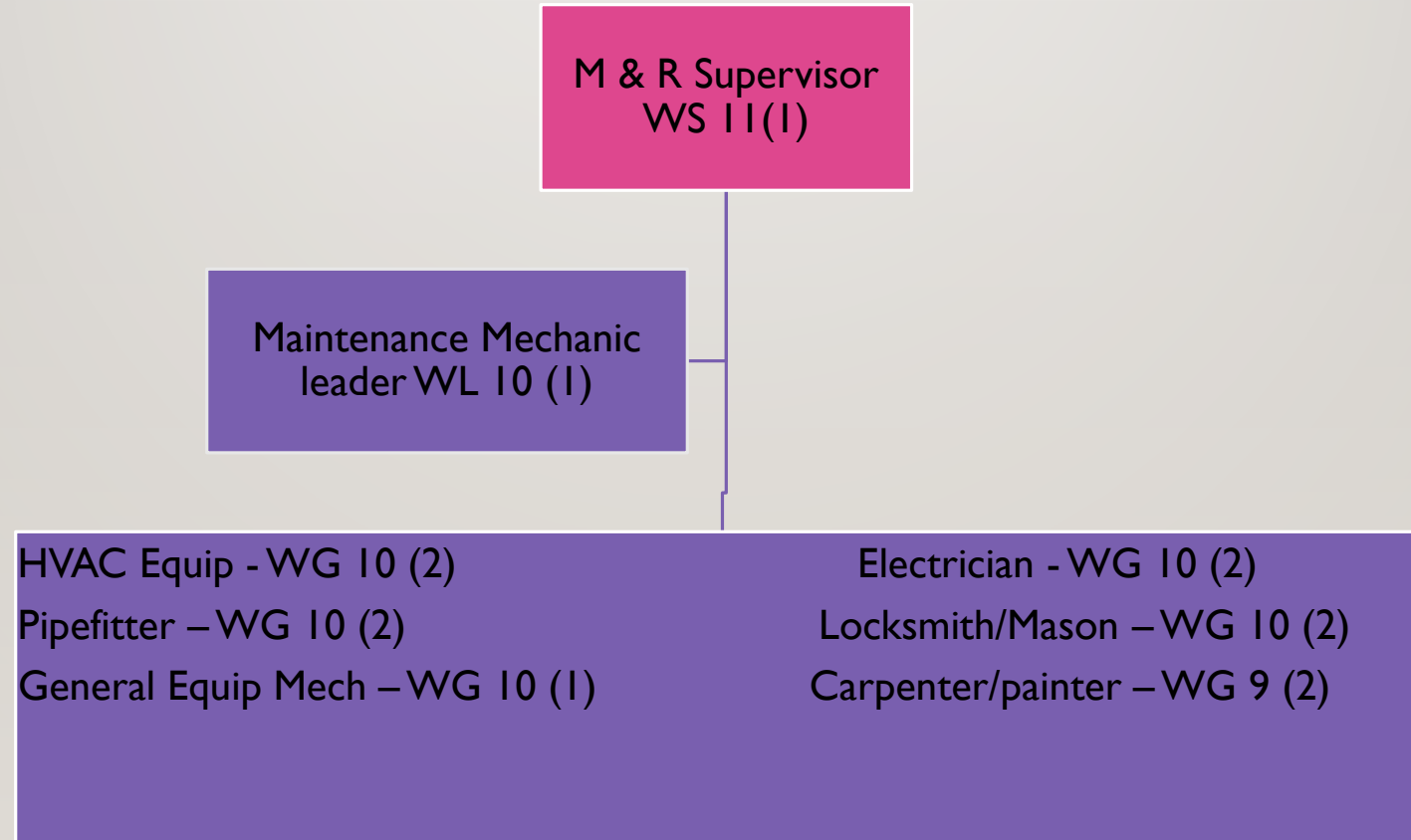




ENGINEERING ORGANIZATIONAL CHART



MAINTENANCE & REPAIR ORGANIZATIONAL CHART



ELECTRIC SHOP

- 2 ELECTRICIANS, 1 LICENSED MASTER ELECTRICIAN, 1 NON-LICENSED
- RESPONSIBLE FOR EVERYTHING FROM OUTLETS TO 3 EACH 1.25 MW GENERATORS
- 2018 29% OF TIME SPENT ON PREVENTIVE MAINTENANCE AND TESTING
- 2018 53% OF TIME SPENT ON REPAIR WORK ORDERS
- 2018 18% OF TIME SPENT ON PROJECT SUPPORT
- CONTRACT \$80,000 ON ELECTRICAL TESTING/MAINTENANCE SUPPORT AND GENERATOR MAINTENANCE
- WE ARE IN COMPLIANCE WITH THE MINIMUM REQUIREMENTS OF NFPA 70E

ELECTRONICS SHOP

- 1 ELECTRONICS TECHNICIAN
- RESPONSIBLE FOR FIRST RESPONDER FOR FIRE ALARM SYSTEM ISSUES, SECURITY SYSTEMS, NURSE CALL, CCTV, PANIC ALARMS, MED CARTS, ELECTRONIC SIGNAGE, PORTABLE UPS, RADIO REPEATERS, PAGING SYSTEM, WANDERGUARD, PATIENT TVs,
- 2018 42% OF TIME SPENT ON PREVENTIVE MAINTENANCE/TESTING
- 2018 48% OF TIME SPENT ON REPAIR WORK ORDERS
- 2018 10% OF TIME SPENT ON PROJECT SUPPORT
- CONTRACT \$25,200 ON FIRE ALARM TESTING AND MAINTENANCE

PLUMBING/PIPE FITTING SHOP

- 1 LICENSED MASTER PLUMBER, 1 PIPEFITTER
- RESPONSIBLE FOR WATER, SEWER, STEAM, AND SPRINKLER SYSTEMS. INCLUDES HOT WATER AND WATER TREATMENT SYSTEMS, BACK FLOW DEVICES, OUTBUILDING HEATING SYSTEMS, KITCHEN AND CANTEEN EQUIPMENT, MIXING VALVES, EYEWASHES, DENTAL VACUUM, FIRE PUMP, TAMPER/FLOW SWITCHES, WATER WELL SYSTEM
- 1 PLUMBER CERTIFIED TO TEST/ADJUST BACK FLOW PREVENTERS
- PIPE INSULATION IS CONTRACTED OUT
- 2018 20% OF TIME SPENT ON PREVENTIVE MAINTENANCE/TESTING
- 2018 62% OF TIME SPENT ON REPAIR WORK ORDERS
- 2018 18% OF TIME SPENT ON PROJECT SUPPORT
- CONTRACT \$30,500 ON WATER TREATMENT MAINTENANCE, SPRINKLER TAMPER AND FLOW DEVICE TESTING, AND SEWER AND STORM MAIN CLEANING

HVAC SHOP

- 2 HVAC TECHNICIANS
- RESPONSIBLE FOR HEATING, COOLING, CHILLER PLANT, BUILDING AUTOMATION SYSTEM, ICE MACHINES, MEDICAL AIR COMPRESSORS, REFRIGERATORS, TEMP TRAK MONITORING SYSTEM, HOUSE VACUUM SYSTEM, PNEUMATIC TUBE SYSTEM
- 2018 39% OF TIME SPENT ON PREVENTIVE MAINTENANCE/TESTING
- 2018 50% OF TIME SPENT ON REPAIR WORK ORDERS
- 2018 11% OF TIME SPENT ON PROJECT SUPPORT
- CONTRACT \$58,200 ON CHILLER MAINTENANCE, DUCT CLEANING AND BUILDING AUTOMATION SUPPORT

PAINT, CARPENTRY, SIGN, MASON, LOCK SHOP

- 2 CARPENTER/PAINTERS
- 2 MASON/LOCKSMITHS
- RESPONSIBLE FOR DOORS, LOCKS, FIREWALL MAINTENANCE, MASONRY WORK, PAINTING, SIGNS, FLOORS, CEILING, MISCELLANEOUS DRYWALL REPAIRS, ETC
- MOST PAINTING DONE BY CONTRACT
- 2018 6% OF TIME SPENT ON PREVENTIVE MAINTENANCE/TESTING
- 2018 85% OF TIME SPENT ON REPAIR WORK ORDERS
- 2018 9% OF TIME SPENT ON PROJECT SUPPORT

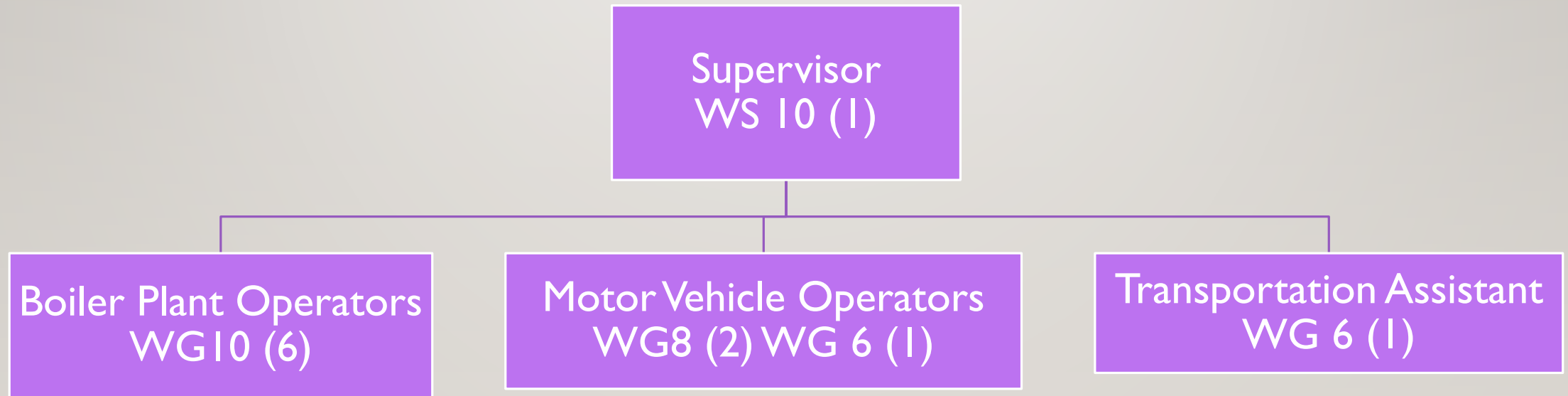
MACHINE SHOP

- I MAINTENANCE MECHANIC
- RESPONSIBLE FOR OVERHEAD BED PATIENT LIFTS, SCOOTER/WHEELCHAIR REPAIR, NON MEDICAL EQUIPMENT REPAIR, MEDICAL GAS TANK INSTALLATION, FABRICATING, WELDING, ETC
- 2018 12% OF TIME SPENT ON PREVENTIVE MAINTENANCE/TESTING
- 2018 83% OF TIME SPENT ON REPAIR WORK ORDERS
- 2018 5% OF TIME SPENT ON PROJECT SUPPORT
- CONTRACT \$47,000 ON ELEVATOR MAINTENANCE AND TESTING, AND HOOD AND FIRE EXTINGUISHER MAINTENANCE AND TESTING

MAINTENANCE AND REPAIR SUMMARY

- 12 MECHANICS
- 1 WORK LEADER
- 1 SUPERVISOR
- 2018 3700 HOURS ON SICK AND ANNUAL LEAVE
- 2018 382 HOURS OF MANDATORY TRAINING
- 2018 1232 HOURS ON HOLIDAY TIME OFF
- 2018 COMPLETED APPROXIMATELY 5350 PREVENTIVE WORK ORDERS AND 5200 REPAIR WORK ORDERS

BOILER PLANT ORGANIZATIONAL CHART



BOILER PLANT, GROUNDS, AND TRANSPORTATION

- 6 BOILER PLANT OPERATORS
- 3 MOTOR VEHICLE OPERATORS
- 1 TRANSPORTATION ASSISTANT
- 1-2 COMPENSATED WORK THERAPY (CWT) WORKERS
- RESPONSIBLE FOR OPERATION AND MAINTENANCE OF BOILER PLANT, MAINTENANCE OF THE GROUNDS, MOTOR COACH TRIPS TO MILWAUKEE VA, GSA AND VA OWNED VEHICLES, SNOW REMOVAL, EQUIPMENT REPAIR, MONITORING ALARMS ON OFF SHIFT
- 2018 39% OF TIME SPENT ON PREVENTIVE MAINTENANCE/TESTING
- 2018 50% OF TIME SPENT ON REPAIR WORK ORDERS
- 2018 11% OF TIME SPENT ON PROJECT SUPPORT
- CONTRACT \$17,200 ON BOILER INSPECTION/TESTING AND \$25,400 SPENT ON GROUNDS MAINTENANCE CONTRACT

CHIEF ENGINEER RESPONSIBILITIES/EXPECTATIONS

- SUCCESSFUL ACCREDITATION SURVEYS JOINT COMMISSION, LONG TERM CARE INSTITUTE, OIG, ETC
- FLAWLESS OPERATION OF FACILITY, NO NEGATIVE EVENTS
- LONG TERM PLANNING
- OBLIGATE CONSTRUCTION ON SCHEDULE AND WITHIN BUDGET
- TOP SCORES ON ADMINISTRATIVE MEASURES, ENVIRONMENT OF CARE, ALL EMPLOYEE SURVEY
- CONTINEOUS READINESS ON CODE COMPLIANCE
- BUDGET ADMINISTRATION AND EMPLOYEE SUPERVISION
- TRAIN AND MENTOR EMPLOYEES

HOW DO WE MEASURE SUCCESS?

- CUSTOMER SERVICE SURVEYS
- COMPLIMENTS AND COMPLAINTS
- RESULTS OF INSPECTIONS AND SURVEYS
- PATIENT SATISFACATION SURVEYS
- HOW OUR EQUIPMENT PERFORMS

POSITIONS WE WISH WE HAD!

- WORK ORDER CLERK
- ANOTHER ELECTRONICS TECHNICIAN
- 24 HOUR COVERAGE? ANOTHER HVAC TECHNICIAN
- ENOUGH SKILLED MECHANICS TO HAVE SOMEONE ON CALL?
- ANOTHER WORK LEADER
- GARDENER

WHAT KEEPS ME UP AT NIGHT?

- NO OFF HOUR COVERAGE
- SOMETHING BREAKS AND NO ONE WILL ANSWER THEIR TELEPHONE
- BUS TRIPS TO MILWAUKEE WITH PATIENTS IN THE WINTER
- COMPLEXITY OF NEW EQUIPMENT AND SYSTEMS. ARE WE ABLE TO REPAIR AND OPERATE?
- DID SOMEONE GET CALLED IN AND ARE WORKING ON A PIECE OF EQUIPMENT BY THEMSELVES
- EMPLOYEE WORKLOAD AND BURNOUT

CHALLENGES

- TAKES 10-12 MONTHS TYPICALLY TO FILL A POSITION. VARIES 5 TO 18 MONTHS.
- GETTING PROGRESSIVELY MORE DIFFICULT TO HIRE STAFF WITH THE DESIRED QUALIFICATIONS
- NEED A FRIENDLY WORK ORDER SYSTEM THAT CAN PROVIDE ACCURATE INFORMATION
- SPENDING LIMIT ON CREDIT CARD FOR CONSTRUCTION AND SERVICES
- ALL ORDERS ABOVE CC LIMIT NEED TO GO TO SET ASIDE CONTRACTORS
- LACK OF CONTRACTORS IN AREA
- DIFFICULTY GETTING PARTS AND QUALIFIED VENDORS TO SUPPORT BREAKDOWNS MOST ARE 2-4 HOURS AWAY
- PARTS ORDERING SYSTEM WITH LOGISTICS

MISCELLANEOUS

- SMALL PROJECTS ARE CONTRACTED OUT
- STAFF NUMBERS ARE SUPPLEMENTED BY CONTRACTORS WHEN NEEDED
- MOST PREVENTATIVE MAINTENANCE IS COMPLETED BY STAFF OR CONTRACT
- WOULD LIKE TO HAVE A MORE COMPREHENSIVE PROACTIVE MAINTENANCE PROGRAM. NEED ADDITIONAL RESOURCES TO ACCOMPLISH!
- WOULD LIKE TO EXERCISE INTERIOR VALVES
- IMPLEMENT PM'S ON WATER BALANCING AND AIR BALANCING
- FOCUS ON OPERATION OF SYSTEMS VS MAINTENANCE/REPAIR OF THEM

QUESTIONS

