



DEPARTMENT OF THE ARMY  
US ARMY INSTALLATION MANAGEMENT COMMAND  
HEADQUARTERS, UNITED STATES ARMY GARRISON, FORT JACKSON  
4325 JACKSON BOULEVARD  
FORT JACKSON SC 29207-5015

IMFJ-PWE (200-1)

MEMORANDUM FOR ENVIRONMENT & ENERGY MEETING ATTENDEES

SUBJECT: Minutes of Environment & Energy Meeting

1. Under the provisions of AR 200-1, "Environmental Protection and Enhancement," and AR 420-1, "Army Facilities Management", the Fort Jackson Environmental Quality Control Committee (EQCC), Qualified Recycling Program (QRP) Board Members, and Garrison Energy Steering Committee met at 1030, 27 January 2015, in the Post Conference Room.

2. Attendees: 18 Members present.

3. Agenda: QRP Update, Red-cockaded Woodpecker (RCW) Update, Sustainability Management System & Haz' Material Update, Upcoming Environmental Events, and Energy Update.

4. Significant discussion points:

a. Ms. Nicole Hawkins, Wildlife Biologist, briefed the members on the status of the RCW population. Also, she described changes to RCW cavity tree markings that were implemented as a result of the latest revision of the RCW Endangered Species Management Component (ESMC). COL Graese asked what the target RCW population was. In response to his query, Ms. Hawkins stated that the overall target is 121 groups (over next 60 years). Short-term, the goal is 5% rate of growth over five years; currently tracking at 4%. Mr. Tony Risher, DPTMS, stated that the Range Ops regulations will need to be updated to reflect changes.

b. Ms. Tameria Warren, SMS/P2/GP Coordinator, briefed that the Sustainability Management System (SMS) will be evaluating the installation's significant environmental aspects for CY15 and has requested the expansion of the cross functional team (CFT) to assist in this process. Additionally, SMS elements are now included in Army environmental compliance assessments and new ISO 14001 for SMS will be issued in Summer 2015. She also briefed that Fort Jackson will have a new hazardous materials tracking system, Enterprise Environmental Safety and Occupational Health- Management Information System (EESOH-MIS), implemented by May 2015. The system will impact individuals who use, store, and/or purchase hazardous materials. Select personnel and organizations will be notified of upcoming training requirements. COL Shade asked what products will be affected and what will the transition entail. She stated that FJ will develop authorized usage lists

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(AUL) for all users. Additionally, identification of end-user locations and installation-wide training will be the major upcoming action items. COL Graese asked if LRC tracking their involvement of this process. She stated that she's coordinating with them and they understand their responsibility as the lead proponent.

c. Mr. Matt Gibbs, Energy Manager, provided an energy update with statistical information including reduction strategy, energy saving projects, NORESKO ESPC, the RLB Effect, Behavioral and Cultural, and alternative and renewable energy. COL Graese asked what caused the drop in BMU numbers, he explained because of the replacement of equipment (i.e., chillers/pumps), implementation of occupancy sensors, replacement of lighting systems, etc. COL Graese asked if the barracks was included in the No-Energy period and Mr. Gibbs said no.

5. The meeting was adjourned at approximately 1130.



MICHAEL S. GRAESE  
COL, AD  
Commanding



# **Environment & Energy Meeting**

**(Combined Environmental Quality Control  
Committee, Recycling Board, and Garrison  
Energy Steering Committee Meetings)**

**27 January 2015**



# Agenda



- 1. Opening Remarks – Andy Poppen**
- 2. Qualified Recycling Program Update – Ernest Dicks**
- 3. Red-cockaded Woodpecker Update – Nicole Hawkins**
- 4. Sustainability Management System & Haz' Material Update –  
Tamera Warren**
- 5. Upcoming Environmental Events – Andy Poppen**
- 6. Energy Update – Matt Gibbs**
- 7. Open Discussion**
- 8. Closing Remarks - COL Graese**



# Qualified Recycling Program (QRP) Update

Ernest Dicks  
Recycling Center Manager



# RECYCLING WINNERS

## 1st Quarter



Large Units – Moncrief

BCT Units – 3/34<sup>th</sup>

Other Units - ATC



## QRP UPDATE



- Recycling Planning Board projects will be presented at the April E&E meeting.
  - Projects are due 16 March.
- Next Shred Day is 18 February 2015.
- In 1<sup>st</sup> Quarter the Recycling Center:
  - made \$68K in local sales.
  - Awarded \$10K for the unit incentive program.



# QRP Funded Projects



Classes of Eligible projects:

- Pollution Prevention
- Energy/water Conservation
- Occupational Safety
- Health Enhancement



# Status of Recent QRP Funded Projects



# QRP Funded Project



- **Phase 1 Maintenance Project for storm water detention pond behind the new Army Lodge**
- **Cost: \$110,000**
  - Sediment Removal
  - Stabilization of Inlet/Outlet Structures
  - Status: Completed



# Detention Pond





# QRP Funded Project



## •Purchase recycling containers and dumpsters

- Deskside
- Common Areas
- Solomon Center/Schools
- DFACs/FOBs
- Headquarters
- Status: Completed

• **Cost: \$215K**



Includes vinyl labels



# For Questions or Additional Information:

Ernest Dicks

Recycling Center Mgr

(803) 751-4208

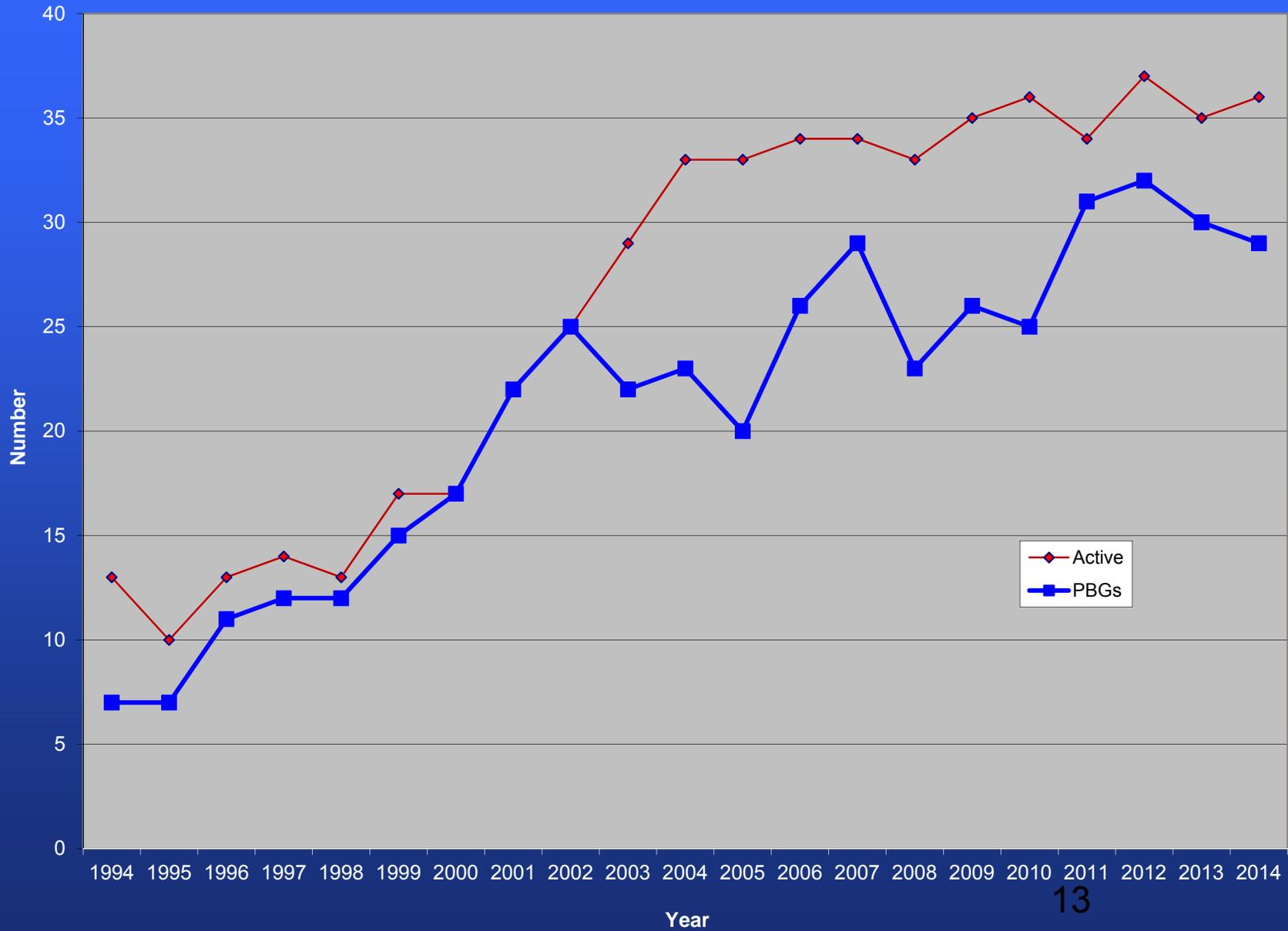
[Ernest.b.dicks.naf@mail.mil](mailto:Ernest.b.dicks.naf@mail.mil)



# Red-cockaded Woodpecker (RCW) Update

Nicole Hawkins  
Wildlife Biologist

# Fort Jackson RCW Population Data 1994 - 2014





# Cavity Tree Marking Change



- **Change stems from unsuitable trees unnecessarily protected**
- **Green Banded Trees:**
  - No training restrictions.
  - Trees must still be protected from damage.
- **White Banded Cavity Trees**
  - No Change.
  - Training restrictions still exist within the 200-foot buffer zone.





# Changes to Cavity Tree Markings



- **131 trees were painted green (655 total cavity trees on Fort Jackson).**
- **Buffers were removed on approximately 180 acres. Approximately 300 acres remain within 200 foot buffers of cavity trees and are subject to training restrictions.**



# Cavity Tree Markings





# For Questions or Additional Information:

Nicole Hawkins

Wildlife Biologist

(803) 751-3735

[angela.n.hawkins4.civ@mail.mil](mailto:angela.n.hawkins4.civ@mail.mil)



# **SMS & Green Procurement Update**

Tameria M. Warren  
Program Manager



# Sustainability Management System (SMS) Policy



- “Fort Jackson will execute the mission while promoting continual improvement through established objectives and targets, committing to compliance with legal and other requirements that relate to environmental aspects, working towards the prevention of pollution, managing sustainable programs that control environmental aspects, and sustaining natural and cultural resources that are identified on the installation.”
- Acronym: **PALMS**



# Sustainability Management System (SMS)



Our CY 14 Significant Env'l Aspects	
Field Fueling	Weapons/Parts Cleaning
Sediment/Soil Erosion	Open Dumping
Generators	Food Waste
Mismanagement of HM/HW	Construction Activities

- **Determining 2015 Significant Env'l Aspects**

- Products, activities, or services that may have an adverse impact on the environment
- Implement objectives, targets, and action plans to address them
- Identified by Cross Functional Team (next slide)
- Ideally done next month



# Sustainability Management System (SMS)



## Steps Forward

- **Re-energize the Cross Functional Team (CFT)**
  - Major tenants and org's need a representative on the CFT
  - Involvement includes: assess activities, identify problems, and establish goals/action items
- **Members:**

– DPW	DFMWR	PM
– PAIO	AAFES	MEDDAC
– DPTMS	DES	BDE (165 <sup>th</sup> /171 <sup>st</sup> /193 <sup>rd</sup> /etc)
– LRC	ISO	G4
- **OPORD forthcoming**



# Sustainability Management System (SMS)



## Steps Forward (cont.)

- **Environmental Management System (EMS)/ SMS merged with EPAAS Program**
  - Assess the management of significant environmental aspects and performance of objectives & targets using ISO 14001 elements (management tools)
- **New: ISO 14001 Standard (2015 Edition)**
  - Release June 2015; requires re-certification audit



# Tracking Haz' Material



# New Hazardous Material Tracking System



- **Enterprise Environmental Safety and Occupational Health- Management Information System (EESOH-MIS)**
  - Transitioning from current HMMS
- **Impact to end-users (use/store/purchase HM):**
  - Online tracking of materials (vs. hardcopy submissions)
  - Approval process for materials prior to purchasing
- **Systems approach to tracking hazardous materials (HM):**
  - Identify/establish HM issue- and use-points
  - Implement HM management plan and guidelines
  - Track HM inventory installation-wide
  - Establish HM approval team
  - Provide installation-wide training
- **Lead proponent: LRC**
  - Coordination conducted by ENV



# New Hazardous Material Tracking System



- **Target dates for implementation: 18-22 May 2015**
  - Facilitated by HQ IMCOM and Army EESOH-MIS lead (CACI International)
  - Provide additional training/guidance
- **An OPORD will come describing next steps and the 5 W's**



# For Questions or Additional Information:

Tameria M. Warren  
SMS/GP/P2/EPAAS  
(803) 751-5905

[tameria.m.warren.ctr@mail.mil](mailto:tameria.m.warren.ctr@mail.mil)



# EPAAS Audit Prep' for next week



- **Check your areas for poor housekeeping !**
- Ensure your organization has an appointed primary & alternate Environmental Compliance Officer.
- Make sure your hazardous substances are properly labeled, stored, and maintained.
- Ensure proper management of Universal Waste (lamps, batteries)
- Properly dispose of or turn in excess old equipment and debris.
- Ensure your Green Binder contains the elements listed here <http://jackson.armylive.dodlive.mil/units/usag/dpw/env/emb/eco/>



# Upcoming Environmental Events



- **External EPAAS**
  - 2- 6 Feb
  - Post Wide
- **ORAP Public Meeting**
  - 4 Feb, 1800 hrs
  - Weston Lake Community House
- **Environmental Compliance Officer training**
  - 18- 19 March, Post Safety Office
- **Green Initiative Day & Earth Day Activities**
  - Educational activities
  - April (TBD)



# Environmental Take-Aways



- **Be prepared for EPAAS**
- **Assign someone from your org' to the CFT**
- **Take advantage of the unit incentive program**
- **Make sure your soldiers are informed about the new tree markings and their implications.**



# BCT UNITS INCENTIVE AWARDS



1st Qtr

HHC 193 <sup>RD</sup> INF BDE	\$50
1/13 <sup>TH</sup>	\$470
2/13 <sup>TH</sup>	\$330
3/13 <sup>TH</sup>	\$465
2/60 <sup>TH</sup>	\$280
3/60 <sup>TH</sup>	\$400
TOTAL	\$1995

HHC 165 <sup>TH</sup> BDE	\$260
1/34 <sup>TH</sup>	\$ 435
3/34 <sup>TH</sup>	\$1035
2/39 <sup>TH</sup>	\$ 600
1/61 <sup>ST</sup>	\$280
TOTAL	\$2610



# LARGE UNITS INCENTIVE AWARDS



	1st Qtr
120 <sup>TH</sup> AG BN	\$1020
369 <sup>TH</sup> AG BN	\$715
187 <sup>TH</sup> OD BN	\$270
Moncrief	\$1130
Total	\$3135



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# ALL OTHER UNITS INCENTIVE AWARDS



	1st Qtr	Qtr
HHC 171st BDE	\$100	
4/10 <sup>TH</sup> INF BN	185	
ATC	\$250	
DSS	\$110	
VC	\$285	
TSSD	-	
175 <sup>TH</sup> OD BDE	\$ 10	
81 <sup>ST</sup> REC	\$145	
USACHCS	\$85	
NCSC	\$275	
	\$1445	
		32



# ALL OTHER UNITS INCENTIVE AWARDS



MEPS	\$20	
Columbia Recruiting Command	\$ 10	
HHC USAG	\$200	
VET SVS	-	
NIACT	\$30	
BARCOM	\$15	
37 <sup>TH</sup> CID	\$10	
USARC	-	
208 <sup>TH</sup>	\$25	
Mc'Grady	\$30	

\$340



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10 <sup>TH</sup> PLB	\$75	
MICC	\$75	
2/345	\$30	
3-10TH	\$20	
NAVY	\$150	
NCOA	\$90	
TFM	\$25	
75 <sup>th</sup> TC	\$10	
	\$575	



# Energy Update

**Matt Gibbs**  
**Energy Manager**



# Energy Conservation Requirements



- The Energy Policy Act (EPACT) of 2005 established an energy efficiency goal for all federal agencies of 3% reduction in energy intensity per year from 2005 to 2015, for a total of 30% energy intensity reduction, compared to the base year of 2003 energy consumption of 99.6 MBTU/KSF.
- FY13 energy consumption was 100.8 MBTU/KSF or a 1.0% increase.
- FY14 energy intensity was 96.8 MBTU/KSF or a 2.8% decrease.



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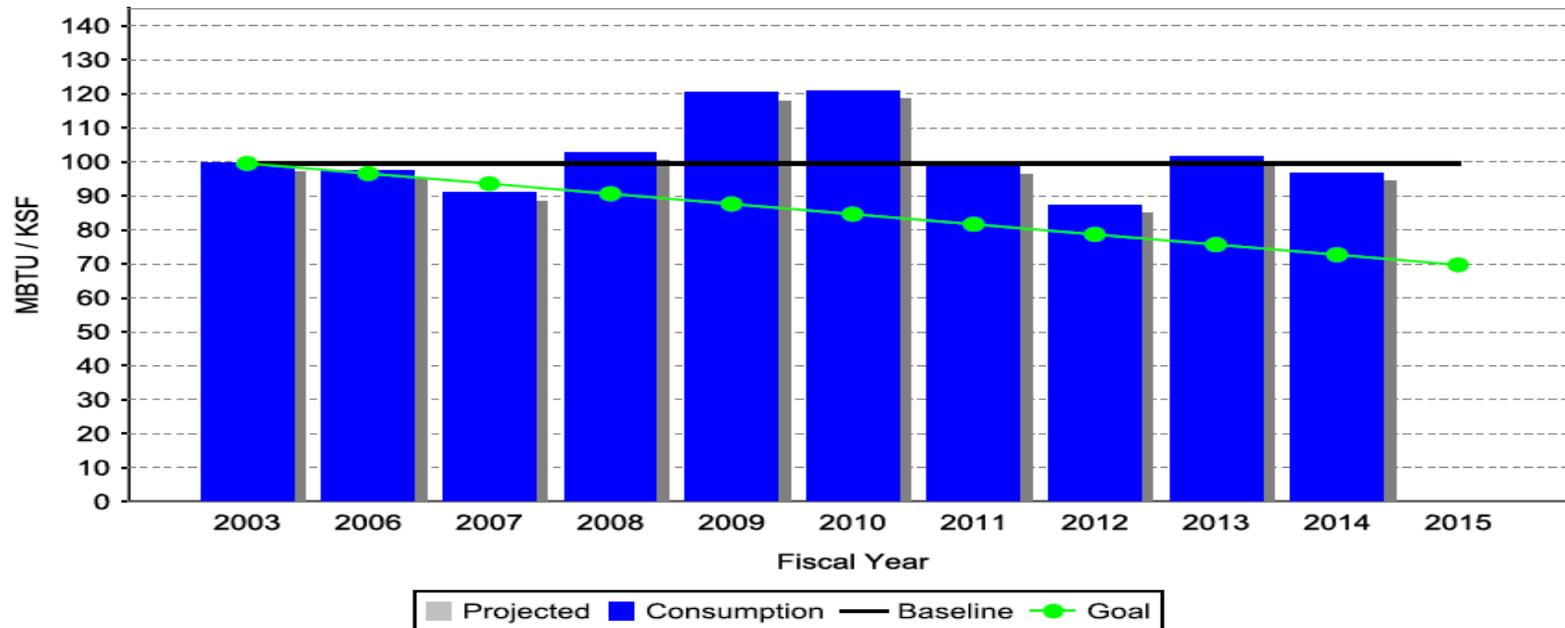
# 2003-2014 Energy Intensity



15 January 2015

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45455 FORT JACKSON



If a projected bar is shown for the current fiscal year, the blue area is based on actual consumption and KSF data entered, while the gray area projects the year end consumption per unit area if consumption continues at the same rate.



# Energy Reduction Strategy



- Energy Savings Projects
  - Energy Conservation Investment Program (ECIP)
  - Utility Modernization Funds (QUTM)
  - Energy Savings Performance Contract (ESPC)
- Relocatable Building Effect
- Behavioral & Cultural
  - Setpoints
  - No Energy Period
  - Bldg Energy Managers
- Alternative & Renewable Energy
  - Solar
  - Wind
  - Biomass
  - Nuclear



# FY11-14 Energy Savings Projects



FY	COST (k)	SOURCE	PROJECT	MBTU Savings
11	\$365	ECIP	EMCS Connect	5,595
11	\$8,000	ECIP	CEP Upgrades	87,237
12	\$593	QRP	HID Lighting	963
12	\$212	QUTM	T12 Lighting	3,308
12	\$1,459	QUTM	Thermo, Hot H2O	73,017
14	\$894	QUTM	Boiler Controls	6,667
	\$11,523			176,787

FY10 MBTU Consumed: 1,166,000

FY14 MBTU Consumed: 975,000

Difference: 191,000



# Honeywell Energy Savings Performance Contract (ESPC)



- Honeywell is in performance year #6 of its ESPC with Fort Jackson.
- The contract is comprised of the Energy Conservation Measures (ECMs) listed below.
- The Continuous Commissioning/Energy Management ECM (ECM 17.1) utilizes on-site Honeywell support personnel to perform a continuous commissioning and energy management program.

<b>ECM No.</b>	<b>ECM Description</b>
<b>3.1</b>	<b>EMCS – Utility Metering</b>
<b>3.2</b>	<b>Reimbursable Tenant Billing</b>
<b>12.1</b>	<b>Electric Substation Upgrade</b>
<b>14.1</b>	<b>Thermal Energy Storage System Repair</b>
<b>17.1</b>	<b>Continuous Commissioning/Energy Management</b>
<b>18.1</b>	<b>Central Energy Plant Optimization Study</b>



# NORESCO ESPC



ECM Description	Implementation Price	Annual Cost Savings (Energy, Water, Ancillary)
ECM-01: Lighting Improvements	\$8,408,000	\$832,000
ECM-02: Water Conservation	\$2,944,000	\$444,000
ECM-03: Controls System Enhancements	\$20,558,000	\$1,574,000
ECM-04: Central Plant Upgrades	\$6,219,000	\$325,000
<b>Total</b>	<b>\$38,129,000</b>	<b>\$3,176,000</b>

- Overall simple payback is 12 years
- Financed term is 22 years (includes extensive MR&R scope and financing at 4.42 percent)



# ECM-01: Lighting Upgrades



No. of Buildings Affected	Total Area Impacted	ECM Cost	Year 1 Annual Savings	Simple Payback
207	4,261,000 sf	\$8,408,000	\$832,000	10.1 years

- Replace existing linear fluorescents with T8 high-efficiency lamp and ballast systems
- Replace older technology high-intensity discharge (HID) fixtures with T5 high-output or light-emitting diode (LED) fixtures
- Retrofit incandescent lamps with compact fluorescent or LED lamps
- Install lighting occupancy and daylighting controls in select areas



## ECM-02: Water Conservation



No. of Buildings Affected	Total Area Impacted	ECM Cost	Year 1 Annual Savings	Simple Payback
171	4,204,000 sf	\$2,944,000	\$444,000	6.6 years

- Replace toilets with high-efficiency toilets
- Replace and/or install faucet flow restrictors as needed
- Replace showerheads with high-performance, low-flow units
- Install wireless rain sensors on select athletic field irrigation systems
- Retrofit kitchen spray nozzles with high-performance, low-flow units
- Install irrigation controls
- Reduce water consumption by kitchen garbage disposals



# ECM-03: Controls System Enhancements



No. of Buildings Affected	Total Area Impacted	ECM Cost	Year 1 Annual Savings	Simple Payback
181	4,068,500 sf	\$20,558,000	\$1,574,000	13.1 years

- Buildings with an energy management controls system (EMCS) will be connected to TROPOS wireless mesh network
- Consolidate systems for visibility from one front end
- Implement energy saving control strategies
- Conduct air-side testing and balancing
- End device repair and replacement



# ECM-04: Central Plant Upgrades



No. of Buildings Affected	Total Area Impacted	ECM Cost	Year ↓ Annual Savings	Simple Payback
4	56,120 sf	\$6,219,000	\$325,000	19.1 years

- **Scope**
  - Add 2.4 million gallon thermal energy storage tank at CEP-4 to reduce electrical peak demand
  - Optimize chilled water pumping in CEP-4
  - Insulate bare hot water surfaces in CEP-1, -2, -3, and -4



# The RLB Effect



- RLB consume 3X energy vs standard real property bldg\*
- In Q4 FY14, FJ has 781,000 SF (781 KSF) of RLB's or 2,343 KSF adjusted at 3X intensity
- Energy Intensity: MBTU / KSF
  - FY14 Energy Intensity (actual):  $975,000 \text{ MBTU} / (9,284 + 781) = 96.8$
  - FY14 Energy Intensity (adjust):  $975,000 \text{ MBTU} / (9,284 + 2,343) = 83.8$
- Bottom line: *without* RLB's, FJ is much closer to its energy intensity goal of 70 MBTU / KSF for FY15

\*2010 Comprehensive Energy and Water Master Plan



# Behavioral & Cultural



- Need individuals to do their part to reduce energy consumption
  - Turn off lights and close doors
  - Where possible leave thermostats set, except for using unoccupied set backs
- Participate in no energy periods
- Building Energy Managers (BEMs) can help to formalize the process and be the eyes and ears for energy in their units



# Alternative & Renewable Energy



- Supply the remainder of the energy requirement with renewable energy.
  - Mr. Richard Kidd (DASA E&S) visited Fort Jackson in 2012
    - He stated, “renewable energy needs to be fiscally responsible “
    - (i.e., Any renewable energy needs to pay for itself during the life of the unit)
  - The National Renewable Energy Laboratory (NREL) performed a study of Fort Jackson in July 2012
    - The study stated, “The renewable energy opportunities analysis indicates that none of the renewable energy technologies analyzed are cost-effective as stand-alone investments for Fort Jackson...”
  - Fort Jackson is partnering with local government
  - Fort Jackson will continue evaluate alternative and renewable sources of energy as technology improve and the price comes down



# Closing Remarks



# **Next E&E Meeting**

## **16 April 2015**

### **1430**