

#### Blue Castle Project: New Build Update

Tom Retson, COO
Blue Castle Holdings, Inc.

Nuclear Construction Summit Charlotte, NC October 25, 2011

### Agenda

- Introduction to Blue Castle Holdings
- The Blue Castle Business Strategy
- Project Progress Report
- Summary



Section 1

## INTRODUCTION TO BLUE CASTLE HOLDINGS

#### **Introduction: Blue Castle Holdings**

- Energy infrastructure development company, base: Provo, UT
  - 2010 Revenues: \$27M, 110 Employees
- Developing a new nuclear site near Green River UT
- 4 years of preparation & 1 year of pre application work completed;
- Acquired gas/oil/water pipeline construction company (2010)
- The Company is comprised of experienced nuclear, power management and regulatory professionals
- Business model: Develop new electrical capacity for new utility demand in Utah/Western US
  - Utilities will participate in the equity of the nuclear project

### **BCH Management**

Name	Title	Experience
Aaron Tilton	CEO	Former Utah State Legislator, Power Development
Tom Retson	COO	• GE Nuclear Energy (23 yrs), Pres. EnergyPath Corp
Nils Diaz	CSO (Strategy)	Past Chairman, US Nuclear Regulatory Commission
Reed Searle	SVP Bus. Development	<ul> <li>Former Dir. Utah Energy Office, Chief of Staff to Governor &amp; GM Intermountain Power Agency</li> </ul>
Rob Graber	SVP Energy Economics	<ul> <li>Energy Economist GE Nuclear Energy (20 yrs) &amp; former VP, Chase Bank Energy Economics Group</li> </ul>
Russ Fowles	President WCC	<ul> <li>15 years underground energy and infrastructure experience</li> </ul>

#### **BCH Business Sectors**

**New Nuclear Development** 

**Gas/Oil Pipeline Construction** 





BlueCastle**Project** 





## Blue Castle Holdings: Tapping U.S. Western Markets

- ~15,000 MW of new and replacement electric capacity in the Western US needed by 2025
  - Coal generation being shutdown
  - U.S. Census Bureau: 6 of top 8 fastest growing states in Western U.S.
- Recent gas & oil market developments are sound platform for expansion into production & infrastructure
  - 100% growth in pipeline construction market in last 5 yrs
  - Additional 100% growth projected by 2015

### Willow Creek: Brief Summary

>150% growth in 2010

Poised for additional growth due to shale gas

Delivering quality and cost competitive pipelines in the West

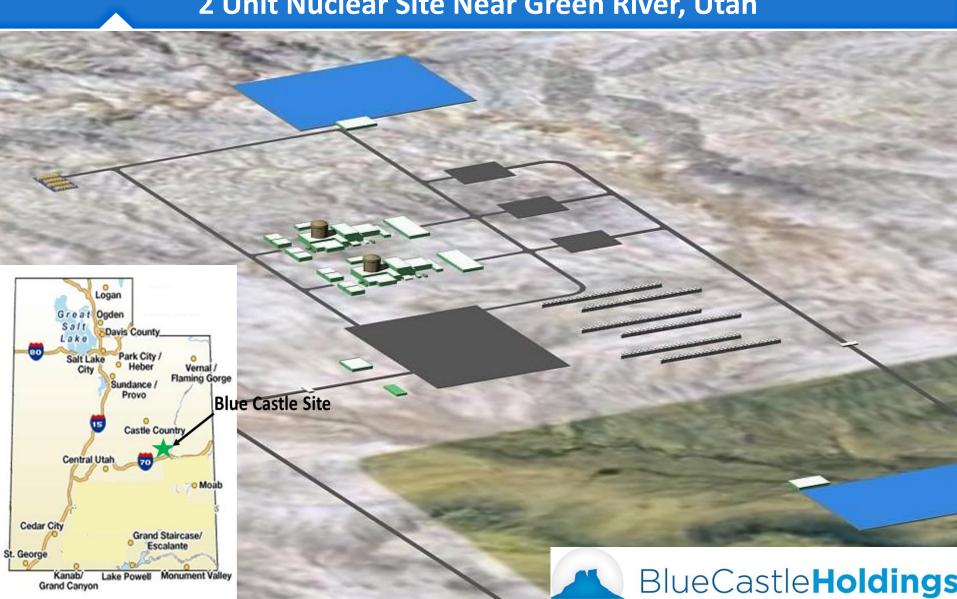
Growth opportunities in Eastern US

WC capabilities synergistic with nuclear project

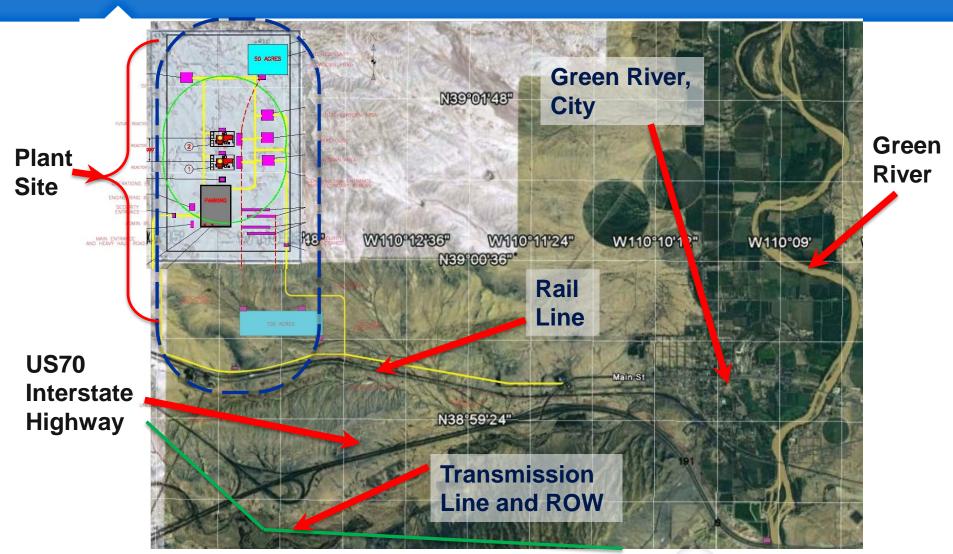




# BlueCastleProject 2 Unit Nuclear Site Near Green River, Utah



### **BCP Site Layout & Assets**



### Blue Castle Project Site View



### **BCH Key Milestones**

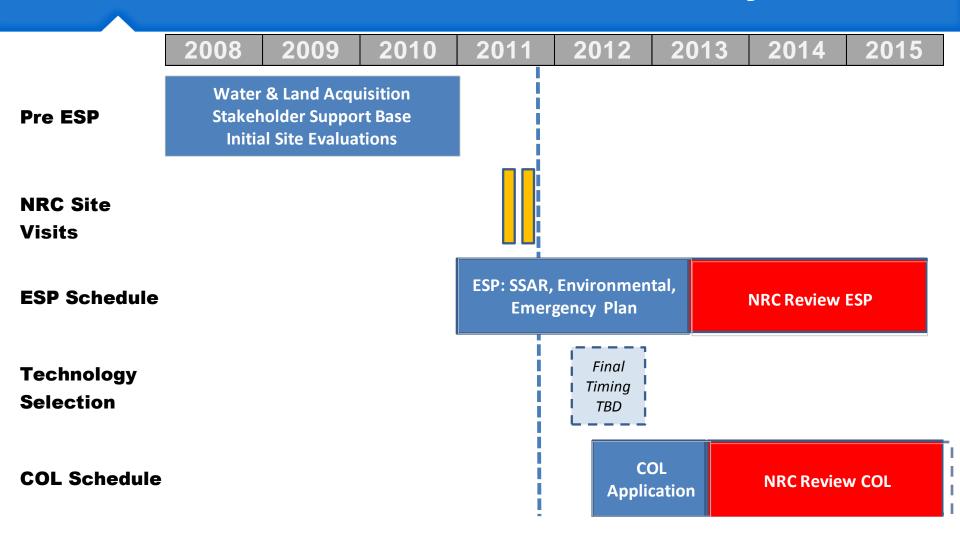
- Water (53,000 acre ft/yr) and Land (1700 acres) agreements in place
- New Utah legislation supporting nuclear (2006 & 2009)
- Site zoning change (2008)
- Confirmatory site fatal flaw analysis & surveys (2007-09)
- Added to NRC 2013 budget plan
- Utah State, Emery County (Site host) and Green River
   City pass resolutions in support of nuclear power (2009)
- Willow Creek subsidiary acquisition (2010)
  - additional acquisition activity ongoing

#### BCH Key Milestones cont'd

- Initial site seismology assessment satisfactory, with estimated 0.18 GPA
- In-depth economic assessment to confirm option value
  - Key input to business strategy
- Confirmatory independent economic assessment performed by University of Utah (2010)
- Significant utility interest, discussions ongoing
- Outreach Program Underway
- ESP/COL licensing support contract with ENERCON
  - ESP 30% complete



### **BCP Schedule Summary**





# Blue Castle Water: Success... with Challenge

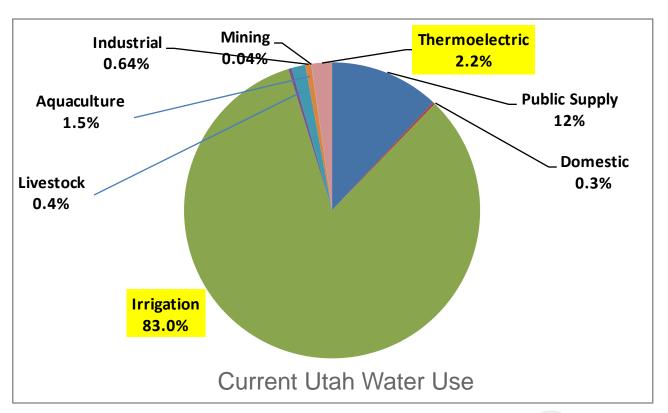
- Western US: High visibility
- 2 water leases totaling >53K acre ft/yr
- Utah State Water Engineer approval needed to change in Point of Diversion
- Change application hearing Jan 2010
- Final approval expected near term
- Challenge..... →

# Blue Castle Nuclear Power Plant Site Water Challenges



### Blue Castle Water Use Beneficial To Utah

BCP will add ~ 50% more Utah Generation by increasing Utah's water use < 1%





Section 2

#### **BUSINESS STRATEGY**

## **Business Strategy: Manage Risk and Opportunity**

- Why Nuclear Power Infrastructure?
  - Political
  - Site Development Risk
  - Competitive base-load clean generation
- BCH has managed these risks driving up the value of the new nuclear site
- Why Gas/Oil Infrastructure?
  - Immediate cash flow from infrastructure build out
  - new opportunities in exploration and production



### The BCH Option Model

- BCH Develops fully licensed, ready to construct nuclear site
  - License valid for at least 20 years (COL: 40 yrs)
  - Sufficient water for life of plant
  - Land and associated access rights
  - BCH assumes entire risk of licensing
- Project is transferred to utility owner(s) following licensing for option value of project
  - Estimated option value very compelling
  - Construction starts when economics favorable
    - rising fossil fuel prices and carbon/emissions cost increases
  - BCH will maintain small equity share in completed project

#### **Financial Strategy**

- Generate cash from operating business
  - Finances ESP
- Complete additional energy market acquisitions
  - Discussions currently underway
  - Based on intrinsic value
  - Complete ESP/COL submission to NRC (2013)
- Formalize utility partners for the option to construct plant
  - Discussions currently underway
  - 18 utilities
  - 4500 mw of interest





Section 3

#### **PROJECT STATUS REPORT**

#### **ESP Progress To Date**

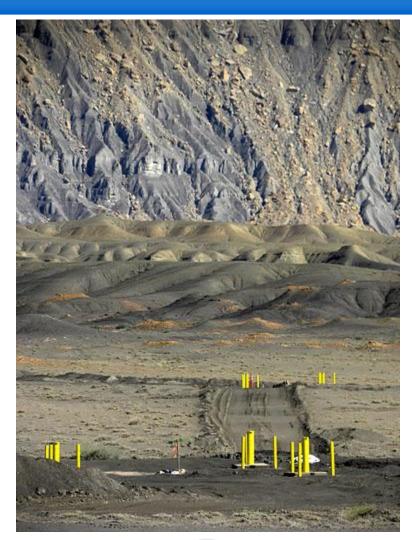
- 30% Scope completed; on schedule & on budget
- Met Tower operational: 5 months data logged
- All Geotechnical bore hole drilling completed
- All Site Water Monitoring Wells operational
- Completed site geophysical testing
- Completed Aircraft Hazard Analysis
- Several Environmental Report sections drafted

### **ESP Progress To Date (cont'd)**

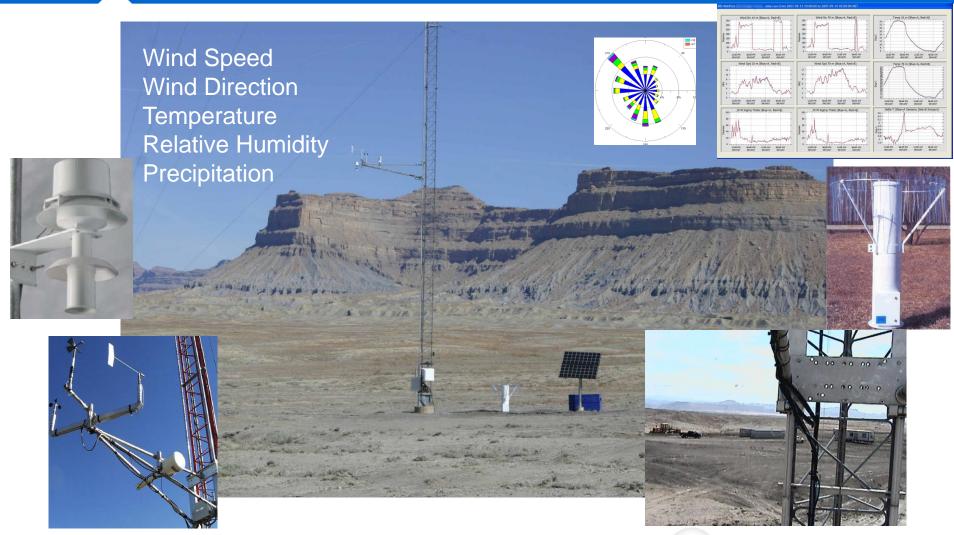
- NRC Pre-App Site Visit: Geotechnical Review
- SSHAC Workshop 0, "Data needs and Methodology" meeting completed
- Socioeconomic Surveys conducted with local community & County reps
- Emergency Planning Workshops conducted: Emery and Grand Counties
- BCH Quality Assurance Project Oversight Plan approved

#### **Site Characterization**

- Meteorology
- Geology
- Hydrology
- Seismology
- Demography
- Emergency Planning



# Blue Castle Project Data Collection Meteorology



# Blue Castle Project Data Collection Geology

#### **ESP Progress**

- ✓ Geotechnical Rock Coring Completed
- ✓ Borehole Optical & Acoustic Televiewer Surveys Completed
- ✓ Borehole Interval Packer Testing (transmissivity)
   Completed
- ✓ Test Pits-Completed



# Blue Castle Project Data Collection Seismology

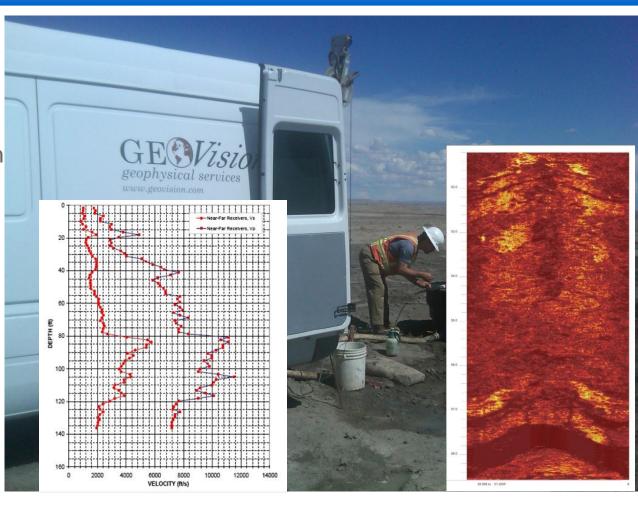
#### **Dynamic Properties**

#### **Field Exploration**

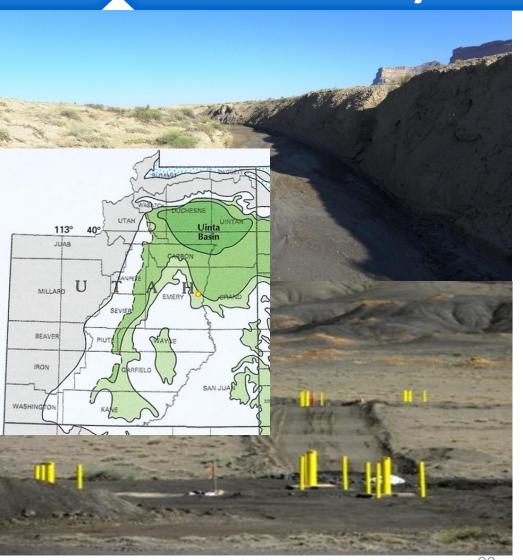
- ✓ Borehole P-S suspension logging completed
- ✓ Surface Interferometric Multi-channel Analysis of Surface Waves (IMASW) completed

#### **Lab Methods**

✓ Resonant Column and Torsional Shear (RCTS) in process



# Blue Castle Project Data Collection Hydrology



- √ 18 on-site groundwater monitoring wells installed: depths 30 to 150 ft
- ✓ First quarter surface water and groundwater sampling completed
- ✓ Sample analysis is in progress.
- First groundwater gauging event completed
- ✓ Packer testing (hydraulic conductivity) performed and data being evaluated

#### Blue Castle Project Data Collection Demography

Socioeconomic and local community characteristics: 50-mile region, including:

- -available labor supply
- -transportation facilities
- -taxes & political structure
- -schools
- -hospitals & doctors
- -police resources
- -fire fighting resources
- -potable water and wastewater
- -historical & cultural characteristics

Population in the six counties

Land use data: in process





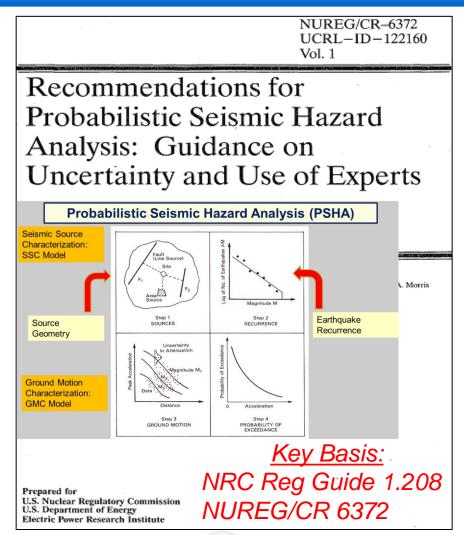
### Blue Castle Project Data Collection Emergency Planning

- ✓ In process for
  - BCP site
  - Emery County
  - Grand County and
  - State Plan Annex
- ✓ Evacuation time estimate project initiated
- ✓ All key State & Local EP agencies engaged



## **Blue Castle Project Seismic Evaluation**

- ✓ Senior Seismic Hazard Analysis Committee (SSHAC) Level 3 underway
  - 18 month multi phase project
  - ~20 team members
- ✓ Two SSHAC Studies for BCP
  - Seismic Source Model
  - Ground MotionAttenuation Model
- ✓ ESP Critical Path Activity



# Blue Castle Project Data Collection NRC Oversight





UNITED STATES
NUCLEAR REGULATORY COMMISSION
REGION II

245 PEACHTREE CENTER AVE., NE., SUITE 1200 ATLANTA, GEORGIA 30303-1257

September 2, 2011

Mr. Tom Retson, Chief Operations Officer Blue Castle Holdings, Inc. 86 North University Avenue, Suite 400 Provo, Utah 84601

SUBJECT:

NRC VISIT TO THE BLUE CASTLE PROJECT SITE TO OBSERVE EARLY SITE PERMIT PRE-APPLICATION SUBSURFACE INVESTIGATION ACTIVITIES

(PROJECT NO. 0768)

#### "Conclusion:

Geotechnical...activities...adequately controlled...with an appropriate level of....quality assurance... No issues were identified."





Section 4

#### **SUMMARY**

### **Blue Castle Holdings**

#### leading, innovating, building, growing, profiting

- Deploying diverse energy infrastructure portfolio to achieve objectives
- Experienced, business-focused management team
- 4 years of preparation & 30% of pre application ESP work completed
  - On Schedule, On budget
- Low operating cost position leading to strong cash flow
- Banking on the future for nuclear power
  - Licensed nuclear site with the right assets, right place at the right time



### Thank you



www.bluecastleproject.com

