



Nucor Waste Heat to Power I-937 Eligibility as Conservation & Contract Authorization

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**Presentation to Energy and Environment Committee
January 8, 2012**

Nucor Waste Heat to Power Project

Outline

Proposed Project

Historical Conservation Partnership with Nucor

Cogeneration as Conservation Under I-937

Ordinance Accepts Opinion, Authorizes Agreement

Terms of Agreement

Benefits to City Light



Proposed Waste Heat to Energy Project

- Nucor Steel Seattle mill facility
 - Processes scrap steel to make reinforcing bar for construction industry
 - City Light's largest electricity customer
 - Reheat treatment process uses natural gas
- Significant opportunity for waste heat recovery, electricity generation
 - Clean energy resource, no increase in fuel use or emissions
- In 2009 Nucor proposed waste heat recovery project
- Planned project
 - Reheat furnace
 - \$3.5 million cost
 - 1.1 MW capacity generator
 - Maximum 5,450 MWh per year



Historical Conservation Partnership

- City Light has partnered with Nucor on energy efficiency since 2003
 - Incentive funding totaling \$380,000, energy savings of 2,390 MWHs
 - Worked with Birmingham Steel back to 1994 = +\$1.4 million
- Wide range of energy conservation measures
 - Combustion controls on electric arc furnace, lighting, motors, compressed air

Cogeneration as Conservation Under I-937

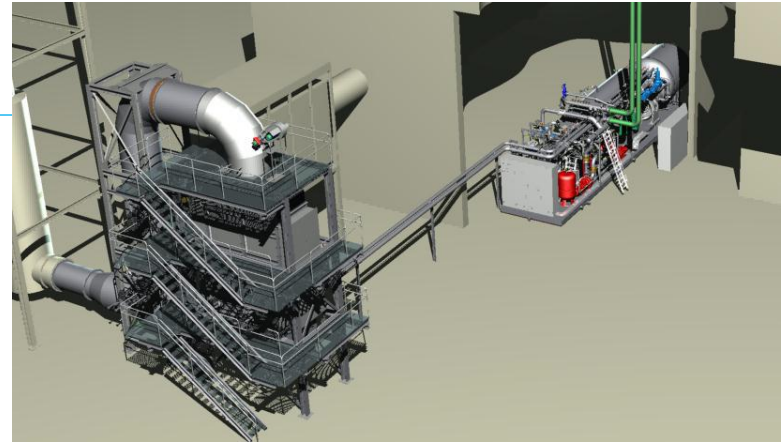
- Washington Energy Independence Act (I-937)
 - Passed in 2006, includes renewable and energy conservation requirements for electric utilities
- Provision allowing “high-efficiency cogeneration” to count as energy conservation
- Eligibility of project like Nucor’s uncertain
 - State Auditor determines compliance for public utilities, unable to provide “pre-approval”
- City Light unable to provide funding without greater certainty that project would qualify towards I-937 targets
- 2012 State legislation amended I-937 to create preapproval process
 - Significant support from Nucor, Northwest Energy Coalition, other public utilities
 - Administered by Department of Commerce

Ordinance Adopts Opinion & Authorizes Contract

- Nucor request for project review
 - Submitted by Nucor to Commerce on June 14, 2012
 - First to be submitted under new process
 - Commerce issued positive opinion on July 24, 2012
- Today's ordinance adopts Commerce's advisory opinion
- Also grants City Light authority to enter into long-term funding agreement
 - Three-year payment schedule
 - Long-term to provide proportional repayment of financial incentives if project permanently shut down during 12-year life

Agreement Terms

- Approached as energy conservation project
- Term sheet attachment to Ordinance
 - Incorporated into final agreement with Nucor
- Key terms
 - Purchasing energy savings in form of net production and environmental attributes
 - Total incentive based on project life of 12 years
 - Protections for City
 - Payments spread over 3 years, reduces short-term risk of delivery
 - Proportional repayment of incentive if project permanently shut down < 12 years
 - Project must be implemented consistent with Department of Commerce opinion on I-937 eligibility
 - Must be implemented per SCL interconnection requirements



Benefits to City Light Customers

- Cost-effective clean energy resource
 - Energy savings cost \$0.02 per kWh to utility over 12-year life of project
 - Comparable to current wholesale power price during historically low period
 - Waste heat recovery = clean energy, carbon-free
- Helps meet I-937 obligations
 - Preapproval eliminates uncertainty
 - Credit toward target based on first year production; likely in 2014-2015 biennium
- Innovation
 - First cogeneration project to get credit as conservation under I-937
- Risk mitigation
 - Payment spread over three years, reduce short-term risk
 - Repayment provisions if project shut down during assumed twelve-year life that is basis for conservation incentive