

CITY OF SEATTLE

ORDINANCE _____

COUNCIL BILL 117690

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4 AN ORDINANCE relating to the City Light Department; adopting the Washington State
5 Department of Commerce's advisory opinion on the eligibility of Nucor Steel's waste
6 heat to power project as energy conservation under the Washington Energy Independence
7 Act; authorizing the Superintendent of City Light, or his designee, to enter into a multi-
8 year energy conservation funding agreement with Nucor Steel for the project; and
9 ratifying and confirming certain prior acts.

10 WHEREAS, Ballot Initiative 937, the Energy Independence Act ("I-937"), was passed by
11 Washington state voters on November 7, 2006, which requires qualifying electric utilities
12 to obtain new renewable resources and undertake cost-effective energy conservation; and

13 WHEREAS, the Revised Code of Washington ("RCW") 19.285.045 requires that the
14 Washington State Department of Commerce provide an advisory opinion on whether a
15 proposed electric generation project or conservation resource qualifies to meet a target
16 under RCW 19.285.040 within ninety days of receiving an application for an advisory
17 opinion; and

18 WHEREAS, Nucor Steel submitted a letter of application to the State Department of Commerce
19 requesting an advisory opinion on whether a waste heat to power project at its Seattle
20 facility is eligible as energy conservation under Initiative 937; and,

21 WHEREAS, the Washington Department of Commerce has reviewed Nucor's waste heat to
22 power project and issued an advisory opinion dated July 24, 2012, affirming that the
23 project complies with RCW 19.285.040 and 19.285.060; and

24 WHEREAS, the City Council, as the governing board of City Light, must either adopt or reject
25 the advisory opinion after public notice and hearing; and

26 WHEREAS, under its responsibilities in RCW 19.285.060, the State Auditor shall consider any
27 project or resource reviewed and adopted under the process in this section as being in
28 compliance with RCW 19.285.040 and 19.285.060, but only if (a) the advisory opinion
affirmatively qualifies the project or resource; (b) the governing board of the consumer-
owned utility that will use the project or resource adopts the advisory opinion after public
notice and hearing; and (c) the project or resource is built or acquired as proposed; and

WHEREAS, Seattle City Light's Conservation Resources Division intends to offer Nucor Steel
an energy conservation funding agreement for the waste heat to power project with

1 incentive payments based on the Washington Department of Commerce's advisory
2 opinion and the actual delivery of net energy production paid over a three-year period;
NOW, THEREFORE,

3 **BE IT ORDAINED BY THE CITY OF SEATTLE AS FOLLOWS:**

4 Section 1. Pursuant to RCW 19.285.045 and after public notice and hearing, the City
5 Council adopts the Washington Department of Commerce's advisory opinion dated July 24,
6 2012 qualifying Nucor Steel's waste heat to power project as an approved conservation resource
7 for purposes of RCW 19.285.040 . The advisory opinion is attached hereto as Attachment 1.
8

9 Section 2. The Superintendent of the City Light Department, or his designee, is hereby
10 authorized to enter into a conservation agreement to provide funding for Nucor's waste heat to
11 power project with incentive payments to be made over a three year period. The agreement
12 shall at a minimum include provisions consistent with the Nucor Waste Heat Recovery Project
13 Term Sheet attached hereto as Attachment 2.
14

15 Section 3. Any act consistent with the authority of this ordinance and in compliance
16 with the conditions of this ordinance taken after its passage and prior to its effective date is
17 ratified and confirmed.

18 Section 4. This ordinance shall take effect and be in force 30 days after its approval by
19 the Mayor, but if not approved and returned by the Mayor within ten days after presentation, it
20 shall take effect as provided by Seattle Municipal Code Section 1.04.020.
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Passed by the City Council the ____ day of _____, 2013, and
signed by me in open session in authentication of its passage this
____ day of _____, 2013.

President _____ of the City Council

Approved by me this ____ day of _____, 2013.

Michael McGinn, Mayor

Filed by me this ____ day of _____, 2013.

Monica Martinez Simmons, City Clerk

(Seal)

Attachment 1: Department of Commerce Advisory Opinion, dated July 24, 2012

Attachment 2: Nucor Waste Heat Recovery Project Term Sheet



Department of Commerce
Innovation is in our nature.

July 24, 2012

Energy Independence Act (EIA) Advisory Opinion

Nucor Steel Seattle, Inc.
Barton Kale
2424 SW Andover Street
Seattle, WA 98106

RE: Waste Heat Recovery Cogeneration Project Determination

Mr. Kale:

Commerce initiated the 90-day review for your project determination on June 14, 2012. Nucor's proposed waste heat recovery cogeneration project in Seattle, Washington received Energy Independence Act (EIA) Technical Working Group (TWG) guidance in November 2011; therefore your application was expedited. One comment in support of the project was received and posted online during the 30-day public comment period that closed on July 16. The Commerce Advisory Opinion committee met on July 17 to discuss your application and a draft opinion was forwarded to the agency's Attorney General for legal analysis.

Advisory Opinion

Based on committee discussion, prior TWG review, the Washington State University Extension Energy Program (WSU) engineering analysis, and consultation with the agency's Attorney General, Commerce confirms that the proposed project qualifies as high efficiency cogeneration.

Nucor submitted detailed data in their November 2011 request for TWG guidance. Nucor's Advisory Opinion application submitted for determination in June 2012 contains assurance that the proposed scope and design remain consistent with the one submitted in 2011. The proposal reviewed by this committee meets EIA requirements for qualification as a cogeneration project. Nucor will be responsible for demonstrating that the completed project meets the minimum efficiency and net generation requirements as demonstrated by the proposed design.

Relevant sections of the Energy Independence Act and WAC 194-37

RCW 19.285.040

Energy conservation and renewable energy targets

- (c) In meeting its conservation targets, a qualifying utility may count high-efficiency cogeneration owned and used by a retail electric customer to meet its own needs. High-efficiency cogeneration is the sequential production of electricity and useful thermal energy from a common fuel source, where, under normal operating conditions, the facility has a useful thermal energy output of no less than thirty-three percent of the total energy output. The reduction in load due to high-efficiency cogeneration shall be: (i) Calculated as the ratio of the fuel chargeable to power heat rate of the

cogeneration facility compared to the heat rate on a new and clean basis of a best-commercially available technology combined-cycle natural gas-fired combustion turbine; and (ii) counted towards meeting the biennial conservation target in the same manner as other conservation savings.

WAC 194-37-080.

- (10) "A utility may count towards the utility's biennial end-use conservation target, twelve individual months' worth of conservation during the first twelve months of a high efficiency cogeneration facility's operations in its service territory. The high efficiency cogeneration facility shall be owned and used by a retail electric consumer to meet that consumer's heat and power needs. Only that output used by that customer to meet its own needs can count toward the utility's conservation target. In order to count this in its conservation target, the utility shall prepare the following documentation, certified by a registered professional engineer licensed by the Washington department of licensing:
- (a) That the cogeneration system has a useful thermal energy output of no less than thirty-three percent of the total energy output; and
 - (b) An analysis that indicates the reduction in annual electricity consumption due to high efficiency cogeneration. This reduction is calculated as the net facility's annual electrical energy production times the ratio of the fuel chargeable to power heat rate of the cogeneration facility divided by the heat rate on a new and clean basis of a best-commercially available technology combined-cycle natural gas-fired combustion turbine."

Analysis and Consultation

WSU's original engineering analysis and the TWG's subsequent review in 2011 reconfirmed that the proposed waste heat recovery project does qualify as high efficiency cogeneration under WAC 194-37-080. For the complete analysis refer to Engineering Analysis of Nucor Steel Waste Heat to Power Projects (WSU-EEP, September 2011). Technical information used in this analysis was obtained from the engineering report, Organic Rankine Cycle Waste Heat Recovery: Prefeasibility Study Report, Nucor Steel Seattle (Worley Parsons, 2009).

Based on application materials reviewed, the Assistant Attorney General (AAG) representing Commerce confirmed that this advisory opinion satisfies the requirements of Chapter 254, Laws of 2012 (SB 6414). The AAG also agrees with WSU's conclusion that the project described by Nucor apparently satisfies the statutory and regulatory requirements set forth in RCW 19.286.040 and WAC 194-37-080(10).

WAC 194-37-080 (10) (a) requires that the "cogeneration system has a useful thermal energy output of no less than thirty-three percent of the total energy output." The total energy output for the Electric Arc Furnace is 49.9 MWt (megawatt thermal power) and the useful thermal energy output, calculated as the difference in energy entering and exiting the heat exchanger, is 18 MWt (49.9 minus 31.9 MWt). Therefore, the ratio of useful to total thermal energy output in this case is 35%, which meets the requirements of the WAC as a "high efficiency cogeneration system." Similarly for the Reheat Furnace, the total energy output is 7.9 MWt and the useful thermal energy output is 2.8 MWt or 36% of the total, which also meets requirements.

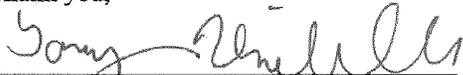
WAC 194-37-080 (10) (b) requires calculation of the reduction in annual electricity consumption due to the high efficiency cogeneration. In the case of waste heat recovery cogeneration systems, the fuel chargeable to power heat rate is zero. Therefore, the reduction in annual electricity consumption is the net electricity

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generated or 2.5 MWe (megawatt electrical power) for the electric arc furnace Organic Rankine Cycle and 320 kWe for the reheat furnace Organic Rankine Cycle.

Commerce confirms that the proposed project qualifies as high efficiency cogeneration. If you have questions, please contact Meg O'Leary at meg.oleary@commerce.wa.gov or (360) 725-3121.

Thank you,



Tony Usibelli, Director, State Energy Office

WASHINGTON STATE DEPARTMENT OF COMMERCE

- CONFIDENTIAL TERM SHEET -

**Nucor Waste Heat Recovery Project
12/6/12 Proposal**

The following is a summary of proposed terms for the provision of energy conservation incentives for the Nucor Waste Heat Recovery Project (Nucor Project). This Term Sheet is intended solely as a basis for further discussion and it is not intended to be a binding obligation.

Project Implementer: Nucor Steel Seattle, Inc. (Nucor)

Provider of Conservation Incentives: Light Department, City of Seattle (SCL)

Period of Agreement: From initial contract date to thirteen years after SOP (as defined below)

Project Location: 2424 SW Andover Street, Seattle, WA

Contract Quantity: 100% net energy production (metered output less metered or estimated parasitic loads), and environmental attributes associated with the project (any current or future renewable energy credits or carbon mitigation/offset credits).

Conservation Incentive: \$0.067/kWh (equal to traditional first-year conservation incentive of \$0.20/kWh spread over three years of production) times the Contract Quantity. This incentive is available as long as the Nucor Project's net generation is eligible for conservation credit under Washington's Energy Independence Act (I-937) and the Nucor Project directly results in the load from Nucor to SCL being less than it would have been had the Nucor Project not been completed.

Special Terms and Exceptions:

Conservation Incentive Payment Schedule:

Incentive payments will be made monthly during first twelve months of production and at least quarterly during each of the following two twelve-month periods. Production shall commence on the date specified once the waste heat generator has been installed, tested, adjusted and approved for normal operation by Nucor (the Start of Production, or SOP).

Metering requirements:

The power production of the waste heat generator will be metered in a manner mutually agreeable to both parties. The parasitic loads required to serve the generator and its associated incremental facilities will be metered separately or a mutually agreeable method will be identified to estimate those loads. This includes any increased electric load in existing plant equipment needed to support the waste heat recovery process. Parasitic loads will be deducted

from the metered production to determine the net energy production eligible for Conservation Incentive payments.

Continued Operation:

In the event the Nucor Project is taken out of service permanently during the first three years following SOP, Nucor shall refund to SCL 75% of all incentives provided by SCL related to the Nucor Project provided to date (Aggregate Incentives). If the Nucor Project is taken out of service permanently at any time in the fourth through the twelfth year after SOP, Nucor shall refund to SCL an amount equal to (i) the ratio of (a) the difference between twelve and the number of years the Nucor Project was in service (at the time the production ceases) to (b) twelve years, multiplied by (ii) the amount of Aggregate Incentives. In the event Nucor ceases to be an electric customer of SCL, the Nucor Project will be deemed to be out of service permanently. The definitive agreement between the parties will include provisions addressing situations in which the Nucor Project may be out of service because of force majeure.

Compliance requirements:

1. This project must be implemented consistent with Nucor's application to Washington State Department of Commerce (Commerce) for review and approval under I-937 and with Commerce's determination of eligibility. Nucor must demonstrate "that the completed project meets the minimum efficiency and net generation requirements as demonstrated by the proposed design" [Commerce letter of July 24, 2012].
2. This project must be implemented consistent with SCL's interconnection requirements as specified in its "Standards for Interconnection of Generators 20 MW and Less in Capacity to Seattle City Light's Electrical Distribution System" (500P III-305). Nucor will pay all interconnection costs.

Conditions precedent:

1. Authorization for SCL to enter into the agreement by its legislative authority
2. Agreement of the parties to terms and conditions in a definitive agreement executed by the parties.

SCL can terminate at will if:

1. Nucor fails to implement the project in a manner consistent with Commerce's determination that the project is eligible for I-937.
2. Nucor does not comply with SCL's interconnection requirements.
3. Any conditions specified by SCL's legislative authority in its authorization are not met, or
4. Nucor ceases to provide electrical savings to SCL in accordance with the definitive agreement entered into between the parties (which will include provisions addressing force majeure).

Nucor can terminate at will if:

1. The Nucor Project does not reach SOP, or
2. SCL fails to pay Nucor the Conservation Incentives when due.

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For Seattle City Light

For Nucor Steel Seattle, Inc.


James Baggs, Officer
Power Supply & Environmental Affairs


Matt Lyons
General Manager

FISCAL NOTE FOR NON-CAPITAL PROJECTS

Department:	Contact Person/Phone:	CBO Analyst/Phone:
Seattle City Light	Glenn Atwood/4-3740	Calvin Chow/4-4652

Legislation Title: AN ORDINANCE relating to the City Light Department; adopting the Washington State Department of Commerce’s advisory opinion on the eligibility of Nucor Steel’s waste heat to power project as energy conservation under the Washington Energy Independence Act; authorizing the Superintendent of City Light, or his designee, to enter into a multi-year energy conservation funding agreement with Nucor Steel for the project; and ratifying and confirming certain prior acts.

Summary of the Legislation: This ordinance adopts the Washington State Department of Commerce’s advisory opinion on the eligibility of Nucor Steel’s waste heat to power project as energy conservation under the Washington Energy Independence Act and authorizes the Superintendent of City Light to enter into a multi-year energy conservation funding agreement with Nucor Steel for the project.

Background:

(Include a brief description of the purpose and context of legislation and include record of previous legislation and funding history, if applicable.)

Nucor Steel wishes to install a waste-heat-to-power electricity generation project at its facility in Seattle. Under the Washington Energy Independence Act (I-937), electricity produced by the project may be eligible for credit to Seattle City Light to meet its energy conservation requirements. Nucor sought and obtained an advisory opinion from the Washington State Department of Commerce that electricity actually produced by this project would be eligible. For this opinion to be binding on the Washington State Auditor, who is responsible for determining Seattle City Light’s compliance with the Act, the Seattle City Council must adopt the Department of Commerce’s opinion. City Light wishes to enter into a multi-year funding agreement with Nucor for the net electricity production of the project, and this legislation authorizes the Superintendent of City Light or his designee to enter into such an agreement in accordance with the Term Sheet executed by Nucor and City Light attached to the legislation.

Please check one of the following:

This legislation does not have any financial implications.

(Please skip to “Other Implications” section at the end of the document and answer questions a-h. Earlier sections that are left blank should be deleted. Please delete the instructions provided in parentheses at the end of each question.)

This legislation has financial implications.

(If the legislation has direct fiscal impacts (e.g., appropriations, revenue, positions), fill out the relevant sections below. If the financial implications are indirect or longer-term, describe them in narrative in the “Other Implications” Section. Please delete the instructions provided in parentheses at the end of each title and question.)

Appropriations:

(This table should reflect appropriations that are a direct result of this legislation. In the event that the project/programs associated with this ordinance had, or will have, appropriations in other legislation please provide details in the Appropriation Notes section below. If the

appropriation is not supported by revenue/reimbursements, please confirm that there is available fund balance to cover this appropriation in the note section.)

Fund Name and Number	Department	Budget Control Level*	2012 Appropriation	2013 Anticipated Appropriation
TOTAL				

*See budget book to obtain the appropriate Budget Control Level for your department.

Appropriations Notes: None.

Anticipated Revenue/Reimbursement Resulting from this Legislation:

(This table should reflect revenues/reimbursements that are a direct result of this legislation. In the event that the issues/projects associated with this ordinance/resolution have revenues or reimbursements that were, or will be, received because of previous or future legislation or budget actions, please provide details in the Notes section below the table.)

Fund Name and Number	Department	Revenue Source	2012 Revenue	2013 Revenue
TOTAL				

Revenue/Reimbursement Notes: None

Total Regular Positions Created, Modified, or Abrogated through this Legislation, Including FTE Impact:

(This table should only reflect the actual number of positions affected by this legislation. In the event that positions have been, or will be, created as a result of other legislation, please provide details in the Notes section below the table.)

Position Title and Department	Position # for Existing Positions	Fund Name & #	PT/FT	2012 Positions	2012 FTE	2013 Positions*	2013 FTE*
TOTAL							

* 2013 positions and FTE are total 2013 position changes resulting from this legislation, not incremental changes. Therefore, under 2013, please be sure to include any continuing positions from 2012.

Position Notes: None

Do positions sunset in the future?

(If yes, identify sunset date)

Spending/Cash Flow:

(This table should be completed only in those cases where part or all of the funds authorized by this legislation will be spent in a different year than when they were appropriated (e.g., as in the case of certain grants and capital projects). Details surrounding spending that will occur in future years should be provided in the Notes section below the table.)

Fund Name & #	Department	Budget Control Level*	2012 Expenditures	2013 Anticipated Expenditures

Light Fund (41000)	City Light	Conservation Resources and Environmental Affairs O&M	\$0	\$0
TOTAL			\$0	\$0

* See budget book to obtain the appropriate Budget Control Level for your department.

Spending/Cash Flow Notes: No payments are anticipated until the project is constructed and begins operation, likely in early 2014.

Other Implications:

a) Does the legislation have indirect financial implications, or long-term implications?

(If yes, explain them here.)

Yes. Seattle City Light will use its funds for energy conservation authorized under its 2013 annual budget ordinance to pay for the energy savings generated by the project over the contract term. No additional authorization will be needed for this project.

The payments made to Nucor will be based on the actual net electricity generated over the first three years of the project's operation, based on a payment of \$0.067/kWh. This incentive amount represents one-third of the one-time payment originally offered to Nucor of \$0.20/kWh, the first-year incentive provided to custom conservation projects with an expected life of 12 years. The payment is being spread over three years to mitigate City Light's risk should the project fail to operate as proposed or Nucor be unable to meet its obligations during that period. The agreement with Nucor will also have a provision requiring repayment of a proportional share of the conservation incentive should the project be permanently taken out of service prior to the expected twelve-year life of the project.

City Light will contract for the maximum possible net energy production from the project, currently estimated to be 5,450,000 kilowatt-hours (kWhs) resulting in a maximum total incentive payment over three years of \$1,090,000.

Under State law (WAC Chapter 194-37), City Light's conservation credit for the project under I-937 will be based on the first year of energy production, (this is consistent with the treatment of energy conservation, for which first-year energy savings are counted towards the conservation target).

b) What is the financial cost of not implementing the legislation?

(Estimate the costs to the City of not implementing the legislation, including estimated costs to maintain or expand an existing facility or the cost avoidance due to replacement of an existing facility, potential conflicts with regulatory requirements, or other potential costs.)

If the City does not implement this legislation, it would have to acquire other energy conservation to meet its I-937 requirements in future years. The cost of acquiring that conservation may be more or less expensive to City Light, depending on the energy conservation that was acquired.

c) Does this legislation affect any departments besides the originating department?

(If so, please list the affected department(s), the nature of the impact (financial, operational, etc), and indicate which staff members in the other department(s) are aware of the proposed legislation.)

No.

d) What are the possible alternatives to the legislation that could achieve the same or similar objectives?

(Include any potential alternatives to the proposed legislation, such as reducing fee-supported activities, identifying outside funding sources for fee-supported activities, etc.)

There is no alternative that would allow City Light to receive energy conservation credit for the project under I-937 and thereby justify providing financial incentives for it.

e) Is a public hearing required for this legislation?

(If yes, what public hearing(s) have been held to date, and/or what public hearing(s) are planned for the future?)

Yes. A public hearing is necessary and will be held as part of the Energy & Environment Committee meeting at which the legislation is considered.

f) Is publication of notice with *The Daily Journal of Commerce* and/or *The Seattle Times* required for this legislation?

(For example, legislation related to sale of surplus property, condemnation, or certain capital projects with private partners may require publication of notice. If you aren't sure, please check with your lawyer. If publication of notice is required, describe any steps taken to comply with that requirement.)

No.

g) Does this legislation affect a piece of property?

(If yes, and if a map or other visual representation of the property is not already included as an exhibit or attachment to the legislation itself, then you must include a map and/or other visual representation of the property and its location as an attachment to the fiscal note. Place a note on the map attached to the fiscal note that indicates the map is intended for illustrative or informational purposes only and is not intended to modify anything in the legislation.)

No.

h) Other Issues:

City Light may pursue additional similar waste-heat-to-energy projects with other customers and may use this legislation as a model for such future projects.

List attachments to the fiscal note below:



City of Seattle
Office of the Mayor

December 19, 2012

Honorable Sally J. Clark
President
Seattle City Council
City Hall, 2nd Floor

Dear Council President Clark:

I am pleased to transmit the attached proposed Council Bill that allows City Light to participate in Nucor's waste-heat-to-power electricity generation project at its Seattle facility. Nucor sought and obtained an advisory opinion from the Washington State Department of Commerce that the electricity produced by this project is eligible under the Washington Energy Independence Act (I-937) for credit to Seattle City Light to meet its energy conservation requirements. For this opinion to be binding on the Washington State Auditor, who is responsible for determining Seattle City Light's compliance with I-937, the Seattle City Council must adopt the opinion. City Light wishes to enter into a multi-year funding agreement with Nucor for the net electricity production of the project, and this legislation authorizes the Superintendent of City Light or his designee to enter into such an agreement.

The project, if completed, will be the first of its kind to receive credit as energy conservation under I-937. The electricity generation will be fueled entirely by waste heat collected from Nucor's steel production process, resulting in no additional greenhouse gas emissions. To manage the risk to City Light if the project were to cease production prematurely, the conservation incentive payment to Nucor will be spread over three years based on its actual net electricity generation. As required by State Law, all of the electricity will be used on site and will offset the amount of power City Light has to supply to Nucor. City Light hopes that other industrial customers will pursue similar waste-to-energy generation projects in the future and it will use this legislation as a model for any such future projects.

This project is an excellent example of City Light partnering with its customers to acquire clean energy resources. Thank you for your consideration of this legislation. Should you have questions, please contact James Baggs, City Light's Power Supply and Environmental Affairs Officer, at 684-3243.

Sincerely,

Michael McGinn
Mayor of Seattle

cc: Honorable Members of the Seattle City Council