DOE/ID-11383
Revision 3

U.S. Department of Energy
Idaho Operations Office

FY 2012 INL Site Sustainability Plan with the FY 2011 Annual Report

January 2012

Idaho National Laboratory

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Prepared for the
U.S. Department of Energy
DOE Idaho Operations Office

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FY 2012 INL Site Sustainability Plan with the FY 2011 Annual Report

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Revision 3

January 2012

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FY 2012 INL Site Sustainability Plan with the FY 2011 Annual Report

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January 2012

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FY 2012 INL Site Sustainability Plan with the FY 2011 Annual Report

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Revision 3

January 2012

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EXECUTIVE SUMMARY

Clean energy and sustainability have long been at the core of the mission of the U.S. Department of Energy (DOE) and are reinforced in Executive Order (EO) 13514, *Federal Leadership in Environmental, Energy,* and *Economic Performance*. DOE has articulated its key strategies and goals in its 2011 Strategic Sustainability Performance Plan (SSPP). The Idaho National Laboratory (INL) Site incorporates these strategies through this plan.

Executive Order 13423, "*Strengthening Federal Environmental, Energy, and Transportation Management*," establishes requirements to cost effectively meet or exceed the goals and objectives of the Energy Policy Act of 2005 for energy efficiency, use of renewable energy, transportation energy, and water conservation at federal facilities. DOE Order 436.1, "*Departmental Sustainability*," contains requirements that DOE will accomplish to implement EO 13514 and EO 13423.

DOE Order 436.1 provides requirements and assigns responsibilities for managing sustainability within DOE to ensure that missions are carried out in a sustainable manner, to institute wholesale cultural change to factor sustainability and greenhouse gas (GHG) reductions into all DOE decisions, and to ensure that DOE achieves the sustainability goals established in its SSPP. DOE Order 436.1 and the SSPP require that DOE Sites commit appropriate personnel resources, establish a financing plan that prioritizes the use of life-cycle cost effective private sector financing and optimizes the application of appropriations and budgeted funds, and establish specific performance measures and deliverables designed to achieve the listed requirements.

The "FY 2012 INL Site Sustainability Plan with the FY 2011 Annual Report," hereafter referred to as the Plan, was developed according to the narrative requirements from the "Guidance for the FY 2012 DOE Site Sustainability Plans" issued on September 8, 2011. This Plan contains strategies and activities that will lead to continual GHG, energy, water, and transportation fuels efficiency to move the INL Site towards meeting the goals and requirements of the SSPP, EOs 13514 and 13423, and DOE Order 436.1 before the end of Fiscal Year (FY) 2020. The Plan summarizes energy and fuel use reporting requirements and references criteria for performing sustainable design. Plan requirements are integrated into each of the INL Site contractor's Integrated Safety Management System (ISMS) and Environmental Management System (EMS). Finally, Sustainability Program directives based on this Plan are integrated into the Ten-Year Site Plan (TYSP) and operations and acquisition systems.

For the purposes of this document, the "INL Site" is considered all operating contractors and the Department of Energy Idaho Operations Office (DOE-ID), and includes the industrial complexes located west of Idaho Falls and the Idaho Falls buildings. INL is considered to be those facilities operated by Battelle Energy Alliance, LLC (BEA). The Advanced Mixed Waste Treatment Project (AMWTP) and Idaho Cleanup Project (ICP) are referred to by their noted acronyms and include all facilities under their individual responsibility.

This DOE-ID INL Site document serves as an overall INL Site Sustainability Plan. It is supplemented by individual contractor plans and strategies as needed. Updates to the Plan are anticipated annually with added specificity as projects are developed and requirements change. This Plan encompasses all contractors and activities at the INL Site under the control of DOE-ID. The operations and activities of the Naval Reactors Facility (NRF), located on the INL Site, are specifically excluded from this Plan.

The Environmental Management Mission assumptions for this Plan include the AMWTP ceasing operations and be in a cold, dark, and dry status by FY 2018; the remaining ICP operations at the Radioactive Waste Management Complex (RWMC) will be complete by FY 2018 with buildings in a cold, dark and dry status; the Idaho Nuclear Technology Center (INTEC) liquid waste management system operations will be discontinued by FY 2015; and the INTEC New Waste Calcine Facility will be demolished by FY 2015.

The intent of this Plan is to provide the overall Sustainability strategy for the INL Site during FY 2012. Integral to this Plan is the FY 2011 Annual Report. The Annual Report data for FY 2011 are provided on the Consolidated Energy Data Report (CEDR) that is included as Appendix C.

DOE-ID and the INL Site contractors use their existing EMS to establish goals, track, and review progress towards meeting the energy and water efficiency, greenhouse gas reduction, and renewable energy goals. INL Site contractors will leverage all available sources of funding including Strategic Investment Funding (SIF) and alternative funding programs such as Energy Savings Performance Contracts (ESPC) to implement energy and water reduction projects. Projects identified to date are included on the Conservation Measures worksheet of the CEDR. The INL Site will leverage utility incentive programs to the maximum extent available.

The INL Site spent nearly $14.9M in FY 2011 for facility, process, and equipment energy. Of this total, $12.9M was spent for building energy, $1.1M was spent for process energy, and $878K was spent on equipment fuel. The managed area used over 907 billion Btu of energy and 898.0 million gallons of water. Transportation fuel use across the INL Site in FY 2011 totaled 1,157,999 gallons of various types of fuels. The fleet is composed of light-duty vehicles fueled by gasoline and E-85. Heavy-duty vehicles include over-the-road buses fueled by diesel and biodiesel, and a complex assortment of trucks and equipment. Typically, 9.5 million miles are driven annually and over 50,000 hours are logged on heavy equipment.

Table ES-1 and the graph in Figure ES-1 summarize the Annual Report data and provide an FY 2011 status of the DOE SSPP goals. The FY 2011 goals in the graph are the trend point of where the INL Site should be after FY 2011 to remain on track to meet the overall goals by the end of FY 2020. Discussion of the FY 2011 status and planned FY 2012 actions are found in the body of this Plan.

Table ES-1. Annual report data.

SSPP Goal	DOE Goal	Performance Status	Planned Actions and Key Issues	Risk of Non-Attainment
1.1	28% Scope 1 and 2 GHG reduction by FY 2020 from a FY 2008 baseline	The INL Site Scope 1 GHG emissions are down 24.8% and Scope 2 GHG emissions are down 9.5%. The combined Scope 1 and Scope 2 emissions decreased 22.5% in FY 2011 as reported by the Sustainability Performance Office (SPO).	GHG emission reductions will primarily be obtained through efforts to reduce building and transportation energy. AMWTP and ICP contract completion will contribute to further reductions, helping make progress toward the goal. However, an 8% gap in electrical intensity reduction exists in current planning. This results in a 9% gap in meeting the Scope 1 & 2 GHG reduction goal. A $42–$52M investment in energy efficiency projects is needed to close the 9% gap.	Medium

Table ES-1. (continued).

SSPP Goal	DOE Goal	Performance Status	Planned Actions and Key Issues	Risk of Non-Attainment
1.2	30% energy intensity reduction by FY 2015 from a FY 2003 baseline	The INL Site has reduced energy intensity 5.6% from the FY 2003 baseline intensity (10.5% when normalized for weather factors) as demonstrated through data entered into the CEDR and compared to FY 2003 data.	The INL Site short range energy reduction strategies account for a 22% reduction in energy intensity by FY 2015. An 8% gap in electrical intensity reduction exists. To achieve the initial 22% reduction, capital project upgrades are planned primarily through alternative funding mechanisms that include ESPC and UESC. Additionally, INL Strategic Investment funded projects are planned for FY 2012 through FY 2015 that will assist with additional energy savings. Finally, AMWTP and ICP contract completion will contribute to further reductions, helping make progress toward the goal. Closing the 8% energy reduction gap will require approximately $42–$52M in energy efficiency projects.	Medium
1.3	Individual building or processes metering for 90% of electricity (by October 1, 2012); for 90% of steam, natural gas, and chilled water (by October 1, 2015).	The INL Site meters 100% of its natural gas and 53% of its electric usage. An analysis was performed on all existing infrastructure that will still be in place by FY 2020. From this analysis, the INL FY 2011 Metering Plan (PLN-3911) was developed to provide a roadmap on how the INL Site will reach the goal of metering 90% of electricity. Metering was installed in FY 2011 on seven facilities with the highest probability of meeting the Guiding Principles (GPs).	Meters will be installed over the next 2 years to be compliant with the 90% metering goal. At no cost to DOE, the City of Idaho Falls is planning to upgrade all of its electrical power meters to smart meter technology and INL's Idaho Falls facilities will be upgraded as part of the city's initial upgrade project during FY 2012. The remainder of the 23 facilities identified as having the highest probability of meeting the GPs are targeted for meter installations in FY 2012. All other meters are planned for installation through ESPC projects.	Low The INL Site did not meet the October 01, 2012 deadline, but will meet the 90% goal within 2 years.

Table ES-1. (continued).

SSPP Goal	DOE Goal	Performance Status	Planned Actions and Key Issues	Risk of Non-Attainment
1.4	Cool roofs, unless uneconomical, for roof replacements unless project already has CD-2 approval. New roofs must have thermal resistance of at least R-30.	The INL Site replaced 19,933 ft² of roofing on two existing buildings with cool roofs using the RAMP program. Two additional cool roofs were installed using INL's normal roof replacement program.	AMWTP and ICP project completion do not involve installation of cool roofs. However, INL roof replacements planned for FY 2012 will result in new cool roofs exceeding 20,000ft². Additionally, the new Energy Systems Laboratory (ESL) will be complete in FY 2012 and will include a cool roof.	Low Unless funding for RAMP is eliminated.
1.5	7.5% of annual electricity consumption from renewable sources by FY 2013 and thereafter (5% FY 2010–FY 2012).	The INL Site produced no onsite renewable energy, but procured a total of 16,900 MWh of Renewable Energy Certificates (RECs) from the Western Area Power Administration (WAPA). This purchase represents 7.5% of the INL Site electric usage.	AMWTP and ICP project completion do not involve installation of renewable energy systems. However, INL is actively pursuing Renewable Energy Generation capability and annually purchases RECs in amounts as outlined in the Energy Policy Act of 2005. **Non-Attainment Issue**: Although technically feasible, low electric costs and long paybacks make renewable energy installation economically challenging. Leveraging potential ESPC renewable energy installation (solar, geothermal, wind, bio-mass) may provide up to a maximum of 2% onsite renewable energy generation. The remaining 5.5% gap will require major investments and long-term purchase agreements (up to 40 years). A privately operated wind farm installed on INL property would require $15M in supporting infrastructure for the project to be commercially viable. Onsite solar installation would require over $35M, plus the cost of maintaining an owned solar generating facility.	High See Non-Attainment Issue statement

Table ES-1. (continued).

SSPP Goal	DOE Goal	Performance Status	Planned Actions and Key Issues	Risk of Non-Attainment
1.6	10% annual increase in fleet alternative fuel consumption through FY 2015 relative to a FY 2005 baseline.	The INL Site has exceeded the FY 2015 goal by increasing alternative fuel 210% relative to FY 2005. In FY 2011 the INL Site used 236,889 gasoline gallon equivalents of alternative fuels. This represents an increase of 210% over the FY 2005 use, and a 39% increase over FY 2010 use.	The INL Site will continue to purchase alternative fuel vehicles in support of this goal. INL will optimize the fleet through bus and heavy truck replacements that are more efficient and operate on biodiesel. However, recent DOE-HQ and GSA direction has placed an emphasis on hybrid vehicle purchases. Hybrid vehicles are not flex fuel capable, so future alternative fuel consumption may decrease.	Low
1.7	2% annual reduction in fleet petroleum consumption through FY 2015 relative to a FY 2005 baseline.	In FY 2011, the INL Site used 862,527 gasoline gallons equivalent of petroleum, an 8.1% reduction from FY 2005.	The INL Site will continue to obtain increasingly fuel-efficient buses, procure efficient light-duty vehicles, and research the feasibility of implementing alternative fuel for bus operations. AMWTP and ICP contract completion will contribute to further reductions, helping exceed the goal.	Medium
1.8	75% of light-duty vehicle purchases must consist of alternative fuel vehicles (AFVs) by FY 2015.	The INL Site acquired 101 light-duty vehicles in FY 2011, 47 are flex-fuel (46.5%), 46 are hybrid (45.5%) and 8 are gasoline (8%). Of the 101 acquired, 92% are either AFVs or hybrid vehicles.	The INL Site will continue to replace the current fleet with AFVs as General Services Administration (GSA) allows. However, hybrid vehicles are not AFVs and DOE-HQ is mandating hybrid vehicles be purchased. As seen in the FY 2011 status, this greatly affects the percentage. A decision is needed on which vehicle type is more important: AFV or hybrid.	Medium Based on directives and vehicles available from GSA.
1.9	Reduce fleet inventory by 35% within the next 3 years relative to a FY 2005 baseline.	The INL Site reduced vehicle fleet inventory 15% in FY 2011 and is on track to meet the 35% reduction by FY 2015, including interim goals.	The INL Site is on track to meet the 35% reduction commitment made to DOE-HQ. INL performed a 2-year utilization study and has begun reducing the size of the INL fleet while ensuring the ability to meet the INL mission. Completion of the AMWTP and ICP contracts will remove dozens of vehicles from the fleet inventory.	Low

Table ES-1. (continued).

SSPP Goal	DOE Goal	Performance Status	Planned Actions and Key Issues	Risk of Non-Attainment
2.1	13% Scope 3 GHG Reduction by FY 2020 from a FY 2008 baseline.	The INL Site reduced Scope 3 GHG emissions 23.3% in FY 2011 compared to FY 2008 according to the data in the CEDR, exceeding the 13% reduction goal 9 years early.	The INL Site will reduce Scope 3 GHG emissions primarily through employee commute reduction tactics and employee travel reduction tactics.	Low
3.1	15% of existing buildings greater than 5,000 gross square feet (GSF) are compliant with the GPs of High Performance Sustainable Buildings (HPSB) by FY 2015	The INL Site has 2% of existing facilities that are compliant with the GPs. AMWTP and ICP project completion do not involve bringing facilities in compliance with the GPs. Although the INL Site requires only 26 facilities to achieve the GPs (15% of the entire INL Site), INL identified 27 facilities with the highest probability of meeting the GPs. These facilities were entered into Portfolio Manager, are planned for meter installations, and are included in plans for energy and efficiency upgrades. Of these 27 facilities, two are currently Leadership in Energy and Environmental Design (LEED™) Gold certified, four are in construction and are awaiting LEED™ Gold certification, and the balance are being worked for Guiding Principle implementation.	All enduring infrastructure at Central Facilities Area and the Advanced Test Reactor Complex (ATR), and low security facilities at the Specific Manufacturing Complex (SMC) were evaluated as part of developing INL ESPC Project 3. The five GPs are planned for implementation through the ESPC, although not at EM facilities. In FY 2012, INL will implement projects in Idaho Falls (IF) Facilities including IF-616 (WCB), IF-654 (EROB), and IF-601 (ROB) that will help these buildings to obtain a passing Energy Star rating score and will be further evaluated using Portfolio Manager. INL is planning to certify IF-663 (RSF) and IF-654 (EROB) in FY 2012 as meeting the GPs using Portfolio Manager, an increase of 1%. **Non- Attainment Issue:** The INL Site is responsible for obtaining Guiding Principle certification on 15% of the INL Site Buildings (26 total based on current enduring infrastructure numbers). AMWTP and ICP will not contribute to this goal due to DOE-HQ direction that EM facilities at the site will not be a part of the ESPCs. INL had planned on obtaining GP certification on 16 buildings, which equates to 15% of the INL controlled buildings. Although a new plan is in place to achieve GP compliance on all 26,	High See Non-Attainment Issue statement

Table ES-1. (continued).

SSPP Goal	DOE Goal	Performance Status	Planned Actions and Key Issues	Risk of Non-Attainment
			the remaining 10 facilities were added in FY 2012 to the INL total and may not reach GP implementation until after FY 2015. Energy efficiency project funding, meter installation, and operating considerations may cause the new planned GP implementation date to slip 1 or 2 years for the additional 10 buildings.	
3.2	All new construction, major renovations, and alternations of buildings greater than 5,000 GSF must comply with the GPs and where the work exceeds $5M, each are LEED™ NC Gold certification or equivalent	The INL Site ensures all new construction, major renovations, and alternations of buildings greater than 5,000 GSF comply with the GPs and where the work exceeds $5M, are LEED™ NC Gold certified or equivalent. The INL Technical Support Building (TSB) at the ATR Complex received LEED™ certification on March 31, 2011.	AMWTP and ICP project completion do not involve certification of temporary facilities. However, INL continues to pursue certification at enduring facilities. IF-683, Radiological Environmental Sciences Laboratory (RESL) will be certified at LEED™ Gold in FY 2012 and IF-685 (ESL) is under construction and is expected to be submitted for LEED™ Gold in FY 2013. The INL Site Ten Year Site Plan (TYSP) has institutionalized sustainability as a core driver during campus and building planning.	Low

Table ES-1. (continued).

SSPP Goal	DOE Goal	Performance Status	Planned Actions and Key Issues	Risk of Non-Attainment
4.1	26% water intensity reduction by FY 2020 from a FY 2007 baseline.	The INL Site has reduced water use intensity by 4% and total water pumped by 14.5% as compared to the FY 2007 baseline. A water assessment was performed by a water assessment team from Pacific Northwest National Laboratory (PNNL) was initiated at ATR Complex to identify reduction opportunities.	The INL Site will continue to develop and install projects that conserve water, primarily through ESPC project development at the ATR Complex and Central Facilities Area and leveraging assessments done by PNNL. AMWTP and ICP contract completion will contribute to further reductions, (AMWTP completion - 7.1 M gal. annually; Liquid Waste Management System-56 M gal. annually). D **Non-Attainment Issue:** Due to low cost water and electricity, payback on water efficiency projects can be as much as 200 years, unreasonable to taxpayers and detrimental to INL missions. The INL Site is unlikely to achieve this goal. Retrofits on existing industrial process, primarily at the ATR Complex, are estimated at over $75M. The INL Site estimates a water intensity reduction of 10%–12% by FY 2020.	High See Non-Attainment Issue statement
4.2	20% water consumption reduction of industrial, landscaping, and agricultural (ILA) water by FY 2020 from a FY 2010 baseline.	ILA water is not applicable to the INL Site. All water obtained by the INL Site is obtained from the Snake River Plain Aquifer and is potable. The INL Site does not have access to any non-potable water supplies.	NA.	Low
5.1	Divert at least 50% of non-hazardous solid waste, excluding construction and demolition debris, by FY 2015.	The INL Site diverted 15.3% of its non-hazardous solid waste in FY 2011. INL diverted 24.6% of municipal solid waste from the landfill in FY 2011.	The INL Site will continue to evaluate potential outlets and the expansion of recyclable waste streams and to further increase the amount of wastes diverted from the landfill.	Medium

Table ES-1. (continued).

SSPP Goal	DOE Goal	Performance Status	Planned Actions and Key Issues	Risk of Non-Attainment
5.2	Divert at least 50% of construction and demolition materials and debris by FY 2015.	The INL Site diverted 12% of its construction and demolition (C&D) materials in FY 2011. The majority of AMWTP and ICP C&D waste is prohibited from offsite reuse due to the DOE moratorium. INL diverted 39.4% of the construction and demolition waste during FY 2011.	The INL Site will work to incorporate additional materials into current C&D waste diversion process and will take actions to accurately measure wood waste diverted to the wood chipper.	Medium
6.1	Procurements meet sustainability requirements and include sustainable acquisition clause (95% each year).	AMWTP and ICP do not track this data. INL implemented a new automated tracking process in FY 2011 and preliminary numbers show that 31% of the contracts contained the sustainable acquisition clause.	INL is incorporating numerous changes to improve the Sustainable Acquisition Program including procedures, policies, and enhanced work processes that increase the visibility, availability, and use of sustainable products	Medium
7.1	All data centers are metered to measure a monthly PUE (100% by FY 2015).	The INL Site meters one of two Data Centers and is connected to the building control system.	The INL Site plans to implement metering for the second and last data center at the Information and Operations Research Center.	Low
7.2	Maximum annual weighted average Power Utilization Effectiveness (PUE) of 1.4 by FY 2015.	The INL High Performance Computing (HPC) data center PUE is 1.3–1.4.	The PUE for the second data center will be calculated when full metering is implemented.	Low
7.3	Electronic Stewardship – 100% of eligible PCs, laptops, and monitors with power management activity implemented and in use by FY 2012.	INL and ICP both won the FEC Bronze award in FY 2011. Power management controls are in place on the majority of eligible computer systems. At INL, 100% of eligible PCs have power management controls.	Numerous actions are planned for FY 2012 that will continue to support the Federal Electronics Challenge and work towards achieving the FY 2012 Power Management Goal.	Medium

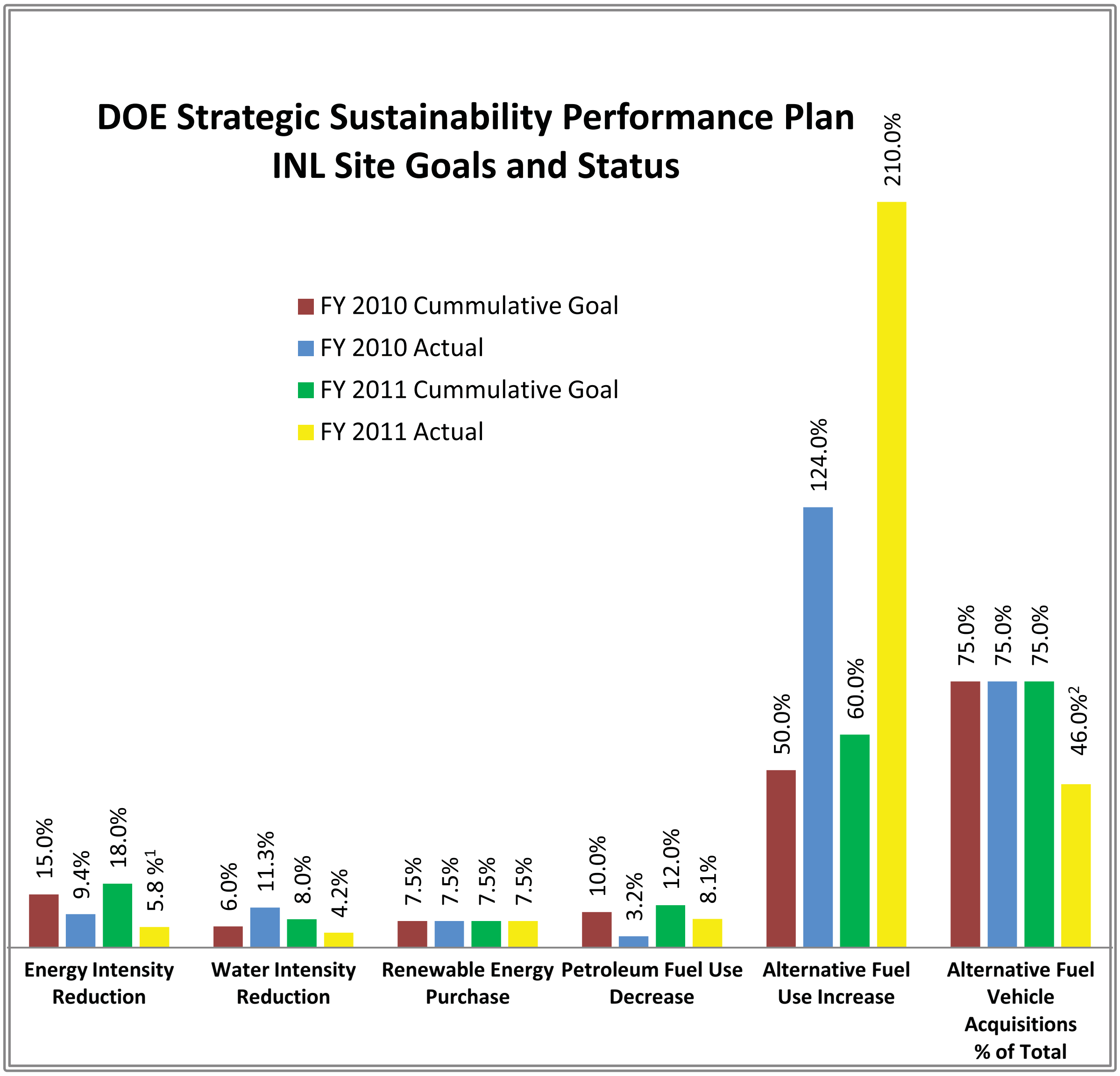

Figure ES-1. Current INL Site status to the DOE goals.

Figure ES-1 shows the INL Site cumulative goal and status for FY 2010 and FY 2011. The cumulative goals are based on individual baseline years as required in Executive Orders.

1. Energy intensity normalized for weather would be -10.5%.
2. Alternative fuel vehicle purchases are down significantly due to the DOE requirements to procure hybrid light duty vehicles when available. The INL Site acquired 101 light-duty vehicles in FY 2011, 47 are flex-fuel (46.5%), 46 are hybrid (45.5%), and 8 are gasoline (8%). Of the 101 acquired, 92% are either AFVs or hybrid vehicles.

CONTENTS

FIGURES

TABLES

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ACRONYMS

AFV	alternative fuel vehicle
AMWTP	Advanced Mixed Waste Treatment Project
ARRA	American Recovery and Reinvestment Act
ATR	Advanced Test Reactor
BEA	Battelle Energy Alliance, LLC
BPA	Bonneville Power Administration
Btu	British thermal unit
C&D	Construction and Demolition
CAES	Center for Advanced Energy Studies
CD-2	Conceptual Design
CDP	Calcine Disposition Project
CEDR	Consolidated Energy Data Report
CFA	Central Facilities Area
CNG	Compressed Natural Gas
CRAC	Computer Room Air Condition
CUI	controlled unclassified information
D&D	Decontamination and Dismantlement
DOD	Department of Defense
DOE	Department of Energy
DOE-ID	Department of Energy Idaho Operations Office
DRI	Desktop Refresh Initiative
E-85	Ethanol 85 (alternative fuel that is 85% ethanol and 15% gasoline)
EBR-I	Experimental Breeder Reactor 1
ECM	Energy Conservation Measure
EM	Environmental Management
EMS	Environmental Management System
EO	Executive Order
EPA	Environmental Protection Agency
EPEAT	Electronic Product Environmental Assessment Tool
EROB	Engineering Research Office Building
ESCo	Energy Services Contractor
ESL	Energy Systems Laboratory
ESPC	Energy Savings Performance Contract

FAST	Fleet Automotive Statistical Tool
FEC	Federal Electronics Challenge
FEMP	Federal Energy Management Program
FIMS	Facilities Information Management System
FIRP	Facility Infrastructure Revitalization Program
FY	Fiscal Year
GHG	greenhouse gas
GIS	Geospatial Information System
GP	Guiding Principle
GPS	Global Positioning System
GSA	General Services Administration
GSF	Gross Square Feet
HDD	Heating Degree Days
HEV	hybrid electric vehicle
HPC	High Performance Computing
HPSB	high performance and sustainable building
HQ	Headquarters
HWMA	Hazardous Waste Management Act
ICP	Idaho Cleanup Project
ILA	industrial, landscaping, and agricultural
IM	Information Management
INL	Idaho National Laboratory
INTEC	Idaho Nuclear Technology and Engineering Center
IORC	Information Operations and Research Center
IRC	INL Research Center
ISMS	Integrated Safety Management Systems
IT	Information Technology
IWTU	Integrated Waste Treatment Unit
LCD	Liquid Crystal Display
LEED™	Leadership in Energy and Environmental Design
LNG	Liquefied Natural Gas
MFC	Materials and Fuels Complex
MIT	Massachusetts Institute of Technology
MT	metric tons
MTR	Materials Test Reactor

NRF	Naval Reactors Facility
OMB	Office of Management and Budget
ORNL	Oak Ridge National Laboratory
PDU	Process Demonstration Unit
PHEV	Plug-in Hybrid Electric Vehicle
PNNL	Pacific Northwest National Laboratory
PUE	Power Utilization Effectiveness
R&D	Research and Development
RAMP	Roof Asset Management Program
RCRA	Resource Conservation and Recovery Act
RDD&D	Research, Development, Demonstration, and Deployment
REC	Renewable Energy Certificate
REL	Research and Education Laboratory
RESL	Radiological Environmental Sciences Laboratory
RFI	Request for Information
RFID	Radio Frequency Identification
RFP	Request for Proposal
ROB	Research Office Building
RWMC	Radioactive Waste Management Complex
SMC	Specific Manufacturing Capability
SSPP	Strategic Sustainability Performance Plan
TSB	Technical Support Building
TTAF	Test Train Assembly Facility
TYSP	Ten-Year Site Plan
UESC	Utility Energy Savings Contract
UPS	Uninterruptable Power Supply
USGBC	United States Green Building Council
VAM	Vehicle Allocation Methodology
VM	Virtual Machine
WAPA	Western Area Power Administration
WCB	Willow Creek Building

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FY 2012 INL Site Sustainability Plan with the FY 2011 Annual Report

1. GOAL PERFORMANCE REVIEW AND PLANS

For the purposes of this document, the “INL Site” is considered all operating contractors and the Department of Energy Idaho Operations Office (DOE-ID), and includes the industrial complexes located west of Idaho Falls and the Idaho Falls buildings. Idaho National Laboratory (INL) is considered to be those facilities operated by Battelle Energy Alliance, LLC (BEA). The Advanced Mixed Waste Treatment Project (AMWTP) and Idaho Cleanup Project (ICP) are referred to by their noted acronyms and include all facilities under their individual responsibility.

The Environmental Management Mission assumptions for this Plan include the Advanced Mixed Waste Treatment Project (AMWTP) ceasing operations and be in a cold, dark, and dry status by FY 2018; the remaining Idaho Cleanup Project (ICP) operations at the Radioactive Waste Management Complex (RWMC) will be complete by FY 2018 with buildings in a cold, dark and dry status; the Idaho Nuclear Technology Center (INTEC) liquid waste management system operations will be discontinued by FY 2015; and the INTEC New Waste Calcine Facility will be demolished by FY 2015.

1.1 Scopes 1 and 2 Greenhouse Gas Reduction

28% Scope 1 & 2 GHG reduction by FY 2020 from a FY 2008 baseline.

Executive Order (EO) 13514 mandates that agencies develop specific greenhouse gas (GHG) reduction targets. Department of Energy (DOE) has set a reduction target of 28% for Scope 1 and 2 GHGs. The EO sets Fiscal Year (FY) 2008 as the baseline year against which reductions will be measured.

The INL Site reported Scope 1 and Scope 2 GHG emissions for the baseline year, FY 2008, and annually thereafter. Scope 1 and Scope 2 are defined as:

- Scope 1. Direct or INL Site-owned emissions that are produced onsite, such as stationary combustion (from fuel combustion), mobile combustion (from fleet vehicles), and fugitive emissions (from refrigerants, onsite landfills, and onsite wastewater treatment). These include emissions that may benefit another entity or contractor, but for which the INL Site controls or owns the associated process.
- Scope 2. Indirect or shared emissions produced by INL Site’s electricity, heat, and steam purchases. (Note that INL Site did not purchase heat or steam during FY 2009 through FY 2010.)

The INL Site contractors’ Environmental Management Systems (EMS) provide the framework and process for evaluating and monitoring Scopes 1, 2, and 3 GHG emissions and related reduction activities. On an annual basis, appropriate sustainability targets are developed and monitored through the EMS to support the overall reduction in GHG emissions.

The challenge is to minimize the impact of operations while increasing the growth of the Laboratory, balanced with EM closure activities. The INL Site is integrating environmental performance improvement in the areas that matter most to its stakeholders and the Laboratory, including minimizing the environmental footprint, taking a progressive approach to climate change, and championing energy conservation.

1.1.1 Performance Status

Based on data entered into the CEDR for FY 2011, the INL Site has reduced Scope 1 greenhouse gas emissions 24.8%. (FY 2008 – 35,176.84 MT CO_2e and FY 2011 – 26,456.46MT CO_2e), reduced Scope 2 greenhouse gas emissions 9.5% (FY 2008 – 94,919.29MT CO_2e and FY 2011 – 85,941.06MT CO_2e). The combined Scope 1 and Scope 2 emissions decreased 22.5% in FY 2011 as reported by the SPO.

INL completed an update to the FY 2008 GHG baseline based on updated guidance. Minimal changes occurred as a result of this update. Additionally, INL completed comprehensive inventories for FY 2009 and FY 2010.

As found in Table 1, each Scope 1 and Scope 2 category is listed for FY 2008 and FY 2011 and the calculated emission needed for each by FY 2020. FAST data, a Scope 1 emission, is not included in this table.

Table 1. INL Site Scope 1 and 2 GHG calculation results for FY 2008 and FY 2011, and the FY 2020 Goal, by emissions category.

Scope	Emissions Category	FY 2008 Baseline ($MT CO_2e$)	FY 2011 Actual ($MT CO_2e$)	FY 2020 Reduction Goal ($MT CO_2e$)
1	Stationary Combustion	28,590.9	19,886.7	20,585.5
	Fugitive Emissions: Refrigerants	332.4	606.5	239.3
	Fugitive Emissions: Onsite Landfill	5,972.4	5702.1	4300.1
	Fugitive Emissions: Onsite Wastewater Treatment	281.1	261.2	202.4
	Scope 1 Total	**35,176.8**	**26,456.5**	**25,327.3**
2	Purchased Electricity (includes owned Transmission & Distribution Losses)	94,919.3	85,941.1	68,341.9
1&2	**Grand Total**	**130,096.1**	**112,397.5**	**93,669.2**

Many factors influence the INL Site's GHG emissions, including the large land area on which the Laboratory's facilities are located. The area requires long commutes and an extensive fleet to provide transportation for desert site workers, and contains many antiquated inefficient facilities built before the current appreciation for energy efficiency and high-performance design. These factors tie directly into the following conclusions from the INL Site's baseline GHG inventory:

- Electricity is the largest contributor to the INL Site's GHG inventory, with over 60% of the net anthropogenic CO2e emissions from Scopes 1 and 2
- Other sources with high emissions were stationary combustion, and fugitive emissions from the onsite landfills
- Among the sources with low emissions within Scopes 1 and 2 were fugitive emissions from refrigerants and onsite wastewater treatment.

1.1.2 Planned Actions

The INL Site will continue to implement projects that reduce electricity and fuel usage, reducing corresponding Scope 1 and Scope 2 emission reductions. ICP will continue its closure mission, discontinuing processes and making facilities inactive and cold, dark and dry; or demolishing what is no longer needed. Knowing the target emission for each as found in the INL GHG Reduction Strategy helps prioritize and plan projects accordingly.

Mobile Combustion Reduction tactics include:

- Take advantage of mass transportation and shuttles

  Significant petroleum reduction and associated GHG reduction could be realized by moving the AMWTP contract force away from the current vanpool system to the existing INL bus operation. A majority of the AMWTP work force could be absorbed into the current bus operations schedule (i.e., fill the empty seats on buses currently traveling to/from the Site).

- Consolidate trips.

  INL is working with the Idaho Transportation Department to establish a ride-share pool for INL employees.

  INL has consolidated buses used to shuttle shift workers and bus drivers into the regular INL shuttle schedule. In addition, INL monitors shuttles and other runs, and eliminates or consolidates runs with low utilization.

- Eliminate trips by using tools such as video and Web conferencing for meetings.

  The use of "Go to Meeting" and other similar Web conferencing tools are available and use is expanding at INL.

- Use alternative modes of transportation such as bicycles and low-speed vehicles as appropriate.

  Low-speed vehicles are available and in use inside Site areas.

  Bicycle pools could be established for transportation between town campuses using a model implemented by Oak Ridge National Laboratory (ORNL).

- Provide right size fleet.

  Decrease the number of "permanently assigned" vehicles and consolidate vehicles into pools located at major INL Site campuses. Implement an automated pool check-out/check-in system such as the Asset Works "Key-Valet" system that is compatible with the current INL vehicle reservation system.

  Restrict use of Site fleet to Site activities. For example, vehicles needed for environmental monitoring would be based at the Site locations and trips would start/end from ATR, CFA, MFC, etc., and not be used to transport employees to/from Idaho Falls. Employees could use bus routes and shuttles to travel between town and Site.

Fugitive emission reduction tactics include:

- Work with recycling coordinator to identify waste diversion opportunities, including increasing the types and quantities of items sent for recycling, and implementing composting. These activities will assist with meeting the EO 13514 waste diversion goals.
- Investigate installing a gas collection system at the onsite landfill to use as an energy source.
- Electricity emission reduction tactics include installing onsite renewable energy projects as cost effective, although there are no plans or funding to install in the near term.

- Use the following tactics to reduce direct purchased electricity:
  - Install smart meters in Idaho Falls buildings (scheduled for FY 2012)
  - Satisfy sustainable acquisition requirements to purchase Energy Star and Federal Energy Management Program (FEMP) devices (EO 13514 requirement)
  - Meet green building goals for new and existing buildings (Guiding Principles and Leadership in Energy and Environmental Design [LEED™] Gold certification)
  - Continue educational campaign to change employee behaviors (turn off lights and computers when leaving at end of shift, utilize power management when available, avoid using space heaters, personal fridges, etc.)
  - Continue to pursue Energy Savings Performance Contract (ESPC) Contract 3
  - Upgrade Idaho Falls facilities using either Utility Energy Savings Contract (UESC) funds or internal upgrade program.
- REC purchase increase tactic:
  - The INL Site will continue to meet the minimum requirements of purchasing 7.5% of the electric energy usage in equivalent RECs. However, INL has committed to increase purchase of RECs starting in FY 2012 to 10% of the INL electric usage. Although the increase does not contribute to the GHG reduction goal, it does demonstrate INL's commitment to climate change adaptation and strategic leadership. The calculation method is based on the following: assume 10% of the previous year's purchased electricity total will be purchased as RECs in the current year (i.e., FY 2012 REC purchase is 10% of FY 2011 total purchased electricity).

1.2 Energy Intensity Reduction

30% energy intensity reduction by FY 2015 from a FY 2003 baseline.

The INL Site goal for energy usage is a 30% reduction of energy intensity by FY 2015, as compared to the FY 2003 energy intensity baseline. Energy intensity is defined as energy use divided by building area and is measured in Btu/ft². On average, an annual energy use reduction goal of 3% supports meeting the overall goal and provides a means to measure and trend progress. Energy intensive loads that are mission specific are excluded from the goal. The ATR and its support facilities are currently excluded from the reporting goal but are not excluded from the responsibility to reduce energy use and GHGs where practicable.

Energy sources affected by this goal include electricity, natural gas, fuel oil, liquefied natural gas (LNG), and propane. Methods to reduce energy usage include capital project upgrades, operational modifications, and behavior changes by the INL workforce.

The INL Site energy intensity for FY 2011 was 173,194 Btu/ft² as compared to 183,471 Btu/ft² in FY 2003 for a calculated reduction of 5.6%. This reduction falls far short of the desired 18% cumulative reduction goal for FY 2011. However, the INL Site normalizes energy intensity each year to provide for a weather-related adjusted comparison with the base year. To make this correction, the portion of energy used for space conditioning (defined as 43% of the total according to DOE's Energy Information Administration) is adjusted to the weather conditions for the base year. In FY 2011, there were 8,970 Heating Degree Days (HDDs) as compared to only 7,892 in FY 2003. In this comparison, the energy intensity would decrease had temperatures been as warm in FY 2011 as they were in FY 2003. The result is a corrected energy use intensity of 164,244 Btu/ft², and when compared to the base year energy intensity of 183,471 Btu/ft², it calculates to an actual 10.5% reduction (see Table 2).

Table 2. Energy intensity normalization for weather factors.

Energy Intensity FY 2003	Energy Intensity FY 2011	HDDs FY 2003	HDDs FY 2011	Normalized Energy Intensity FY 2011
183,471 Btu/ft²	173,194 Btu/ft²	7,892	8,970	164,244 Btu/ft²
(Baseline Year)	(5.6% Reduction from FY 2003)	(Baseline Year)	(Over 1,000 HDD increase)	(10.5% Reduction from FY 2003)
Note: The Normalized Energy Intensity is calculated to show what the energy intensity would have been in FY 2011, had the weather factors been the same as they were in FY 2003. This method provides a more accurate picture of energy use from year to year.				

Due to the nature of the various INL Site missions, many operations can be cyclical and result in varying usages of energy. As facilities are removed or processes are modified, the INL Site energy usage intensity can vary seemingly unrelated to actual overall reduction efforts. In FY 2011, additional Decommissioning and Demolition (D&D) work continues to remove low energy use facilities operating in a standby mode. As the INL Site square footage decreased, the energy use intensity did not decrease as much as desired, even though total energy use declined.

There is one major new project under development at the ICP. Construction of the Integrated Waste Treatment Unit (IWTU) was completed in FY 2011 and houses the treatment process for treating the remaining wastes in the Tank Farm Facility. This treatment process is slated to begin hot operations in second quarter of FY 2012. The treatment process will use significant amounts of water and electricity. The facility does not currently have the capability for individual building metering and is captured in the overall Idaho Nuclear Technology Center (INTEC) metering. While an increase in INTEC energy use will occur, this process is expected to operate for less than 1 year to complete its mission, at which time the facility energy use should decrease back to the current INTEC load. When the IWTU becomes operational, it will be included on the INL Site Excluded Facilities input.

A future facility is currently being designed for the treatment of the calcine solids stored in the Calcine Solids Storage Facility located at INTEC. The Calcine Disposition Project (CDP) is planning to use a portion of the IWTU facility for this project. The CDP will also be an energy intensive treatment process that could be operational by FY 2020. The CDP will have individual energy metering capability and the expectation is that this facility will be exempted from the energy reduction goals. The energy metering capability will enable the facility use to be subtracted from the overall INTEC use so that progress on energy reduction at INTEC can be monitored.

The INL Site is planning for significant growth to further its missions with additional process related facilities at the major desert site locations and additional office and laboratory facilities at Idaho Falls locations. The INL TYSP (DOE/ID-11449) provides an overview and details of conceptual laboratory growth. Several of these new facilities are identified in the New Buildings worksheet of the Consolidated Energy Data Report (CEDR).

1.2.1 Performance Status

To meet the Strategic Sustainability Performance Plan (SSPP) energy goal, the INL Site should be at an 18% reduction by the end of FY 2011 as compared to the established FY 2003 baseline. As demonstrated through data entered into the CEDR and corrected for weather related factors, the INL Site is actually at a 10.5% in energy reduction, which also represents a 1.1% reduction from FY 2010.

INL made progress in FY 2011 with final construction of the MFC ESPC project. Additional energy reductions will be realized in FY 2012 after a full year of operations of the new boilers.

1.2.2 Planned Actions

ICP will contribute to energy intensity reductions in two primary ways. ICP has reduced building footprint by 857,428 ft^2 since FY 2003 and is discontinuing operations which reduces energy consumption. Additional projects such as the roof upgrades and heating system upgrades will also be completed in the near future.

The INL Site capital project upgrades are funded primarily through alternative funding mechanisms that include ESPC and UESC. They both use external (non-DOE) funding for energy-related upgrades and are paid back over time using the energy cost savings generated by the project. Both are time consuming and have requirements that limit effectiveness. The UESC process commenced on several owned and leased Idaho Falls facilities, but a major program requirement states that the payback must not exceed the length of the building lease. This greatly limits implementation as most leased facilities have 5 to 10 year leases and most payback calculations are 7 to 15 years. Still, the INL Site is actively pursuing these two alternative funding strategies to obtain additional energy savings. Finally, the INL Site will maximize the use of available utility incentive programs to help fund both internal and alternatively funded projects.

INL will supplement the ongoing ESPC project by providing Strategic Investment Funding (SIF) to implement projects that are either not readily adaptable to ESPC projects, or directly influence the efficiency of buildings that INL is pursuing the Guiding Principles. The SIF will be provided for each year through FY 2015.

The following projects were identified that will contribute to continued energy reductions for the INL Site:

- Using SIF for FY 2012, installation of up to nine energy and water reduction projects in Willow Creek Building (WCB), Engineering Research Office Building (EROB), and the Research Office Building (ROB). These projects were developed during FY 2011 for implementation in FY 2012.
    1. WCB Chiller Replacements
    2. EROB CO_2 Controls
    3. WCB Water Fixture Replacements
    4. IRC (IF-602) Water Fixture Replacements
    5. WCB Lighting Fixtures
    6. WCB Lighting Controls
    7. WCB Exterior Lighting Fixtures
    8. ROB (IF-601) Exterior Lighting Fixtures
    9. IRC (IF-603) Motor/Controls.
- ESPC development continues including completion of the Investment Grade Audit for all enduring facilities at CFA, ATR-Complex, and selected facilities at the Specific Manufacturing Capability (SMC) facility. Energy Conservation Measures (ECM) being pursued include lighting, HVAC, and building envelope upgrades, boiler plant elimination at CFA, boiler plant controls at SMC, back generator installation at ATR Complex, solar walls, and possibly small renewable energy generation.
- A fourth ESPC project is estimated to cost \$42–\$52M based on historical data from ESPC 1 and ESPC 2.
- ICP planned actions for energy reduction activities after FY 2011consist of continued D&D, which will result in a projected net reduction of building square footage for the INL Environmental Management (EM) program by the end of FY 2020 of 118,218 ft^2. AMWTP completion will place 12

facilities in a cold, dark, and dry status. ICP will complete several processing operations including ceasing operations of the Liquid Waste Management System.

- An ESPC was initiated for EM operations at INTEC, but was put on hold due to uncertainties with building lifetimes.

INL identified several projects that would contribute to the goal, but are either not economical or payback calculations prohibit installation based on DOE-HQ guidance. Projects are at numerous Idaho Falls facilities, leased and owned. Total estimated cost for the following 59 projects is $12.7M. Project include:

- Replace three 20 ton, RTU-style single package system with three variable volume systems with and ARI Energy Efficiency Rating (EER) of 12.0 (13.1 IPLV) and with a gas heating efficiency of 82%.
- Replace one 3 ton, two 7.5 ton, and one 10 ton heat pumps with new high efficiency heat pumps with a minimum Coefficient of Performance of 4.0.
- Replace the existing four heat pumps with new high efficiency heat pumps with a coefficient of performance of 4.0.
- Install air-to-air heat exchangers in each of the three HVAC zones with a minimum of 100, 300, and 750 CFM.
- Install new 5hp VFDs on the MOAU-1 and MOAU-2 fan motors and program/control with the new CO_2 sensors.
- Install destratification fans and infrared heaters in each of the two high bay areas to circulate the air and eliminate temperature stratification.
- Replace 15 exterior wall pack fixtures with new 9W LED Fixtures.
- Replace 11 walkway lights with new 9W LED lamps and eight parking lot fixture heads with new 30W LED or 250W induction lamp fixture heads.
- Replace 17 exterior wall pack fixtures with new 6W LED Fixtures
- Replace 15 exterior wall pack fixtures with new 28W LED fixtures and 12 single-light and four double-light parking lot fixture heads with sixteen 60W LED or 400W induction lamp fixture heads.
- Replace 13 exterior wall pack fixtures with new 20W LED fixtures and seven parking lot fixture heads with new 60W LED or 300W induction lamp fixture heads.
- Replace seven exterior wall pack fixtures with new 20W LED fixtures.
- Replace 65 exterior light fixtures with twenty-six 9W LED, eleven 60W LED or 100W induction lamp, four 20W LED, seven 30W LED, and seventeen 100W LED or 300W induction lamp fixtures.
- Replace 12 exterior light fixtures with new 9W LED fixtures.
- Replace 10 exterior light fixtures with new 9W LED fixtures.
- Replace 27 exterior wall pack fixtures with eleven 25W, fourteen 28W, and two 30W new LED fixtures. Replace 43 parking lot fixture heads with new 100W LED or 250W induction lamp fixture heads.
- Replace seven exterior wall pack fixtures with new 9W LED fixtures.
- Replace 11 exterior wall pack fixtures with new 9W LED fixtures.
- Replace eight exterior wall pack fixtures with new 39W LED fixtures.
- Replace six exterior wall pack fixtures with new 9W LED fixtures.

- Install 118 wall and ceiling mount occupancy sensors for lighting control in offices, break rooms, rest rooms, conference rooms, and electrical and mechanical rooms.
- Install 133 wall and ceiling mount occupancy sensors for lighting control in offices, break rooms, conference rooms, and mechanical rooms.
- Retrofit 1,118 T12 fluorescent fixtures with new electronic ballasts and T8 lamps.
- Retrofit two hundred twenty-seven 40 and 60W task and spotlights with 12W compact fluorescent lamps.
- Retrofit 170 fluorescent fixtures with new electronic ballasts and T8 lamps. Replace 15 exit sign fixtures with new LED fixtures.
- Install 14 wall and ceiling mount occupancy sensors for lighting control.
- Replace one 1hp and one 30hp pump motors with new premium efficiency motors.
- Replace two 2hp, four 3hp, eight 5hp, six 7.5hp, six 10hp, four 15hp, four 20hp, one 25hp, six 30hp, two 40hp, and one 50hp motors with new premium efficiency motors.
- Replace one 3hp, three 7.5hp, four 15hp, one 20hp, and two 25hp motors on end suction pumps with new high efficiency motors.
- Replace three 5hp, seven 7.5hp, four 10hp, four 20hp, two 30hp, and one 40hp in-line fan motors with new high efficiency motors.
- Replace one 1hp, one 1.5hp, one 3hp, and one 5hp general-purpose fan motors with new high-efficiency motors.
- Install one VFD on the 5hp HVAC motor on the single package RTU and three 7.5hp fan motors.
- Install one 7.5hp VFD on P-2, one 15hp VFD on P-4, one 20hp VFD on CT-1, one 40hp VFD on CT-2, two 15hp VFDs on the main hot water heating pumps, and two 10hp VFDs on the Data Pump House condenser pumps.
- Replace the current boiler with a new High Efficiency Condensing Boiler. The boiler capacity will be increased from 1,400 MBH to 2,000 MBH. (Consider several small packaged boiler-system efficiency and mechanical room access).
- Install VFDs on pump motors and HVAC motors for air handlers 1–6, cooling systems and hot water heating system pumps, heat recovery system pumps and cooling tower fan motors and upgrade Carrier I-VU controls to facilitate control of the new VFDs.
- Install usage based controls (UBC) variable flow Carrier I-VU proximity controls on the lab fume hoods 72 and new Carrier I-0VU controls for the existing Phoenix airflow control valves 237, for the lab area with electronic to pneumatic transducers.
- Replace the existing boilers with new High Efficiency Condensing Boilers capable of 5,000 MBH.
- Replace the existing and install one additional evaporative fluid-cooling tower, replace the associated two heat exchangers with two new plate and frame system heat exchangers and modify controls.
- Install 35 ground-mounted flat plate type solar collector heating panels to heat the water in one of the existing 56k gallon hot water storage tanks. This system would use glycol for heat transfer to a new 350-gpm pump system and heat exchanger.
- Replace one 5 ton, two 10 ton, one 12.5 ton, and eight 15 ton RTUs with new high efficiency natural gas/scroll compressor RTUs with an EER of 11 or above, variable speed fan control, modulating heating/cooling, economizers, and 12 CO_2 sensor controls.

- Remove five return air fans that are no longer required and increase the size of the return air ducting to reduce pressure drop.
- Install a new Carrier I-VU HVAC and Lighting control system for the entire building including five new lighting control panels.
- Add one Lieber Glycool second economizer cooling coil and controls to all nine of the existing Liebert systems.
- Replace two 2.5 ton, two 5 ton, two 6 ton, four 10 ton, one 15 ton, one 20 ton, and one 25 ton rooftop units (RTU) with new high efficiency units with economizers, CO_2 demand control ventilation, and electronic programmable controls (one space at a time).
- Enlarge the return air duct system for AC-24 and AC-25 serving the Enterprise Server room to address a recurring freeze problem during the heating season. Verify correct airflow through fire dampers and rebalance entire system.
- Convert the ceiling plenum supply system for the office areas into a ducted supply system for RTU units AC-11, 13, 14, 15, and 21 zones. This task will include 88 new diffusers, 32 return air grills, and 2,000 lbs of duct work and accessories.
- Replace the roof on approximately two-thirds of the roof and install R30 insulation throughout.
- Install on all air handler coils, 2-way automatic modulating control valves to be plumbed to hot water and chilled water coils. Included are five 2.5 inch, seven 4 inch, and five 6 inch valves.
- Install VFDs on two 25hp chilled water loop pumps, one 7.5hp hot water loop pump, one 20hp hot water loop pump, and two 7.5hp cooling tower pumps.
- Reprogram control system to achieve savings offered by the above controls modifications.
- Replace the existing chillers with two new 250 ton variable speed drive chillers with an efficiency rating of at least 0.55 kW/ton and with a 0.365 kW/ton ARI IPLV efficiency rating.
- Install four 15hp VFDs on the chilled water and condenser water pumps.
- Replace the existing electric boiler with a new 3,000 MBH high-efficiency, gas fired condensing boiler with an efficiency rating of 94.1%.
- Reprogram control system to achieve savings offered by the above equipment replacements.
- Remove the existing process hot water gas fired boiler, gas lines, and power feed.
- Retrofit 718 existing Kite Light fixtures with new 55W compact fluorescent lamps.
- Add nine new VAV boxes (approximately 3,000 CFM each), associated controls, and 5,800 lbs of additional galvanized steel ducting to split an existing nine zones into 18 zones to provide heating to areas served previously with the metal halide “kite lights”.
- Install new glycol-to-chilled water heat exchangers and associated components on the two computer room/telecommunications room air conditioning units (Liebert/EdPac).
- Replace two single-stage 20hp air compressors with two new high efficiency single-stage 15hp variable speed drive, air-cooled, rotary screw compressors, and a 120 gallon receiver tank.
- Install a new second Liebert Glycool economizer cooling coil and controls to the glycol Drycooler system on the three Liebert data cooling systems.

1.2.3 Energy Intensity Projection

INL prepared an Energy Intensity Status and Forecast for DOE-ID on November 22, 2011 outlining various infrastructure and operational changes expected by FY 2015. This forecast indicates that the overall energy intensity will likely be a 22% reduction using the entire project funding resources currently identified. This first 22% of the 30% energy reduction goal will be achieved by completing identified ESPC projects, commissioning new efficient facilities, shutting down unneeded and completed operations, and implementing various internally funded projects. However, the final 8% will require major investments to implement yet-to-be identified opportunities. Table 3 provides the energy intensity forecast for FY 2003 (baseline year), FY 2011, and the energy intensity forecast for FY 2015.

Table 3. Energy intensity forecast.

Area	Base Year FY 2003 (Btu/ft²)	FY 2011 (Btu/ft²)	% Change from FY 2003	Forecast FY 2015 (Btu/ft²)	Forecast % Change from FY 2003	Comments
REC	95,070	112,238	18%	99,895	5%	New, efficient, industrial, and laboratory facilities (higher energy intensity than office buildings): RESL, ESL, REL & SIF. Upgrade projects in WCB, EROB, and UB facilities. These upgrade projects should provide improvements from where INL is now, but there will still likely be an estimated overall **5% increase** from FY 2003.
MFC	275,256	204,274	-26%	197,402	-30%	ESPC 2 is complete and is providing a **5% reduction** in energy use and assumes that the new MFC Technical Support Building (TSB) is LEED™ Gold certified.
ATR Complex	126,616	180,131	42%	171,125	35%	Assumes that ESPC 3 is complete and provides an additional **5% reduction** in energy use. Does not include ATR electricity as it is currently exempted from the goal. Total energy use is down at ATR Complex, but significant square footage reduction of buildings in standby mode over the past several years have increased the energy intensity of the remaining buildings.

Table 3. (continued).

Area	Base Year FY 2003 (Btu/ft^2)	FY 2011 (Btu/ft^2)	% Change from FY 2003	Forecast FY 2015 (Btu/ft^2)	Forecast % Change from FY 2003	Comments
INTEC	305,550	235,272	-23%	230,567	-25%	INTEC's energy use is currently down significantly from FY 2003, and is expected to continue with additional reductions as more process are eliminated. An additional **2% energy reduction** is estimated before the end of FY 2015. The new IWTU will be an energy intensive facility with a relatively short temporary mission and is planned to be excluded from the energy reduction goal when it comes online.
CFA	127,280	102,595	-19%	97,465	-23%	Assumes that ESPC 3 is complete and is providing an additional **5% reduction** in energy use.
SMC/TAN	184,747	251,637	36%	245,346	33%	SMC is planning internally funded energy efficiency projects and is considering participating with ESPC 3. Estimating a **2.5% reduction** in energy use over the next 4 years.
RWMC	78,227	122,020	56%	61,010	-22%	This estimate assumes that the current processes and mission are complete and that the buildings are in a standby mode, providing a **50% reduction** in overall energy use as compared to current use.
Total Desert Site	196,491	173,323	-12%	151,948	-23%	Includes all of the major desert site areas except exempted ATR facilities.

Table 3. (continued).

Area	Base Year FY 2003 (Btu/ft²)	FY 2011 (Btu/ft²)	% Change from FY 2003	Forecast FY 2015 (Btu/ft²)	Forecast % Change from FY 2003	Comments
Total INL Site	**174,997**	**157,811**	**-10%**	**136,667**	**-22%**	**This total includes all REC facilities and the major desert site areas. This is the final score that INL will be graded on for meeting the Strategic Sustainability Performance Plan (SSPP) goals.**

Notes:

1. SMC/TAN and ATR Complex share a common phenomenon with regards to energy use intensity. Both areas have reduced their overall energy use, but have continued to decrease square footage, so the energy intensity has gone up rather significantly for both areas. Buildings with large square footages and low energy use in standby mode, such as the Materials Test Reactor (MTR) at ATR Complex and the Hot Shop Facility (TAN-607) at TAN, have been removed since base year FY 2003, contributing to the observed increase in energy use intensity. An example of ATR Complex is shown below:

	FY 2003	**FY2011**	**% Change**
Energy Use	59,850 MBtu	56,332 MBtu	6% reduction - Good
Square Footage (FIMS)	472,684 ft²	312,730 ft²	34% reduction - Also Good
Energy Use Intensity	126,616 Btu/ft²	180,131 Btu/ft²	42% increase - Unfortunate result for goal purposes

2. INTEC has also experienced reductions in square footage, but the facilities removed were mostly active right up to D&D and were fully functional during base year FY 2003, so the energy intensity at INTEC has been predominantly reduced commensurate with the reduction in square footage.

3. Additional projects needed to address the estimated deficit of 8% toward the FY 2015 goal will be developed and included in the annual TYSP updates, and will be partially funded with INL's Strategic Investment Funding planned for Sustainability projects in each of the next 3 fiscal years.

1.3 Utility Metering

Individual buildings or processes metering for 90% of electricity (by October1, 2012); for 90% of steam, natural gas, and chilled water (by October 1, 2015).

Most of the INL Site buildings do not have meters installed. Meter installation has been performed by groups of buildings or facility area. Meter installations will be prioritized by the potential of the building to meet the Guiding Principles and the cost effectiveness of installing meters to meet the 90% metering goal.

In the latest Facilities Information Management System (FIMS) snapshot, the INL Site has over 900 real property assets such facilities or structures, all of which potentially use electricity. Electric meter installation can cost anywhere from $5,000 to over $25,000 per asset. Installation across the entire INL Site is both uneconomical and unrealistic. The INL Site has chosen to use DOE guidance and economic analysis to determine the most logical buildings to meter.

1.3.1 Performance Status

Using a combination of the DOE Metering Guidance (memorandum from Jennifer C. MacDonald, Direct Sustainability Performance Office, May 6, 2011), the guidance for Electric Metering in Federal Buildings (DOE/EE-0312), the DOE Buildings Electric Metering Guidance of September 27, 2006, and the FEMP Metering Best Practices (October 2007), the INL FY 2011 Metering Plan (PLN-3911) was prepared to identify the appropriate buildings for installing new utility Metering.

The results were clear. The INL Site will only install meters on facilities that have the greatest potential of achieving Guiding Principle compliance, are great then 5,000 ft^2, are not cold, dark, and dry, will be in use after FY 2020, and are not exempted from reporting.

The total electricity being metered for the entire INL Site is 53% with plans in place to meter 90% by FY 2015.

All INL Idaho Falls town locations are currently metered 100% for electricity and natural gas. In FY 2011, advanced metering was installed on the INL Research Center (IRC) Records Storage Facility (IF-663), the Research Office Building connected to the new Radiological and Environmental Sciences Laboratory (RESL) (IF-601), and EROB (IF-654) (one for the whole building, and one for just the data center). These meters were integrated into the existing Carrier i-Vue building control system for data compilation and trending. These three buildings currently have the highest probability of meeting the energy use requirements of the Guiding Principles.

There are 93 owned facilities at the INL desert site representing a total of 2,600,632 ft^2 or 47% of the total INL Site footprint that were selected for further evaluation toward the cost effectiveness of advanced metering for electricity. Twenty-five buildings are metered at MFC, three buildings are metered at CFA, and one building is metered at the ATR Complex. The meters at CFA (CF-1611, CF-1612, and CF-1618) and at the ATR Complex (TRA-1626) were installed during FY 2011 as part of the Office of Nuclear Energy (NE) funded Metering Project. Eight buildings at the ATR Complex are metered together as a process and are currently listed as INL's only Excluded Facilities for the energy efficiency goals. These 37 metered facilities represent 40% of the selected appropriate buildings for metering that are actually currently metered.

1.3.2 Planned Actions

The seven facilities that had new meters installed during FY 2011 will be monitored and the data compiled for input into the Environmental Protection Agency (EPA) Portfolio Manager online tool to determine a score for energy use. This score will then be used to validate the buildings energy performance for the Guiding Principles.

As outlined in the INL Metering Plan, there are nine additional meter installation opportunities at IRC to obtain building level metering for the balance of the buildings at IRC. In addition, there are 12 Idaho Falls buildings that would benefit from advanced metering and will be targeted by the City of Idaho Falls advanced meter installation project. These 12 buildings are currently serviced by standard meters and the data is being compiled in the quarterly INL Energy Use Reports.

The City of Idaho Falls is planning to upgrade all of its electrical power meters to smart meter technology. Major INL Idaho Falls facilities will be upgraded as part of the city's initial upgrade project beginning in FY 2012. This upgrade will provide smart meters and a network to supply a central data-collection point to view and analyze the data, and provide demand management capabilities.

In addition to providing a means of trending and validating energy savings, metering also provides proactive space management opportunities. Building energy and water usage information assists with maintenance scheduling, enhanced resource utilization, and accurate space charge-back to building tenants. Advanced metering provides a method to encourage and validate employee behavior change, and provides a dependable tool for facility managers to tune building systems and controls.

Finally, as outlined in the INL Metering Plan, there are 55 additional facilities at the desert site that have been identified for meter installations to meet the goal of 90% of INL electric energy metered by the end of FY 2012. Of these 55 facilities, five are planned to meter in FY 2012 using a small portion of the Sustainability Program's Strategic Investment funding. These five facilities were identified as the best candidates to implement the Guiding Principles that are not targeted by the ESPC Project at CFA and ATR Complex. The next ESPC project has targeted 12 facilities that are the best candidates for implementation of the Guiding Principles. The remaining 38 facilities were evaluated by the Metering Plan spreadsheets provided by the Sustainability Performance Office and were found to not be cost effective to meter; however, they are included in the INL Metering Plan as acceptable alternatives for metering to meet the 90% goal. Additional funding will be needed to provide metering for these facilities, which are currently scheduled for potential installations in FY 2013.

1.4 Cool Roofs

Cool roofs, unless uneconomical, for roof replacements unless project already has CD-2 approval. New roofs must have thermal resistance of at least R-30.

INL initiated implementation of the National Nuclear Security Administration's Roof Asset Management Program (RAMP) in FY 2010. RAMP is a unique, corporate approach to management of roofs across the DOE laboratory complex. By treating roofs at multiple sites as an aggregate portfolio and earmarking a reliable funding stream, this program attracts the technical expertise of "best of class" national roofing consultants and contractors, achieves consistency in condition assessments, and provides economies of scale in roof repairs and replacements. The RAMP program directs resources to the most compelling roofing deficiencies of the complex, documents significant savings, and enhances the value added to the facilities portfolio through optimal repairs. Shared lessons learned have improved performance at all participating sites in safety, scheduling, and overhead reductions. Due to the effectiveness of this partnership between DOE-HQ, the DOE site offices, and the Management and Operating contractors, the program has renewed the contract with a nationally recognized integrating contractor for the remainder of the Facility Infrastructure Revitalization Program (FIRP) program. INL is a partner site with the RAMP program.

In addition to active participation with the RAMP program, INL has the unique status of having installed a cool roof on a National Historic Landmark facility, the Experimental Breeder Reactor (EBR)-1 museum.

1.4.1 Performance Status

In FY 2011, INL replaced 19,933 ft^2 of roofing on CFA-698 (Standards and Calibration Laboratory) and the MFC-717 (Modular Office Building) with new roofing on the RAMP program that meets the Secretary of Energy's requirements for "cool roofs" and eliminated over $400K of deferred maintenance. Two additional "cool roofs" were installed on two sections of MFC-774 using the INL's normal roof replacement program.

ICP installed a cool roof over the basement of the TRA-604 modification in FY 2011. The roof area is 18,346 ft^2.

1.4.2 Planned Actions

INL will continue to use the DOE-NNSA RAMP program to install an additional 20,000 ft^2 of roofing that meets the DOE "cool roof" requirement and will incorporate "cool roof" requirements into non-RAMP roof replacements as appropriate with the normal INL roof replacement and maintenance program.

In addition to the programmatic planned actions, INL will complete construction and occupy the new Energy Systems Laboratory (ESL) at the Idaho Falls Campus. In FY 2011, INL negotiated the installation of a cool roof on this 91,000 ft^2 facility at no additional cost. The total square footage of cool roof installed will exceed 25,000 ft^2.

No ICP planned actions for Cool Roof installations within the remaining duration of the current contract. After the ICP contract is complete, the buildings will be addressed on a case-by-case basis.

1.5 Renewable Energy

7.5% of annual electricity consumption from renewable sources by FY 2013 and thereafter (5% FY 2010–2012).

The INL Site is actively pursuing Renewable Energy Generation capability and is annually purchasing Renewable Energy Credits (RECs) in amounts as outlined in the Energy Policy Act of 2005.

The goal for onsite renewable energy generation and direct purchase of new renewable electricity may not be met due to the low cost of electricity from abundant older hydroelectric and coal sources. The payback for renewable energy projects is unlikely to be successful without supplemental funding to support such projects.

1.5.1 Performance Status

There is one solar transpired wall at the IRC Records Storage Facility. This wall preheats outside fresh air for the office area of this facility. Two other transpired solar walls were installed in FY 2010 as part of the MFC ESPC project. These solar walls provide renewable energy that avoids the use of conventionally generated electricity. Although solar walls avoid other energy use and are a renewable source, they do not contribute to meeting this goal.

INL continued to evaluate the feasibility of installing a 20-MW wind farm on the INL Site and completed the business case analyses at eight sites. The analysis confirmed that a wind farm project on the proposed scale is not currently economically feasible on the INL Site. Part of the evaluation included hosting the first INL sustainability summit with state, industry, and regulatory leaders. Over 50 people attended and presentations were made by DOE-ID, INL, U.S. Fish and Wildlife Services, Idaho Public Utilities Commission, Idaho Falls Power, Idaho Power, Center for Advanced Energy Studies (CAES), INL Research and Development (R&D), and various private industries (wind, solar, biomass). Attendees included INL and DOE-ID staff, Bonneville Power Administration (BPA), utilities, and a representative of the Governor's office. INL continues to evaluate alternative sites for a potential wind farm and collect suitable data based on private industry recommendations during this summit. However, the original plan and location were abandoned based on INL mission compatibility and costs.

As an interim compliance activity, the INL Site has procured a total of 16,900 MWh of RECs from the Western Area Power Administration (WAPA) at a total cost of $14,365. This purchase represents 7.5% of the INL Site's electric usage in FY 2010 and is the purchase for FY 2011. The REC purchase for FY 2011 was distributed among all of the INL power users, including the Naval Reactors Facility (NRF), to both help shoulder the cost as well as enable them to claim a 7.5% renewable energy purchase.

1.5.2 Planned Actions

Low energy costs benefit the INL Site, allowing for increased strategic missions and facility enhancements. However, cost benefit analyses generally lead decision makers to place a lower priority on installation of renewable energy projects.

During ESPC contract negotiations, existing lease updates, and new lease negotiations, installation of renewable energy generation is considered and payback evaluated. The proposed ESPC may result in one or two small renewable energy generation projects (wind or solar), but is not identifying any projects that would cumulatively produce the electricity necessary to meet the goal of 7.5% of INL Site electric use. INL R&D continues to investigate the potential installation of numerous renewable energy technologies, but INL will not invest limited funding into renewable projects that are not economically viable or mission compatible.

The INL Site could meet the onsite renewable energy generation goal if funding is secured to support renewable energy installation on the INL Site or if direct purchase of renewable energy becomes available from energy providers. However, if funding is not obtained, the goal will not be met.

The INL Site will continue to meet the minimum requirements of purchasing 7.5% of the electric energy usage in equivalent RECs. However, INL has committed to increase purchase of RECs starting in FY 2012 to 10% of the INL electric usage. Although the increase does not contribute to the GHG reduction goal, it does demonstrate INL's commitment to climate change adaptation and strategic leadership. The calculation method is based on the following: assume 10% of the previous year's purchased electricity total will be purchased as RECs in the current year (i.e., FY 2012 REC purchase is 10% of FY 2011 total purchased electricity). All INL Site contractors will share in this purchase and will be assigned the REC benefits according to their annual electric use.

1.6 Fleet Alternative Fuels

10% annual increase in fleet alternative fuel consumption by FY 2015 relative to an FY 2005 baseline.

The INL Site is developing diversified strategies for increasing alternative fuel consumption and reducing carbon emissions associated with light and heavy-duty vehicles. One of the DOE Order 436.1 transportation fuels goal is to increase the use of alternative fuels by 10% annually, as compared to the FY 2005 usage baseline. There are many opportunities to affect DOE's alternative fuel consumption by implementing fuel switching activities at INL.

1.6.1 Performance Status

In FY 2011 the INL Site used 236,889 gasoline gallon equivalents of alternative fuels. This represents an increase of 210% over the FY 2005 use, and a 39% increase over FY 2010. These usages are a compilation of all INL Site contractors and the total of each of the various alternative fuels as reported into the Fleet Automotive Statistical Tool (FAST) database. These fuel use data indicate that the INL Site is exceeding the alternative fuel use goal and expects to continue this performance through FY 2015.

The INL Site is exceeding the alternative fuel increase goals through actively pursuing Ethanol (E-85) fuel usage and by using biodiesel blends. These increases are facilitated by increasing the availability of E-85 and mandating its use while researching and implementing the use of biodiesel blends in the INL bus fleet throughout the year and across varied climate conditions.

Completed activities include:

- Increased the availability of alternative fuel by converting petroleum tanks to alternative fuel tanks and by encouraging the use of alternative fuel by all users of flex fuel vehicles.
- Updated the existing fueling infrastructure and provided additional alternative fuel locations to allow for improved fuel use tracking and control. Used a new technology, Radio Frequency Identification (RFID) fuel rings, also called "ring technology," making it easier to fuel INL vehicles by automatically capturing mileage and other data that employees once had to enter manually.
- Partnered with a local fuel distributor to make E-85 commercially available to east Idaho.
- Acquired 101 light-duty vehicles in FY 2011, 47 are flex-fuel (46.5%), 46 are hybrid (45.5%), and 8 are gasoline (8%). Of the 101 acquired, 92% are either AFVs or hybrid vehicles.
- Reported to flex fuel vehicle owners (quarterly) their percentage of E-85 usage compared to unleaded usage and encouraged the use of the appropriate flex fuel. This method of encouraging self-governing through information has lead to increases in E-85 fuel use.

Ongoing activities include:

- Selected by General Services Administration (GSA) to receive three American Recovery and Reinvestment Act (ARRA) funded Parallel Hybrid drive shuttle buses to replace three 24-year-old buses. These new buses reduce petroleum use through greater efficiency and use biodiesel. In FY 2011, the new buses were used on lightly loaded commuter routes and for shuttle and tour service.
- Researched methods to use B20 in the bus fleet year around.
- Continued efforts to right size the fleet with more flex-fuel vehicles capable of using E-85.
- DOE-ID and INL began collaborating with the Yellowstone-Teton Clean Energy Coalition (local area Clean Cities program) to encourage and cooperate with local fueling stations and vendors to provide alternative transportation and fueling stations in the area.

The AMWTP currently operates 91 passenger carrying light use vehicles for transportation of personnel and goods to the desert site. The fleet consists of minivans capable of transporting up to six individuals. This small fleet averages 3 M miles a year transporting approximately 600 personnel to and from car-pool locations in local community areas surrounding the INL Site.

Each vehicle in the AMWTP fleet is an AFV, and capable of using unleaded regular or E-85 as a fuel. In FY 2010, the AMWTP partnered with the local fuel distributer to furnish E-85 fuel at a single location in Idaho Falls. Use of this in-town fueling infrastructure continued in FY 2011. Employee commute vanpools based in Idaho Falls were requested by AMWTP management to use the E-85 fuel. These actions resulted in approximately 50% of total fleet using E-85. The AMWTP was able to meet the 10% annual increase in fleet alternative fuel consumption by FY 2015 goal.

1.6.2 Planned Actions

Additional increases in the use of alternative fuels will be obtained through numerous INL Site identified projects and activities that include:

- Replace the INL bus fleet with 50 new motor coaches that run on B20 and have improved fuel mileage by up to 50% (3 mph to 6 mph).
- Continue researching the potential conversion of the INL bus fleet to alternative fuel types.

- Continue to track and trend reliability, fuel usage, and optimize performance of new bio-diesel compatible buses while evaluating future purchases.
- Continue to encourage and establish process to stimulate the use of E-85 in flex-fuel vehicles at the end user level. This includes individual goal setting at an organization level and holding individuals accountable for non E-85 fuel purchases.
- Replace fleet heavy trucks and equipment with new equipment that will run on B20.
- Increase the use of Alternative Fuels by converting the boilers at CFA to run on biodiesel.

1.7 Fleet Petroleum Fuels

2% annual reduction in fleet petroleum consumption by FY 2020 relative to a FY 2005 baseline.

The INL Site is developing diversified strategies for reducing fossil fuel use and carbon emissions associated with light and heavy-duty vehicles. One of the DOE Order 436.1 transportation fuel goals is to reduce petroleum fuels by 2% annually through FY 2020 (30% total reduction), as compared to the FY 2005 usage baseline. There are many opportunities to affect DOE's petroleum fuel usage by implementing fuel reduction and fuel switching activities at INL.

1.7.1 Performance Status

In FY 2011, the INL Site used 862,527 gasoline gallons equivalent, an 8.1% reduction from FY 2005. This usage is a compilation of all INL Site contractors and the total of gasoline and diesel fuels as reported into the FAST database. INL used 623,934 gal of petroleum fuels, a 30% decrease over the FY 2005 and a 23% decrease from FY 2010.

Completed activities include:

- Increased overall bus efficiencies by implementing express routes and eliminating underutilized routes. This was in conjunction with continued efforts in right sizing the fleet with more flex-fuel vehicles and hybrids.
- Incorporated the Park and Ride concept to reduce bus fuel usage, and developed additional Park and Ride lots for employees at outlying locations.
- Used innovative technology to track and reduce fuel usage such as Global Positioning System (GPS), Radio Frequency Identification (RFID) fuel rings, and data logger technology to monitor engine performance and driver habits.

Ongoing activities include:

- Continue research methods to use biodiesel blends in the bus fleet year around, reducing the need for 100% diesel.
- Continue the Reduce Idle Campaign that is saving fuel by better managing idling times. Results are positive as this campaign is saving 1,400 gal of fuel per month.
- Continued efforts to right size the fleet with more fuel efficient vehicles.

As the AMWTP has operated its van-pool commuter fleet to meet alternative fuel use goals, it has also contributed to a corresponding reduction in petroleum fuel use.

1.7.2 Planned Actions

Additional reductions in petroleum-based transportation fuels will be obtained through numerous INL Site identified projects and activities that include:

- Replace over 55% of the INL bus fleet with 50 new motor coaches that run on B20 and improve fuel mileage by 50% (3 mpg to 6 mpg).
- Add one additional Park and Ride location to further reduce employee commute and bus fleet fuel usage.
- As the AMWTP comes to a close, the INL Site anticipates a reduction in petroleum usage. Additionally, several pieces of heavy equipment will be consolidated further to reduce vehicle inventory and fuel usage.
- Evaluate technology that will allow INL to operate the bus fleet on “mixed” fuel, which is a combination of compressed natural gas (CNG) and biodiesel. This may allow INL to reduce fuel usage by up to 30%.
- The INL Site commitment to reduce vehicles 35% by FY 2015 will also contribute to this reduction.

1.8 Fleet Vehicle Purchases

75% of light-duty vehicle purchases must consist of alternative fuel vehicles (AFV) by FY 2000 and thereafter.

INL procures light-duty fleet vehicles almost exclusively through the GSA vehicle-leasing program. Maximizing the use of this GSA program is at the forefront of INL plans to achieve this goal. A rotation schedule based on vehicle age and mileage determines when vehicles are returned to GSA. When currently allocated vehicles are due for replacement, the old vehicle is replaced with an AFV or hybrid vehicle from GSA. There are currently very few exceptions for receiving conventional vehicles. Examples include some emergency response vehicles and heavy-duty full-size pickups. However, DOE-HQ has directed that hybrid vehicles (which are not AFV vehicles at this time) be procured when available. This greatly impacts the 75% AFV target.

1.8.1 Performance Status

INL light-duty fleet is comprised of 396 vehicles of which 71% are AFV, 224 are E-85, and 58 are gas/electric hybrids. The INL Site acquired 101 light-duty vehicles in FY 2011, 47 are flex-fuel (46.5%), 46 are hybrid (45.5%), and 8 are gasoline (8%). Of the 101 acquired, 92% are either AFVs or hybrid vehicles.

1.8.2 Planned Actions

The INL Site will continue to monitor and evaluate vehicle utilization. If an AFV can perform adequately relative to a non-AFV, a substitution will be made. INL is also evaluating future technologies to improve the fleet composition. Items that are currently being evaluated include:

- Hybrid capabilities for light-duty full-size vehicles, including ¾ and 1-ton pickups
- All electric vehicles for building to building transportation
- Retrofit current fleet with dual-fuel technology.

1.9 Fleet Inventory Sizing

Reduce fleet inventory by 35% within the next 3 years (end of FY 2014) relative to a FY 2005 baseline.

1.9.1 Performance Status

The INL Site met the interim goal of a 15% fleet reduction in FY 2011.

INL performed a complete 2-year utilization study in August of 2010 to begin a Vehicle Allocation Methodology (VAM). Many government agencies are now requiring a VAM including GSA. The purpose of a VAM is to provide Fleet Managers with standard, decision-making criteria and data to determine the optimal vehicle allocation for their fleets. More precisely, it is a tool for establishing and controlling fleet size and composition, more succinctly and popularly termed “right-sizing.” From the standpoint of the Office of Management and Budget (OMB), a VAM documents the basis for fleet size and, consequently, fleet-related budgets. In addition, implementation of a VAM can help user-groups to acquire the appropriate number and types of vehicles and equipment according to a clearly defined set of policies and procedures.

INL is making great strides in reducing the size of the fleet while ensuring the capability of meeting INL missions. Since FY 2010, INL has reduced the heavy equipment pool by 38 pieces of equipment. In FY 2011, the following were incorporated into INL fleet operations, reducing fleet numbers without losing support capabilities.

- INL modified three heavy-duty trucks to carry multiple beds. A heavy-duty truck is typically a single-purpose truck (i.e., a dump truck can only be a dump truck). These trucks now use a J-Hook lift and removable beds to accomplish multiple functions. INL maintains a flat rack bed, water truck bed, dump bed, panel truck bed, garbage container bed, and sander bed that can be used on any of these three trucks.
- INL continued working with GSA on replacing the aging and fuel inefficient bus fleet. The current fleet size is 103 buses. Converting to GSA leasing will reduce the total number of buses by 13, maintaining a core bus fleet of approximately 90 buses. This reduction is possible through greater seating capacity of the new buses, each capable of seating 55 passengers (older coaches seat 44 passengers). A newer fleet will require fewer spare coaches due to mechanical unreliability.
- INL is consolidating equipment and prepositioning a small equipment pool at MFC. There is currently one large equipment pool located at CFA. Historically, when a piece of equipment was needed at another location, a duplicate piece of equipment was often purchased. Consolidating the equipment pool and maintaining a satellite area will allow the overall equipment pool to decrease in size and increase equipment utilization.

1.9.2 Planned Actions

The INL Site and DOE-ID have committed to meet the 35% reduction goal by FY 2015.

INL continues to evaluate fleet inventory and is focusing on two key usage areas: light-duty fleet and heavy equipment. AMWTP and ICP continue to evaluate vehicle as cleanup missions are complete or scope reduced.

In FY 2012, the light-duty fleet will be reduced through the following actions:

- A Key Valet system will be established at WCB. The goal of this system will be to reduce the number of permanently assigned vehicles and transition to an as-needed daily rental system. The unmanned electronic key box will dispatch the keys and collect vehicle information such as miles driven and duration of dispatch.

- Assigned permanent vehicle reduction effort. Justification for light-duty vehicle permanent assignment will be handled through a rigorous procurement process in combination with the fleet coordinator. A determination of need will be based on established criteria and vehicle availability.

  In FY 2012, the heavy equipment pool will be reduced through the following actions:

- Eliminate duplicate pieces of heavy equipment with low utilization. Historically, facility and research projects required specific heavy equipment a few times over a long duration. Instead of placing the equipment back into the equipment pool for others to use, the equipment was kept at the same facility location and then used later as needed. As contracts expire, this equipment will be consolidated into a central motor pool to reduce duplicate equipment and increase equipment utilization. Not only does this reduce the size of the equipment pool it also reduces maintenance costs.
- Formation of a fleet equipment users group to reduce the equipment pool without sacrificing critical support. The group will consist of the key users of heavy equipment at all Site facilities and procurement. The goal of this group will be to ensure any reduction made will not have negative consequences to INL.

2. SCOPE 3 GREENHOUSE GASES

2.1 Scope 3 Greenhouse Gas Reduction

13% Scope 3 GHG reduction by FY 2020 from a FY 2008 baseline.

Executive Order 13514 mandates that agencies develop specific GHG reductions. DOE has set a reduction target of 13% for Scope 3 greenhouse gases. The EO sets 2008 as the baseline year against which reductions will be measured.

The INL Site reported Scope 3 GHG emissions for the baseline year, FY 2008, and annually thereafter. Using the Global Reporting Initiative standards, Scope 3 is defined as:

- Indirect or shared emissions generated by outsourced activities that benefit the INL Site (occur outside the INL Site's organizational boundaries, but are a consequence of the INL Site's activities). This can include a large number of activities, so the INL Site focused on transmission and distribution losses, employee commuting, employee travel, contracted waste disposal and contracted wastewater treatment since these categories were identified in the Technical Support Document for required reporting. Other activities that could be included in Scope 3 include the embodied emissions of purchased materials.

The INL Site contractors' EMS provides the framework and process for evaluating and monitoring Scopes 1, 2, and 3 GHG emissions and related reduction activities. On an annual basis, appropriate sustainability targets are developed and monitored through the EMS to support the overall reduction in GHG emissions.

As the Environmental Management missions end at various site locations, overall Scope 3 emissions are expected to decrease. Between FY 2011 and FY 2017, employees traveling to and from the Site location may be reduced by as many as 2,000 when subcontractors are included. Removing vehicles directly impacts Scope 1 and Scope 3 emissions.

The challenge is to minimize the impact of operations while increasing the growth of the Laboratory. INL is integrating environmental performance improvement in the areas that matter most to its stakeholders and the Laboratory, including minimizing the environmental footprint, taking a progressive approach to climate change, and championing energy conservation.

2.1.1 Performance Status

Based on data entered into the CEDR for FY 2011, the INL Site has reduced Scope 3 greenhouse gas emissions 23.3%. (FY 2008 – 37,057 mT CO_2e and FY 2011 – 28,460 mT CO_2e).

INL completed an update to the FY 2008 GHG baseline based on updated guidance. Minimal changes occurred as a result of this update. Additionally, INL completed comprehensive inventories for FY 2009 and FY 2010.

As found in Table 4, each Scope 3 category is listed for FY 2008 and FY 2011 and the calculated emission needed for each by FY 2020.

Table 4. INL Site Scope 3 GHG calculation results for FY 2008 and FY11, and the FY 2020 Goal, by emissions category.

Scope	Emissions Category	FY 2008 Baseline ($MT\ CO_2e$)	FY 2011 Actual ($MT\ CO_2e$)	FY 2020 Reduction Goal ($MT\ CO_2e$)
3	Electrical Transmission & Distribution Losses (Outside INL's Operational Controls)	6,252.4	5,661.0	5,439.6
	Employee Commuting	20,525.0	14,791.8	17,856.8
	Business Air Travel	8198.7	6200.0	7132.9
	Business Ground Travel: Rental Vehicles	1469.0	923.0	1278.0
	Contracted Mixed Solid Waste Disposal	557.8	870.0	485.2
	Contracted Wastewater Treatment	55.0	14.5	47.7
	Scope 3 TOTAL	**37,057.9**	**28,460.4**	**32,240.4**

Similar to Scopes 1 and 2 GHG emissions described above, one of the most significant factors that influence INL's Scope 3 GHG emissions is the large land area that requires long commutes (approximately 50 miles, one way). Transportation fuel was, in turn, the largest source of GHG emissions within Scope 3. Another source with high emissions was business air travel. Sources with low emissions were contracted waste disposal, contracted wastewater treatment, and business ground travel (rental and personal vehicles).

INL continues to reduce GHGs by transporting employees with a modernized transportation system, taking nearly 2,000 cars per day off the road. By streamlining the INL mass transit system that provides safe, efficient, and sustainable transportation to work for INL employees throughout the eastern Idaho region, INL encourages travel behavior changes to reduce carbon emissions and fossil fuel consumption, increased highway safety, and in doing so, INL models future trends in mass transit to local governments across the region. Other actions include instituting a park and ride system, relocating employees to town offices, use of E-85 and biodiesel fuels, and use of modern buses, vans, and light-duty vehicles to reduce carbon emissions.

2.1.2 Planned Actions

The INL Site will continue to implement projects that reduce employee commute, employee travel, waste disposal, and minimize electric usage to reduce Transmission and Distribution losses. Corresponding Scope 3 emission reductions will occur. Knowing the target emission for each GHG category as found in the INL GHG Reduction Strategy, helps prioritize and plan projects accordingly.

Employee Commute Reduction tactics include:

- Change commute by increasing carpools, change personal car use to INL buses
    - Parking management through parking pricing (e.g., begin charging, give discount for rideshare parking); preferential parking (e.g., designated carpool and vanpool spaces); parking supply reduction.
- Move employee work locations from Site to town when reasonable.
- Increase INL Bus ridership for Site employees by 5%.

- Increase telecommuting.
- Telework centers.
- Facility enhancements.
  - Secure bike storage or bike racks, shower facilities, and lockers.
- Use alternative fueled vehicles on business travel.
- Promote use of emission free transportation source such as walking and biking.
- Subsidies:
  - Vanpool subsidies on a limited or continual basis.
  - Empty seat subsidy—to limit the amount start-up riders have to pay until new riders join.
  - Bike maintenance subsidy.

Employee Travel Reduction strategies:

- Use video and web conferencing to hold virtual meetings and avoid travel when possible.
- Increase rentals of hybrid and alternative fueled vehicles over traditional options on business travel.
- Reduce air travel, particularly short range (<300 miles) air travel, except where necessary for mission accomplishment.
- Reduce car rentals by promoting carpooling at conferences and other meetings on business travel.
- Research establishing a government rate for plug-in hybrid electric vehicle (PHEV) and hybrid electric vehicle (HEV) rentals while on business travel.
- Encourage the use of public or group transportation modes at destination cities.

3. HIGH PERFORMANCE SUSTAINABLE BUILDINGS (HPSB)

3.1 HPSB Existing Buildings

15% of existing buildings greater than 5,000 gross square feet (gsf) to be compliant with the five Guiding Principles (GPs) of High Performance Sustainable Buildings (HPSB) by FY 2015.

There are 27 Guiding Principles in five categories. To achieve compliance with the Guiding Principles, all 27 must be met.

As indicated in the Facilities Information Management System (FIMS) database, the INL Site has 170 buildings that are appropriate to consider for audits and upgrades to implement the Guiding Principles. Fifteen percent of these buildings calculates to a minimum of 26 buildings that must meet the Guiding Principles by FY 2015. The Existing Buildings worksheet of the CEDR contains 23 buildings identified as having the highest probability of meeting the Guiding Principles. These buildings are either currently metered or have been targeted for metering in FY 2012. Of these 23 buildings, one is LEED™ Certified, one is LEED™ Gold certified, and one is pending LEED™ Gold certification. The remaining 20 buildings will be targeted for the Guiding Principles compliance path.

3.1.1 Performance Status

The Technical Support Building (TRA-1608) was LEED™ certified in November 2010. The LEED™ design package was also submitted for the new Radiological Environmental Sciences laboratory (IF-683) during FY 2011.

Metering was installed on seven facilities (three in town, three at CFA, and one at ATR Complex) so that electrical data can be compiled for entry into Portfolio Manager. Energy and water reduction projects were developed in FY 2011 for IF-601, IF-602, IF-616, and IF-654 to further enhance implementation of the Guiding Principles in these facilities.

INL documented compliance with eight of the 27 Guiding Principles.

The INL Site performed assessments on over 90% of the buildings eligible for Guiding Principle certification, resulting in the DOE HPSB scorecard going from red to green in two of the four measured categories for NE.

3.1.2 Planned Actions

INL Site facilities planned to meet the Guiding Principles do not include buildings owned by EM. Since the EM mission at the INL Site is to reduce footprint and complete the cleanup, the existing building life is either to short or to uncertain to invest in upgrades. This presents a challenge because the INL Site as a whole must meet the 15% goal (26 buildings) as noted above. While only 23 buildings are listed in the CEDR, INL has further evaluated facilities and identified 27 INL facilities (1 more than the required 26) that have the highest probability of fully implementing the Guiding Principles. However, this is 11 above the original INL target of 16 facilities (15% of the INL total) and is unlikely to occur by FY 2015 without additional project funding. All 27 facilities are listed in Table 5. This table includes information on metering and the year each building is expected to meet the Guiding Principles based on preliminary engineering evaluations. However, each of the additional 11 facilities INL now has responsibility for will be fully evaluated in FY 2012 to determine if the Guiding Principles can be fully implemented by FY 2015. This table will be used as the work plan for prioritizing and manage the certification process for these identified buildings.

INL will install up to nine energy and water reduction projects in WCB, EROB, and ROB. These projects were developed during FY 2011 for implementation with INL Strategic Investment funding in FY 2012. These following projects are expected to help these buildings achieve an acceptable Energy Star Building score of 75 or higher for input into Portfolio Manager:

1. WCB Chiller Replacements
2. EROB CO_2 Controls
3. WCB Water Fixture Replacements
4. IRC (IF-602) Water Fixture Replacements
5. WCB Lighting Fixtures
6. WCB Lighting Controls
7. WCB Exterior Lighting Fixtures
8. ROB (IF-601) Exterior Lighting Fixtures
9. IRC (IF-603) Motor/Controls.

In FY 2012, INL will continue to develop additional projects for FY 2013 funding that will upgrade the selected facilities in Table 5 to meet the Guiding Principles by the planned date. In addition, CF-1611, CF-1612, CF-1618, and TRA-628 will be targeted by ESPC Project 3 for Energy Conservation Measures that will help these four facilities meet the Guiding Principles.

The remaining 17 procedure oriented Guiding Principles will be documented and both IF-663 and IF-654 are planned for Guiding Principle compliance.

Table 5. Buildings planned to meet Guiding Principles.

Building	Metered	iVue	Water Metered	GP Compliant	Comments
REL	2014	2014	2014	2015	LEED™ Gold in FY 2015
ESL	2012	2012	2012	2013	LEED™ Gold in FY 2013
MFC TSB	2013	2013	2013	2014	LEED™ Gold in FY 2014
IMCL	2012	2012	2012	2012	LEED™ Gold in FY 2012
IF-665 (CAES)	Yes	No	Yes	Yes	LEED™ Gold
IF-683 (RESL)	2012	2012	No	2012	LEED™ Gold in FY 2012
TRA-1608 (TSB)	No	No	No	Yes	LEED™ Certified
TRA-1626 (TTAF)	Yes	Yes	No	2013	LEED™ Certified Except for Energy Use
IF-601	Yes	Yes	No	2013	
IF-602	Yes	2012	No	2014	
IF-616	Yes	2012	Yes	2014	
IF-654	Yes	Yes	Yes	2012	GP Compliant in FY 2012
IF-663	Yes	Yes	No	2012	GP Compliant in FY 2012
IF-680	Yes	2012	2013	2014	Water Meter by City of Idaho Falls
IF-684	Yes	2012	2013	2014	Water Meter by City of Idaho Falls
CF-1611	Yes	Yes	No	2013	
CF-1612	Yes	Yes	No	2013	
CF-1618	Yes	Yes	No	2013	

Table 5. (continued).

Building	Metered	iVue	Water Metered	GP Compliant	Comments
CF-609	2012	2012	No	2015	
CF-621	2012	2012	No	2015	
CF-623	2012	2012	No	2015	
CF-696	2012	2012	No	2015	
CF-698	2012	2012	No	2015	
MFC-710	Yes	2012	No	2014	Need to Access ESPC Installed Meter
MFC-725	Yes	2012	No	2014	Need to Access ESPC Installed Meter
MFC-782	Yes	2012	No	2014	Need to Access ESPC Installed Meter
TRA-628	2012	2012	No	2014	

3.2 HPSB New Construction

All new construction, major renovations, and alterations of buildings greater than 5,000 GSF must comply with the GPs and, where the work exceeds $5M, each are LEED™- NC Gold certification or equivalent.

The INL Site is implementing High Performance Sustainable practices and design specifications in new building design and construction by introducing High Performance Sustainable design criteria at conceptual design and following though during design and construction by using LEED™ construction concepts and the Guiding Principles for High Performance Sustainable Buildings.

The INL Site also constructs buildings that are very mission specific and are not readily compatible with LEED™ or with the Guiding Principles. One new such facility is described as follows:

> *"INTEC's new Integrated Waste Treatment Unit (IWTU) is currently anticipated to have construction completed in FY 2012. This will be a large energy intensive facility with an estimated 3-year life. Due to the mission of this facility and its energy use characteristics, it is being planned for exclusion using Part G of the Excluded Buildings Self Certification. The internal process at this facility will consume most of the metered energy."*

The IWTU was also at CD-2 before the LEED™ Gold requirement was implemented.

INL new construction includes DOE-owned and privately leased facilities. All existing leased facilities are privately owned. INL has no GSA leased facilities.

3.2.1 Performance Status

The ATR Complex Technical Support Building (TSB) received LEED™ – NC Certification status in November 2010 from the U.S. Green Building Council.

Construction of the new RESL was completed in FY 2011 and LEED™ –NC Gold certification is expected in FY 2012.

Construction was started on the new ESL, planed for DOE-ID lease, is expected to be finished by the end of FY 2012. LEED™ – NC Gold certification is planned for this facility and is expected to be certified in FY 2013.

3.2.2 Planned Actions

In addition to the ESL described above, three other new buildings that are currently planned for LEED™ Gold certification.

1. **Research and Education Facility** - 148,000 ft^2 - Complete in FY 2013 (leased)
2. **Irradiated Materials Characterization Lab** - 12,000 ft^2 - Complete in FY 2013 (owned)
3. **MFC Technical Support Building** - 17,000 ft^2 - Complete in FY 2014 (owned).

Neither ICP nor AMWTP are projecting any new building starts within the remaining duration of their current contracts.

4. WATER USE GOALS

4.1 Water Use Reductions

26% water intensity reduction by FY 2020 from a FY 2007 baseline

The INL Site's goal for water usage is a 16% reduction of usage intensity by FY 2015, or 2% each year, as compared to the FY 2007 Water Usage Intensity Baseline measured in gal/ft^2.

Due to the nature of the various INL Site missions, many of the operations can be cyclical and result in varying usages of water throughout the year and from year to year. In addition, as facilities are removed and processes are shut down, the lower square footage can actually result in an increase in water use intensity even as overall water usage is reduced.

The water intensity reduction goal will be very difficult for the INL Site to accomplish. Long payback calculations based on inexpensive water and electric rates make water saving projects unattractive. Completion of the identified ESPC projects is anticipated to contribute approximately 7.5% towards the 16% goal. However, water usage is so dependent upon process usage and unplanned events such as the FY 2010 wildfires and ARRA-funded additional D&D work, that the remaining 8.5% may be very difficult to obtain.

4.1.1 Performance Status

As per the water reduction goals found in DOE 436.1, the INL Site should be at an 8% water intensity reduction at the end of FY 2011 when compared to the FY 2007 Reportable Water Usage Baseline. The INL Site used a total of 898.7 M gal of water in FY 2011, resulting in a water usage intensity of 166.8 gal/ft^2, a decrease of 4% over the FY 2007 baseline (173.9 gal/ft^2). However, as demonstrated through water use and building square footage data entered into the CEDR, the INL Site total water used has decreased from 1,050.9 M gal in FY 2007 to 898.7 M gal in FY 2010, for a total water used reduction of 14.5%.The INL Site 6,043,042 ft^2 to 5,384,917 ft^2, a reduction of 11% since FY 2007.

INL installed one meter at the INL Administration Building (IF-606) at a total cost of $2K. The City of Idaho Falls now charges INL an actual usage rather than a monthly flat fee. The payback was less than 6 months for this project. Additional projects of this type are possible and support meeting the reduction goal.

INL partnered with industrial water system experts from the Pacific Northwest National Laboratory (PNNL) to evaluate the water systems primarily at the ATR Complex. This evaluation identified several areas of significant water use that may be addressed through system modifications. The final report is due back to INL in mid-FY 2012. This report will be used for project development for FY 2013 Strategic Investment projects.

INL installed xeriscaping at one of the University Boulevard buildings in Idaho Falls.

INL completed implementation of the MFC ESPC project during FY 2011, which has eliminated the leaking condensate lines. Water reporting from FY 2011 indicates that water usage at MFC is down 2.3 M gal as compared to FY 2010.

ICP completed the INTEC water supply system pump downsizing replacement project in FY 2010. This project has shown significant water savings for ICP during FY 2011. ICP also completed the deactivation, decommissioning, and demolition of the INTEC Analytical Laboratory facilities during FY 2011, which resulted in an additional 50 M gal of annual water savings.

4.1.2 Planned Actions

Other projects that will continue to contribute to water use reductions for the INL Site include several ongoing tasks:

- Leak analyses will continue at all areas of the Site.
- Strategic Investment projects for FY 2012 will replace antiquated plumbing fixtures at the WCB and IRC Office Building.
- INL will continue purchasing Environmental Protection Agency WaterSense or other water efficient products, which will be documented by Sustainable Procurement processes.
- The ESPC project planned for the ATR Complex, SMC, and CFA will eliminate once-through HVAC cooling water, increase efficiency through fixture replacements, locate and repair leaking water lines, and possibly reduce industrial water use at the ATR Complex.
- The new ESL and Research and Education Laboratory (REL) facilities in Idaho Falls are scheduled to be occupied in 2012 and 2014, respectively. These LEED™ Gold facilities will be lower water users, incorporate xeriscaping concepts, and add over 239,000 ft^2 of space in the water intensity calculation.
- EM missions, as noted in the CEDR, will contribute to water reductions as facility missions are complete. These include the AMWTP complex of facilities being cold, dark, and dry, ceasing operation of the INTEC Liquid Waste Management System, and New Waste Calcine Facility shut-down.

Based on the previous cost of the MFC ESPC that resulted in a 5% water reduction and the proposed ESPC at the ATR Complex and CFA, additional water reduction implementation at the INL Site could cost between $40M and $50M. Projects include:

- Replace all high water use faucets, toilets, showerheads, and urinals across the INL Site.
- Upgrade ATR cooling tower.
- Detect and repair underground leaks.
- Repipe chiller water disposal paths.
- Reduce ATR Complex sewage lagoon size.
- Replace all inefficient domestic hot water heaters across the INL Site.

4.2 ILA Water Use Reductions

20% water consumption reduction of industrial, landscaping, and agricultural (ILA) water by FY 2020 from a FY 2010 baseline.

ILA water is not applicable to the INL Site. All water obtained by the INL Site is obtained from the Snake River Plain Aquifer and is potable. The INL Site does not have access to any non-potable water supplies.

4.2.1 Performance Status

N/A.

4.2.2 Planned Actions

N/A.

5. WASTE MINIMIZATION

5.1 Landfill Waste Diversion

Divert at least 50% of non-hazardous solid waste, excluding construction and demolition debris, by FY 2015.

The INL Site Pollution Prevention Plan, DOE/ID-10333, describes the pollution prevention practices pursued at the INL Site. INL expanded the co-mingled recycling and paper shredding programs to the desert site facilities (CFA, MFC, and ATR Complex) during late FY 2010 and continued through FY 2011. INL is also working with INL Site contractors to expand co-mingled recycling at other site facilities. All INL employees are capable of participating in the co-mingled recycling program that allows employees to place a variety of recyclable materials into one collection bin. ICP also has co-mingled recycling at town facilities and paper recycling at the desert site facilities. With the exception of SMC, all town and desert site employees have the option to participate in the paper shredding recycling program, which includes regular office paper and controlled unclassified information (CUI) materials for shredding. In FY 2011, INL facilities recycled 216,831 lb of co-mingled materials and 441,760 lb of office paper and cardboard. With the participation of the Site facilities, the recycled numbers increased approximately 84% for co-mingled materials and 50% for paper. This accounts for approximately 24% diversion of municipal solid wastes collected at INL facilities.

The INL Site continues to utilize a number of processes to reduce the quantity and toxicity of hazardous chemicals. The processes follow the simple reduce, reuse, and recycle steps to help achieve the overall goal. The INL Site utilizes chemical coordinators and environmental personnel to help ensure the requested materials are actually needed, are not available through an exchange/sharing program, and the smallest/most appropriate quantity is being ordered. INL also stipulates the use of Massachusetts Institute of Technology (MIT) Green Chemical alternatives list at (http://web.mit.edu/environment/academic/alternatives.html) to help chemical coordinators identify "greener" alternatives to chemicals being requested. INL currently shares chemicals at IRC and town facilities (and at the Site when possible); all chemicals are targeted as an overall reduction. Chemical coordinators actively search for existing inventory to preclude new purchases. For FY 2011, approximately16 chemical transfers occurred for usage by another organization or contractor. INL is participating with other national laboratories to establish a chemical reduction guidance that will outline more specific steps and reduction goals for INL. The next steps are to keep working towards minimizing what is coming in through Procurement and increasing sharing of existing inventories because there is limited money available for disposal. INL is actively and continually working towards improvement in reduction of inventories through the avenues of acquisition, use, and disposal.

The AMWTP Hazardous Waste Management Act (HWMA)/Resource Conservation and Recovery Act (RCRA) Permit requires that the AMWTP conduct and complete a source reduction evaluation review and written plan, in accordance with the procedures and format provided in the "EPA Waste Minimization Opportunity Assessment Manual" (EPA/625/7-88/003). This review and plan was submitted to the director by March 31, 2011 and every 4 years thereafter, and must include detailed descriptions of any programs the AMWTP may have to assist generators of hazardous and mixed waste in reducing the volume (quantity) and toxicity of wastes produced.

AMWTP reduces and minimizes the quantity and toxicity of hazardous chemicals and materials through a procurement process that stresses environmentally preferable purchases. One of the objectives stated in the AMWTP management procedure for the acquisition of material and services is to use recycled-content and bio-based content materials and other environmentally preferable products and services to the maximum practicable extent. Purchase requisitions are screened by an assigned procurement specialist for environmentally preferable materials.

5.1.1 Performance Status

The INL Site diverted 15.3% (416.43 Metric Tons [MT]) of its non-hazardous solid waste in FY 2011. INL diverted 25.2% (373.1 MT) of municipal solid waste from the landfill in FY 2011. ICP diverted 3.5% (43.33 MT) of municipal solid waste from the landfill in FY 2011.

INL implemented two pilot projects in FY 2011 to help identify additional waste streams for diversion assessment: cafeteria waste/composting and battery recycling. Both pilot programs were initiated and carried out for several months each; however, neither appears to be economically viable. Further evaluation will be needed (funding dependent).

In FY 2011, INL held a campaign to reduce the use of paper by setting all copiers and printers to default duplex printing/copying. An average of 12 reams of paper per person has been used annually since 2007. A survey was conducted midway through the campaign, which determined that approximately 21% of copiers and printers capable of duplexing were set to default duplex. The campaign encouraged users to save paper by setting their printers to duplex default and instructed them how to do it. Even so, many employees found that it was too difficult to change the default settings. In addition, the maintenance contract for the copiers was modified to include resetting all copiers to duplex default during FY 2012.

5.1.2 Planned Actions

The INL Site will continue to educate and encourage employees to participate in the recycling and paper shredding programs in town and at the industrial campuses. New for FY 2012 is an interactive drag and drop recycling quiz that was incorporated into the all employee ES&H refresher training and placed on the Recycling Program's internal website.

The INL Site will continue to evaluate potential outlets and the expansion of recyclable waste streams, such as cafeteria grease, fluorescent light tubes, batteries, and food wastes, to further increase the amount of wastes diverted from the landfill.

The INL Site will continue to reduce printing paper used through a campaign for users to set printers and copiers to duplex printing. Centrally managed printing will be evaluated.

The INL Site anticipates meeting this goal if funding is allocated to optimize the current waste diversion systems, modify contracts, and markets are available to divert waste streams.

5.2 Construction and Demolition Waste Diversion

Divert at least 50% of construction and demolition materials and debris, by FY 2015.

INL has incremental goals for construction and demolition waste, increasing 10% per year from 2011 through 2015. INL exceeded the FY 2011 goal of 10% diversion.

The diversion of construction and demolition debris during D&D activities for ICP is often problematic due to the potential for radioactive contamination. Diversion of D&D waste is often quite costly and the wastes are usually disposed of onsite.

5.2.1 Performance Status

The INL Site diverted 12% of its construction and demolition (C&D) in FY 2011 (1,705.73 MT).

The majority of AMWTP and ICP C&D waste is prohibited from offsite reuse due to the DOE moratorium. Construction waste and landfill acceptance data is analyzed quarterly to track performance against the goals. INL diverted 39.4% (3,233,350 lbs) of construction and demolition (C&D) waste during FY 2011. This included C&D soil reused as landfill cover and asphalt regeneration. The tracking system for waste material sent to the landfill was enhanced to better categorize conditional waste into the following subcategories: concrete, metal, soils, and furniture. This will allow INL to analyze this waste stream and determine if segregation is viable.

5.2.2 Planned Actions

INL intends to perform the following actions to enhance the C&D waste diversion process:

- Incorporate metals recycling into one pilot D&D task when allowed under the current recycling moratorium
- Analyze the conditional waste stream to better develop segregation and reuse strategies
- Develop a process to accurately measure the wood waste diverted to the wood chipper
- Engage construction subcontractors to solicit best practice ideas relative to the INL logistics and market potential.

ICP will evaluate D&D and other waste streams for recycle and reuse dependent upon reasonableness of costs compared to onsite disposal as well as the metals moratorium and potential for radioactive or chemical contamination.

6. SUSTAINABLE ACQUISITION

6.1 Sustainable Acquisition

Procurements meet sustainability requirements by including necessary sustainable provisions and acquisition clauses (95% each year).

DOE's SSPP commits to the following sustainable acquisition goals:

- Ensuring 95% of new contract actions, including task and delivery orders under new contracts and existing contracts, require the supply or use of products and services that are energy efficient (ENERGY STAR or FEMP-designated), water efficient (WaterSense), biobased, environmentally preferable (including EPEAT-registered products), non-ozone depleting, contain recycled content, or are non-toxic or less toxic alternatives.
- Updating departmental sustainable acquisition plans (previously known as green purchasing plans or environmentally preferable purchasing plans), policies, and programs to ensure that all federally mandated designated products and services are included in all relevant acquisitions.

6.1.1 Performance Status

The INL Site did not meet the 95% sustainable provisions goal. ICP is not contractually obligated and only tracks FEC materials. INL put a system in place in FY 2011 and preliminary data runs indicate 31% of the contracts in FY 2011 contained applicable clauses. This does not meet the goal, but changes to contract acquisition systems are timely and costly with little benefit to contracts that are service based. However, INL made great progress and is incorporating the Sustainable Acquisition requirements through effective implementation of procedures, policies, and enhanced work processes that increase the visibility, availability, and use of sustainable products.

- INL enlisted the help of a Sustainable Acquisition offsite expert to provide training to over 125 INL employees who use, procure, or have contract oversight of sustainable acquisitions products. Training helped focus key user groups on which items to request, why INL needs to procure these products, and how to request. Additionally, HS-22 provided an HQ perspective on sustainable acquisitions.
- INL awarded a long-term contract for janitorial products with the latest sustainable acquisition language. Vendor requirements were also included to provide detailed reports of purchased products that are defined as preferred with dollars indicating the amounts that were or were not considered to be preferred.
- In addition to defining a way to track contract acquisitions against the 95% goal, INL flagged hundreds of potential commodity codes related to sustainable acquisition products, thereby greatly reducing the number of purchases requiring further review in an effort to enhance automated tracking and reporting within the current system.
- Preference program: INL's automatic document generation system ensures applicable contracts include language that favors the acquisition of recovered content products. For example, INL requires its supplier of standard desktop computers to provide items designated as Electronic Product Environmental Assessment Tool (EPEAT) Silver or better.
- Estimation, Certification, and Verification: INL requires suppliers (e.g., construction services, office products, paper products) to deliver spend reports listing the designated versus preferred purchases. In addition, INL has developed standard reports that provide the summary data necessary for reporting spend for recycled content products.
- Annual Review and Monitoring: INL conducts an annual review and assessment of a specific aspect of the sustainable acquisition program.

- Sustainable acquisition requirements prior to FY 2011 were incorporated in DOE-ID major site contracts.

The ICP material acquisition process directs procurement to use recycled-content and bio-based content materials and other environmentally preferable products and services to the maximum extent practicable.

6.1.2 Planned Actions

In recent years, there continued to be many changes and additions in sustainable acquisition requirements. INL plans to perform the following actions to improve its sustainable acquisition program:

- Incorporate sustainable acquisition language into janitorial and construction contracts
- Develop appropriate mechanisms to augment the existing reporting requirements and track compliance with this goal
- Enhance the current ordering system to increase sustainable acquisition visibility to the laboratory community
- Ensure personnel resources are adequate and aligned in accordance with the proper organizational roles and responsibilities
- Conduct a campaign to increase the education and awareness of sustainable acquisitions and their effect on certain INL performance requirements
- Benchmark processes with other laboratories to leverage lessons learned and to discover potential improvements to INL's process.

7. DATA CENTERS AND ELECTRONICS STEWARDSHIP

7.1 Data Center Metering

All data centers are metered to measure a monthly Power Utilization Effectiveness (PUE) (100% by FY 2015).

The INL Site has two data centers. The first is INL's Information Operations and Research Center (IORC), which is the primary location for the business enterprise servers and data repository. This data center hosts business systems, e-mail, project applications, and the primary infrastructure systems for INL. The second data center is in EROB and is the location for the High Performance Computing (HPC) servers and storage.

7.1.1 Performance Status

The HPC data center in EROB was metered when it was constructed in FY 2007. In FY 2011, these meters were connected to INL's i-Vue building control system.

7.1.2 Planned Actions

The IORC facility has two City of Idaho Falls electric meters, but the data center is not separately metered from the rest of the office space. INL intends to implement metering for just the data center so that a correct PUE can be measured and calculated.

7.2 Data Centers PUE Measurement

Maximum annual weighted average Power Utilization Effectiveness (PUE) of 1.4 by FY 2015.

7.2.1 Performance Status

In FY 2007, INL completed construction of the 3,700 ft^2 data center in EROB to support HPC resources and also ensured it would support the strategy and necessity to expand to 10,000 ft^2 in the future. Several practices were incorporated to assist with energy efficiency goals for the laboratory.

- The data center space was right-sized to minimize the associated operating energy costs.
- Cooling for the data center uses a green solution called "free cooling" when appropriate. As long as the outside temperature ranges between 40°F and -31°F, and the temperature of the water leaving the data center is not too high, the chillers do not operate. Using a "flat plate" to extract the heat from the data center water and transfer that heat to the cooling towers without chillers saves a considerable amount of energy.
- INL's large computer clusters include water-cooled doors to improve the overall cooling efficiency of the data center. The exhausted warm air from the compute nodes is immediately cooled as it passes through the rear cooling doors on the racks and reenters the room at temperatures near those of the open air in the data center. The computer room air condition (CRAC) units are cooled by the chilled water and are required to do less work, which reduces electricity consumption.
- Finally, the last HPC cluster procured was designed using the latest technologies in high-density processors from Advanced Micro Devices, Inc. Having four 8-core processors in each node (versus traditional configurations) greatly reduced the requirements for space, power, and cooling of the entire system. The configuration includes fewer racks, fewer nodes, less network infrastructure, and fewer power supplies, all resulting in less consumed power.

As a result of these efforts, the HPC data center has a calculated PUE ranging from 1.3 to 1.4, depending on system load and outside weather conditions (see Table 6).

Table 6. INL HPC data Center PUE.

Instantaneous Power (May 19, 2011)	Consumption (KW)	3-Year Power (February 2008– May 2011)	Consumption (KW)
Compute	420	Compute	7018
Cooling	140	Cooling	2750
PUE	1.3	PUE	1.4

In addition, to achieve greater operational efficiency, Information Management (IM) has embraced numerous emerging technologies within the two data centers by the following industry standard practices:

- Virtualizing and consolidating the server. Currently, more than half of INL servers are running in a virtual environment.
- Investing in new high-efficient server and uninterruptable power supply (UPS) hardware and replacing the legacy systems.
- Implementing facility best practices to reduce energy use.
  - Redesigning Data Centers and establishing hot and cold aisles to decrease air conditioner usage.
  - Removing old cabling under the floor to improve air flow.
- Investigating using newer network equipment that will utilize higher bandwidth with less equipment and port needs (Cisco Nexus).
- Purchasing Energy Star rated equipment where applicable.

The IORC data center PUE calculates at greater than 3.0, but this calculation includes the entire building, not just the data center.

7.2.2 Planned Actions

Virtual Machine (VM) Server Farms – INL IM will promote the use of virtual servers (one physical server computer which may use several virtual instances of server computers) wherever possible in place of single purpose servers.

VM Desktops – IM will promote the use of virtual desktops on one physical desktop computer for users who need to use several different operating systems.

Desktop Refresh Initiative (DRI) – When the end of the year overall INL budget allows, IM will also facilitate the desktop refresher initiative that purchases newer, more efficient computers to replace older wasteful desktop computers and laptops.

As part of ongoing activities, IM will continue to upgrade and consolidate servers. Additional planned activities include popular data center practices such as increasing the data center room temperature by approximately 10°F. This by itself should provide further savings without additional risk. The data center control system is a "Carrier" system with a large number of monitoring and control points. This system will be further enhanced to provide better day-to-day monitoring, trending, and reporting. Other options are being considered at such as powering down unused computer nodes to save additional power.

Lastly, the data center in IORC will be separately metered and the correct PUE calculated.

7.3 Electronic Stewardship

Electronic Stewardship – 100% of eligible PCs, laptops, and monitors with power management actively implemented and in use by FY 2012.

7.3.1 Performance Status

The INL Site has been a partner in the Federal Electronics Challenge (FEC) since FY 2007. INL's participation in the FEC is supported by representatives from procurement, information management, property management, and environmental support services. Through continuous improvement, INL has emerged as a leader in electronics stewardship as evidenced by winning the FEC Bronze award in FY 2007 and FY 2008, the FEC Silver award in FY 2009 and FY 2010, and the FEC Bronze in FY 2011. More specifically:

- Power management settings are installed on all eligible computers, a process started several years ago. In FY 2011, INL updated these settings to ENERGY STAR values. Information Management uses a centrally managed configuration tool (LANDesk) to set and maintain the power management settings on all Information Technology (IT)-managed and jointly managed computers. Administrators of self-managed computers (computers that are not manageable with LANDesk) are given instruction on how to set the power management settings on their computers. Exemptions from these power management settings are tracked in IM's Remedy database and are approved after valid business justifications for exemptions are provided.
- In FY 2011, INL held a campaign to reduce the use of paper by setting all copiers and printers to default duplex printing/copying. An average of 12 reams of paper per person has been used annually since FY 2007. A survey was conducted midway through the campaign, which determined that approximately 21% of copiers and printers capable of duplexing were set to default duplex. The campaign encouraged users to save paper by setting their printers to duplex default and instructed them how to do it. Even so, many employees found that it was too difficult to change the default settings. In addition, the maintenance contract for the copiers was modified to include resetting all copiers to duplex default during FY 2012.
- INL promotes the standard for new electronic equipment and hardware to be a minimum of Energy Star 5.0 Category B rating and wherever possible Category A Energy Rating. Dell Energy Smart is enabled from the manufacturer. Dell ESMART settings are used wherever possible.
- Up to 88% efficient power supplies are used on standard desktop computers.
- In FY 2011, 94% of INL's purchased computers, liquid crystal displays (LCDs), and laptops were EPEAT registered. The INL standard for procurement of desktop computers, workstations, and laptops is to meet or exceed EPEAT Silver and wherever possible EPEAT GOLD standards.
- INL property services reuses computers and other electronics through disposal via reutilization, donations, transfers, and sales. These methods meet the GSA definition for recycling electronic property, resulting in over 99% reuse during FY 2011.

ICP has also been a partner in the FEC and was awarded the FEC Bronze award in FY 2011. Power management settings are available on personal computer systems. Implementation of power management has not been implemented due to IT operations requirements.

It is AMWTP's policy to procure only ENERGY STAR-compliant computer monitors with ENERGY STAR Power Management features enabled as part of the standard load. The AMWTP IT Infrastructure Group has an established policy stating that all eligible computers and monitors must have Energy Star features that allow AMWTP to comply with the DOE's mission while ensuring effective energy conservation. The Group has implemented configurations and mechanisms on eligible systems to automatically execute energy conservation measures. Certain production and plant operations systems were excluded from this policy, for example control room systems and camera monitors, as those systems are safety and operations related and must remain in the "on" position. AMWTP employees are prevented from making changes to these settings by cyber security policies that are in place on all AMWTP systems.

7.3.2 Planned Actions

INL will continue to focus efforts that are cost effective and least disruptive to performers. Specifically:

- Incorporate power management on printers, including duplex printing as well as update LWP-1316, "Power Management for Personal Computers," and communicate the changes and expectations via iNotes, Lunch and Learns, etc. (EMS FY 2012 target).
- Build upon the network printing initiative and the potential managed service for printing to evaluate centrally managed printing (EMS FY 2012 target).
- Require all new networked printers to support duplex printing as part of INL's printer standards (EMS FY 2012 target).
- Communicate, participate, and encourage personnel to recycle/reuse computer and cellular/wireless equipment, and recycle with vendors as appropriate (EMS FY 2012 target).
- Continue to ensure that 95% of all desktop, laptop, and monitor purchases are EPEAT/ENERGYSTAR compliant; extend the standards to printing and imaging equipment (EMS FY 2012 target).
- Further establish and implement policy and guidance to ensure the use of Power Management and other energy efficient or environmentally preferred options and features on all eligible electronic products.
- ICP will continue to work with IT to evaluate options for implementing power management while maintaining system availability requirements.

8. REGIONAL AND LOCAL PLANNING

Executive Order 13514 instructs federal agencies to meet the following regional and local planning goals:

- Participate in regional transportation planning and recognize existing community transportation infrastructure
- Align federal policies to increase the effectiveness of local planning for energy choices such as locally generated renewable energy
- Ensure that planning for new federal facilities or new leases includes consideration of sites that are pedestrian friendly, near existing employment centers, accessible to public transit, and emphasize existing central cities and, in rural communities, existing or planned town centers
- Identify and analyze impacts of energy use and alternative energy sources in all Environmental Impact Statements and Environmental Assessments for proposals for new or expanded federal facilities under the National Environmental Policy Act of 1969, as amended (42 U.S.C. 4321 et seq.)
- Coordinate with regional programs for federal, state, tribal, and local ecosystem, watershed, and environmental management.

8.1.1 Performance Status

As the INL Site primary contractor responsible for land management and sitewide leadership, INL maintains excellent relationships with local community planning and government groups, including the cities of Idaho Falls, Blackfoot, Arco, and Pocatello, as well as the counties of Bonneville, Butte, Bingham, and Bannock. Interactions include transportation infrastructure, facility planning locations, traffic patterns, and future infrastructure needs. When warranted, the community is involved and encouraged to supply feedback to decision makers during any National Environmental Policy Act public process.

Although limited, existing community transportation infrastructure usage is encouraged and INL works with multiple local and state agencies on transportation planning by providing input and sponsoring awareness events to promote employee commuting ridership. In FY 2011, INL worked with local transportation companies to coordinate a schedule for riders to the Blackfoot and Pocatello areas.

The bicycle remains a popular seasonal method of commuting at the Idaho Falls campus with increasing awareness of personal fitness and energy conservation. Facilities have designated bicycle spaces and INL continues to explore the possibility of covered parking for cycling and motor cycle commuters.

Sustainable Site development encompasses an integrated approach during the refurbishment and planning of future onsite facilities and infrastructure, consistent with the INL TYSP. INL encourages walking and bicycling as means of travel within Site boundaries; long-range Site development envisions continuous improvement of a bicycle- and pedestrian-friendly environment.

INL continues to work with the following local planning organizations:

- Idaho Strategic Energy Alliance
- Yellowstone Business Partnership (INL representative is on the Board of Directors)
- Yellowstone-Teton Clean Cities Collation
- Bonneville County Transportation Committee
- Targhee Regional Public Transportation Authority.

9. SITE INNOVATIONS

The energy and environment mission of the Laboratory is derived from research, development, and demonstration capabilities in specific areas of clean energy supply and in developing engineering solutions needed to enable the integration of energy systems. INL provides an internationally recognized applied energy engineering research capability used to assist the U.S. achieve environmentally responsible energy security. Emphasis is placed on advancing deployment of technologies that enhance clean energy development, delivery, use, and efficiency, and addresses management of energy-related materials and environmental consequences.

INL is one of DOE's three recognized "energy" laboratories with a principle focus on nuclear energy R&D. The Laboratory serves a diverse set of customers providing research, development, demonstration, and deployment (RDD&D) that provides impactful and environmentally responsible energy development, delivery and use. INL emphasizes an engineering research and energy systems approach, strongly steeped in technology, testing and demonstration, which is designed to reduce risks associated with deployment of energy technology. This capability is to be underlain by a strong science foundation.

INL focuses on advanced energy system component integration and system design and analyses comprising the following elements: (1) process modeling and analysis, (2) feedstock production and processing, (3) energy integration and heat transfer, (4) energy storage and product synthesis, (5) byproduct management, (6) process and system monitoring, control, and maintenance. This focus couples engineering models with testing, instruments, monitoring, and control schemes to support optimal energy systems design, energy resource optimization, total carbon/water management, and hybrid energy systems. As part of this effort, INL has become an internationally recognized thought leader in hybrid energy systems.

DOE views biofuels as a high priority in achieving its goal to help the U.S. lessen its dependency on oil for transportation. And Department of Defense (DOD), as an end user, is being very aggressive relative to securing drop in biofuels to meet its mandates. The goal of INL's Bioenergy Program is to overcome key technical barriers facing the U.S. bio-energy industry by systematically researching, characterizing and modeling, demonstrating, and harnessing the physical and chemical characteristics of the nation's diverse lignocellulosic biomass resources to produce biofuels and other value-added products more cost-effectively. INL maintains a strong national and international competitive position with biofeedstocks (logistics, preprocessing, characterization), but also maintains capabilities in biochem conversion, thermochem conversion, biopower, strategic analysis, sustainability, and algae. Providing strength to this platform are experts and testing and demonstration equipment, including the Process Demonstration Unit (PDU).

The transition to hybrid electrical and all-electrical light-duty vehicles for personal transportation has the potential to shape the demand curve for electricity in the U.S. However, realization of this advanced technology will require improvements in batteries, energy conversion, and electrical infrastructure—all of which are established areas of INL expertise. The INL's integrated vehicle, energy storage, and grid demonstration and testing laboratory is a regional and national testing and demonstration resource for DOE, DOD, other federal agencies, and industry.

INL is the lead DOE laboratory for field performance and life testing of advanced technology vehicles and DOE has recently identified electrification of light-duty vehicles as its highest priority in helping reduce dependency on oil. The Laboratory provides benchmark data for DOE technology modeling, simulations, and R&D, as well as to fleet managers and other vehicle purchasers for informed purchase, operations, and infrastructure decisions. INL is coordinating plug-in demonstration projects with private companies and city, county, port, and environmental agencies. Onboard data-loggers, cellular modems, and GPS units transmit information from these vehicles to INL researchers for analysis.

INL's applied battery research and diagnostic testing includes thermodynamic life analysis of advanced battery chemistries under development and advanced physical and materials modeling. DOE is heavily invested in qualifying existing and new battery concepts and materials that could dramatically lower the costs and increase the performance of batteries for use in electric vehicles, which in turn will help lessen dependence on oil as a transportation fuel. There has also been increased interest in integrating utility scale batteries, which is of import to greater integration of renewable energy resources and support various hybrid energy system approaches. These applications are also of significant interest to DOD, either at their domestic bases, forward bases, or soldier power. INL is also pursuing relevant research in battery advanced materials and diagnostics.

Given current U.S. interest and investment, traditional renewable energy (e.g., hydropower, wind power, geothermal power, and solar power) has experienced significant growth, over the last several years. As a result, INL has begun to redevelop in areas where it previously had stature in DOE. In addition, INL has longstanding position with DOD addressing renewable energy use in support of aggressive renewable energy consumption and fossil fuel reduction goals. INL's niche in conventional renewable energy is providing applied engineering research to advance geothermal resources, wind power, and water power, as well as practical integration of renewable energy resources. INL is focused on resource assessments, renewable energy grid integration, mechanical design, reservoir assessment and monitoring, heat transfer, and advanced control systems.

Water is a critical resource intricately connected to energy development and is increasingly a critical factor in energy investment and regulatory decisions associated with nuclear, fossil and renewable energy development. The importance of water resources relative to energy will only increase as greater demands are imposed on water resources, in particular in the more arid west, where there is pressure being applied to reduce depletion of aquifers and rivers and protect water resources from contamination. Other needs relate to use of energy in the development and use of water, itself, including for irrigation and desalination. INL focuses primarily on water resources from a perspective of their role in energy development and use, with a greater emphasis on (1) assessing potential impacts on water supply and quality, (2) providing technology, testing, demonstration to responsibly produce/use water, and (3) addressing energy efficiency in support of water production/use. INL brings a number of capabilities to address this area, including modeling, field and laboratory testing, membrane technology, microbiology, and instrumentation.

Advancing energy resource development requires responsibly addressing and mitigating impacts on the environment including on the air shed, soils, water, wildlife, and landscape whether from fossil, renewable energy, nuclear energy, energy infrastructure emplacement. Energy production and distribution require the development and use of multiple natural resources and often compete with other important resource uses such as food production, residential development, recreation, and other industrial applications. Of particular note are impacts associated with oil, gas, and coal development. INL focuses primarily on environmental technology from a perspective of its role in advancing solutions oriented, environmentally responsible, energy development with a greater emphasis on (1) assessing potential impacts on the environment and (2) providing technology development, testing and demonstration to support responsible energy development. Ecosystem and regional-level analysis tools based on Geospatial Information Systems (GIS) and system-dynamics modeling techniques are being developed to analyze energy and natural resource development and use. They also identify systems that address fluctuations in demand and availability of resources and energy in the short and long term. INL researchers have and continue to develop advanced environmental forensics capabilities to detect trace levels of specific chemicals and other small changes in the environment.

10. CLIMATE CHANGE ADAPTATION

The Intergovernmental Panel on Climate Change defines adaptation as, "adjustment in natural or human systems in response to actual or expected climatic stimuli or their effects, which moderates harm or exploits beneficial opportunities." The process of understating and planning climate change adaption strategies is still beginning. Specific INL climate change impacts and understanding how to best respond to these impacts is rapidly evolving. Because of this, INL climate change strategic planning will be designed as a continuous, flexible process and subjected to periodic review and revisions.

As with any new national initiative, meaningful and sensible indicators need to be identified or developed. However, it is difficult to develop specific, quantifiable indicators when applied to DOE operations at a national laboratory. That does not mean that INL will ignore operational impacts on climate change. Over the past 5 years, INL has continually demonstrated a willingness to reduce operations impacts. This is evidenced through petroleum use reduction, material recycle, efficiency upgrades, optimizing operations, and millions of research dollars spent on energy research.

To that end, INL will use the following steps to develop, vet, and implement a climate change adaption strategy:

1. Prioritize adaptation efforts where vulnerabilities are highest (what is causing the most damage which will result in the biggest benefit when corrected)
2. Integrate adaptation into long-term sustainable strategies (policies, operations, buildings, business decisions)
3. Strengthen existing programs and capabilities (continued excellence in fleet fuel reductions and research capabilities)
4. Develop a robust strategy to allow for rapid deployment in the face of changing policy (applicable efficiently and cost effectively)
5. Leverage opportunities from within and outside the laboratory expertise (community involvement, regional planning, national resources; do not reinvent the wheel).

Appendix A

Glossary

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Appendix A

Glossary

Alternative Fuel. A vehicle or equipment fuel that is either not petroleum based, or significantly reduces the petroleum content of the fuel. Biodiesel blends such as B20 (20% biodiesel) and Ethanol blends such as E-85 (85% Ethanol) are the more common alternative fuels. Compressed natural gas (CNG) and liquefied natural gas (LNG) are also recognized alternative fuels that are not a blended fuel.

Alternative Fuel Vehicle. Alternative fuel vehicles (AFV) are specially designed to run on an alternative fuel. They can be dedicated to a single alternative fuel such as LNG, or they can be dual fuel capable of operating on both alternative such as CNG or E-85 and gasoline. Diesel engine vehicles that can simply be operated on a biodiesel blend are usually not considered AFVs.

Commissioning. A process of ensuring that all building systems are installed and perform interactively according to the design intent, the systems are efficient and cost effective and meet the owner's operational needs, the installation is adequately documented, and the operators are adequately trained.

Commissioning Authority. The individual hired by, or responsible to, the building owner and is tasked with implementing the commissioning process for a new or existing building. The Commissioning Authority is typically responsible for all aspects of the commissioning process, leads and trains the commissioning team, and witnesses or verifies all system checks or inspections throughout the process. The Commissioning Authority has final jurisdiction for the entire commissioning process.

Continuous Commissioning. Continuous commissioning involves ongoing monitoring and testing of systems as part of a regular maintenance plan to ensure optimum performance and enhanced equipment longevity. Continuous commissioning can be at a system or a building level depending upon the requirements of the stakeholders.

Energy Efficiency. The ability of a building to minimize the amount of energy used for employee safety, health, and comfort. Energy efficiency also applies to the processes that are performed inside the building, which are not necessarily part of the physical structure. Energy efficiency improvements should always be measured by life cycle cost effectiveness, and not by first cost or simple payback.

ESPC. Energy Savings Performance Contracts (ESPC) are projects that are developed, engineered, performed, and funded by an outside contractor called an Energy Services Contractor (ESCo). ESPCs are paid for through the energy savings derived from the project and are intended to be a no-cost turn-key process or project. The annual payments are made to the ESCo with funds that would have been distributed to the utility. ESPCs are especially useful when capital funding is not readily available. DOE sites can take advantage of the Super ESPC program, which provides pre-evaluated ESCos familiar with federal processes.

HVAC. Heating, ventilating, and/or air conditioning (cooling) systems in a building. HVAC systems include all components, controls, and distribution systems needed to deliver conditioned air to the desired point of use.

Indoor Environment. A building's indoor environment includes many factors including the quality of the air in and supplied to the building, temperature levels, and consistency throughout the building, amount of pollutants in the workspace, lighting levels, and quality, levels of unwanted sound, and amount of day lighting.

*INL Sit*e. All contractors and activities at the INL Site under the control of the DOE-ID Operations Office, but excludes the Naval Reactors Facility (NRF).

LEED™ *Rating System.* Leadership in Energy and Environmental Design (LEED™) is a tool for green building design to help design teams and owners determine green project goals, identify green design strategies, measure and monitor progress, and document success. The LEED™ Rating System was developed and is administered by the U.S. Green Building Council (USGBC), which is a national non-profit organization that includes representation from all aspects of the building industry. The LEED™ Rating System is a point system of five technical categories and four levels of certification: LEED™ Certified, Silver, Gold, and Platinum.

Low-Cost. Low Cost modifications or repairs may be performed during the commissioning process, but are typically implemented shortly after. Low-cost opportunities typically cost less than $500 and can be accomplished in bundled groups.

No-Cost. Adjustments or modifications that can be made during the commissioning implementation phase by in-house crafts. These on-the-spot modifications are essentially no-cost other than the time for the craft person to be available. No-cost adjustments should be maximized during the implementation phase.

Re-commissioning. Commissioning that is performed several years after a building, which was previously commissioned, has been in operation to ensure that the building and systems are meeting the original design requirements. Re-commissioning is typically used to identify and correct malfunctions in a building that occur as the building ages and to ensure continued indoor air quality, employee productivity, and energy efficiency. Re-commissioning can also be used to address changes in ownership, building use patterns, and operation and maintenance practices. A building's use and mission often change during the building's life and these changes necessitate the need for re-commissioning to ensure that the building is capable of efficiently meeting its new and/or evolving mission.

Retro-commissioning. Applying the commissioning process to a building that has never been commissioned. *Retro-commissioning* is sometimes referred to as "Existing Building Commissioning" and is used to compare the building's original design parameters and operational criteria with current design and operational requirements. Retro-commissioning determines if the building is capable of meeting its current mission needs and identifies modifications required to meet those needs. Retro-commissioning then identifies upgrades to the building that will enhance its energy efficiency, tenant comfort and productivity, and indoor air quality. Retro-commissioning as a best practice means using a whole building approach to ensure that the building is operating within well-defined criteria established by the building stakeholders.

Sustainability. The ability of a society to operate indefinitely into the future without depleting its resources. Sustainability includes concepts of green building design and construction, reuse and recycling of materials, reduced use of material and energy resources for building construction and operation, water conservation, and responsible stewardship of the environment adjacent to the building.

Appendix B

Excluded Buildings Self-Certification

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DOE BUILDING EXCLUSION
SELF-CERTIFICATION FORM
FY 2011

FROM: DOE Idaho Operations Office, Idaho National Laboratory Site
Lead Program Office is the Office of Nuclear Energy

TO: Sustainability Performance Office

DATE: January 19, 2012

SUBJECT: SELF-CERTIFICATION FORM FOR THE ENERGY INTENSITY GOAL OF EISA 2007

Each buildings or group of buildings excluded under the criteria for a Part G or Part H exclusion is/are metered for energy consumption and their consumption is reported annually.

If any building has been excluded under the criteria for Part H for impracticability then all practicable energy and water conservation measures with a payback of less than 10 years have been installed. A justification statement that explains why process-dedicated energy in the facility may impact the ability to meet the goal has been provided in the FIMS Report 063.

I certify that the buildings listed on the Excluded Buildings List produced by FIMS as Report 063 dated 14 November 2011, for the Idaho National Laboratory Site on pages 53 through 54 meet the exclusion criteria in *Guidelines Establishing Criteria for Excluding Buildings* published by FEMP on January 27, 2006.

Teresa Perkins
DOE Site Office Official – printed name

Teresa Perkins
DOE Site Office Official – Signature

1/19/2012
Date

Contact Information:
Teresa Perkins, Director
Environment and Sustainability Division DOE-ID
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Or: Ernest Fossum,
INL Energy Manager
(208)526-2513
Ernest.Fossum@inl.gov

U. S. Department of Energy
Facilities Information Management System
Energy Consuming Excluded Buildings and Trailers List

HQ Program Office NE

FIMS Site Name - Number Idaho National Lab-Scoville 06001

Property ID	Prop Sequence	Property Name	Exclusion Part	Property Type	Gross Sqft	Excluded Sqft
TRA-640	96550	Hazardous Chem Storage Bldg	G - Metered intensive loads	B	1,891	1,891
Justification Comment	The ATR and its three support facilities use 62% of the total Electricity consumed at the ATR Complex area. This building is one of four small incidental buildings that are metered with the four primary ATR Buildings. Energy use for these buildings is separately metered and is reported in the Excluded Buildings / Metered Process category in EMS4 and the Annual Energy Use Report.					
TRA-670	96138	ATR Reactor Building	G - Metered intensive loads	B	131,954	131,954
Justification Comment	Advanced Test Reactor (ATR) process energy use. The ATR and its three support facilities use 62% of the total Electricity consumed at the ATR Complex area. This building is one of the four primary ATR Buildings. Energy use for these buildings is separately metered and is reported in the Excluded Buildings / Metered Process category in EMS4 and the Annual Energy Use Report.					
TRA-671	96139	ATR Cooling Tower Pumphouse	G - Metered intensive loads	B	3,568	3,568
Justification Comment	Advanced Test Reactor (ATR) process energy use. The ATR and its three support facilities use 62% of the total Electricity consumed at the ATR Complex area. This building is one of the four primary ATR Buildings. Energy use for these buildings is separately metered and is reported in the Excluded Buildings / Metered Process category in EMS4 and the Annual Energy Use Report.					
TRA-672	96140	Pump House & Well #4	G - Metered intensive loads	B	404	404
Justification Comment	Advanced Test Reactor (ATR) process energy use. The ATR and its three support facilities use 62% of the total Electricity consumed at the ATR Complex area. This building is one of the four primary ATR Buildings. Energy use for these buildings is separately metered and is reported in the Excluded Buildings / Metered Process category in EMS4 and the Annual Energy Use Report.					
TRA-673	96141	Storage Bldg	G - Metered intensive loads	B	1,188	1,188
Justification Comment	The ATR and its three support facilities use 62% of the total Electricity consumed at the ATR Complex area. This building is one of four small incidental buildings that are metered with the four primary ATR Buildings. Energy use for these buildings is separately metered and is reported in the Excluded Buildings / Metered Process category in EMS4 and the Annual Energy Use Report.					
TRA-674	96632	Diesel Generator Bldg	G - Metered intensive loads	B	704	704
Justification Comment	Advanced Test Reactor (ATR) process energy use. The ATR and its three support facilities use 62% of the total Electricity consumed at the ATR Complex area. This building is one of the four primary ATR Buildings. Energy use for these buildings is separately metered and is reported in the Excluded Buildings / Metered Process category in EMS4 and the Annual Energy Use Report.					
TRA-676	92397	RTC Fitness Center	G - Metered intensive loads	B	2,146	2,146
Justification Comment	The ATR and its three support facilities use 62% of the total Electricity consumed at the ATR Complex area. This building is one of four small incidental buildings that are metered with the four primary ATR Buildings. Energy use for these buildings is separately metered and is reported in the Excluded Buildings / Metered Process category in EMS4 and the Annual Energy Use Report.					
TRA-689	131170	Radioactive Waste Storage Building	G - Metered intensive loads	B	5,470	5,470
Justification Comment	The ATR and its three support facilities use 62% of the total Electricity consumed at the ATR Complex area. This building is one of four small incidental buildings that are metered with the four primary ATR Buildings. Energy use for these buildings is separately metered and is reported in the Excluded Buildings / Metered Process category in EMS4 and the Annual Energy Use Report.					

This report qualifies DOE Owned, DOE Leased, and Contractor Leased buildings and trailers (real property and personal property) where the Energy Consuming Metered Process (Excluded) Facilities gsft is greater than zero.

Appendix C

Consolidated Energy Data Report (CEDR)

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FY 2011 Energy Management Data Report

Program:	Department of Energy	**Prepared by:**	Ernest L. Fossum
Site:	Idaho National Laboratory	**Phone:**	(208) 526-2513
Fiscal Year:	2011	**Date:**	12/6/2011

Requirement(s): See tables

Instructions: Complete cells in orange. The information requested is for completing DOE's Annual Energy Report

Source: Site.

ENERGY EFFICIENCY IMPROVEMENTS AND FUNDING

1-1. E.O. 13514/OMB Circular A-11 Direct Agency Obligations

	FY 2011		Projected FY 2012		Projected FY 2013	
		(Thou. $)		(Thou. $)		(Thou. $)
Direct obligations for facility energy efficiency improvements, including facility surveys/audits		$205.0		$1,000.0		$1,000.0
Estimated annual savings anticipated from obligations (Million BTU)	1,398.2	$17.7	5,587.9	$80.1	6,000.0	$100.0
Estimated annual savings anticipated from obligations (Thousands Gal)	0.0	$0.0	1,926.0	$5.4	0.0	$0.0

1-2. E.O. 13514/OMB Circular A-11 Awarded Energy Savings Performance Contracts (ESPCs)

	Annual savings (10^6 BTU)	(Number/Thou. $)
Number of ESPC Task/Delivery Orders awarded in fiscal year & annual energy (Million BTU) savings	0.0	0.0
Investment value of ESPC Task/Delivery Orders awarded in fiscal year		$0.0
Amount privately financed under ESPC Task/Delivery Orders awarded in fiscal year		$0.0
Cumulative guaranteed cost savings of ESPCs awarded in fiscal year relative to the baseline spending		$0.0
Total contract award value of ESPCs awarded in fiscal year (sum of contractor payments for debt repayment, M&V, and other negotiated performance period services)		$0.0
Total payments made to all ESPC contractors in fiscal year		$3,206.5

1-3. E.O. 13514/OMB Circular A-11 Awarded Utility Energy Services Contracts (UESCs)

	Annual savings (10^6 BTU)	(Number/Thou. $)
Number of UESC Task/Delivery Orders awarded in fiscal year & annual energy (Million BTU) savings	0.0	0.0
Investment value of UESC Task/Delivery Orders awarded in fiscal year		$0.0
Amount privately financed under UESC Task/Delivery Orders awarded in fiscal year		$0.0
Cumulative cost savings of UESCs awarded in fiscal year relative to the baseline spending		$0.0
Total contract award value of UESCs awarded in fiscal year (sum of payments for debt repayment and other negotiated performance period services)		$0.0
Total payments made to all UESC contractors in fiscal year		$0.0

1-4. EPAct 1992 Training

	(Number)	(Thou. $)
Number of personnel trained in FY 2011/Expenditure	21	$13.5

FY 2011 Energy Management Data Report

Program:	Department of Energy	**Prepared by:**	Ernest L. Fossum
Site:	Idaho National Laboratory	**Phone:**	(208) 526-2513
Fiscal Year:	2011	**Date:**	12/6/2011

Requirement(s): See tables

Instructions: Complete cells in orange. The information requested is for completing DOE's Annual Energy Report.

Source: Site

1-5a. EPAct 2005 Metering Of Electricity Use

(Note: If a building has an advanced and a standard meter, only account for the advanced meter.)

Fiscal Year	# of "Appropriate" Buildings for EPAct 2005 (or those that can be cost effectively metered)	Standard Meters		Advanced Meters		Total		Total % of Electricity Metered (at individual buildings or
		# of Buildings with Standard Meters	Estimated Amount of Electricity Metered (kWh/Yr)	# of Buildings with Advanced Meters	Estimated Amount of Electricity Metered (kWh/Yr)	# of Appropriate Buildings for Metering	Cumulative % of "Appropriate" Buildings Metered	
2010 Report	85	23	0	0	0	23.0	27.1%	15.0%
2011 Report	62	49	73,121,449	36	51,021,034	85.0	137.1%	53.0%
2012 Planned	64	27	43,449,949	60	98,595,831	87.0	135.9%	61.0%
2013 Planned	64	27	43,449,949	105	167,169,153	132.0	206.3%	90.0%
2014 Planned	64	27	43,449,949	105	167,169,153	132.0	206.3%	90.0%
2015 Planned	64	27	43,449,949	105	167,169,153	132.0	206.3%	90.0%

1-5b. EISA 2007 Metering Of Natural Gas Use

(Note: If a building has an advanced and a standard meter, only account for the advanced meter.)

Fiscal Year	# of "Appropriate" Buildings for EPAct 2005 (or those that can be cost effectively metered)	Standard Meters		Advanced Meters		Total		Total % of Natural Gas Metered (at individual buildings or process level)
		# of Buildings with Standard Meters	Estimated Amount of Natural Gas Metered (CF/Yr)	# of Buildings with Advanced Meters	Estimated Amount of Natural Gas Metered (CF/Yr)	# of Appropriate Buildings for Metering	Cumulative % of "Appropriate" Buildings Metered	
2010 Report	20	20	0	0	0	20.0	100.0%	100.0%
2011 Report	19	19	29,762,076	0	0	19.0	100.0%	100.0%
2012 Planned	20	20	30,000,000	0	0	20.0	100.0%	100.0%
2013 Planned	21	21	31,000,000	0	0	21.0	100.0%	100.0%
2014 Planned	21	21	31,000,000	0	0	21.0	100.0%	100.0%
2015 Planned	21	21	31,000,000	0	0	21.0	100.0%	100.0%

1-5c. EISA 2007 Metering Of Steam Use

(Note: If a building has an advanced and a standard meter, only account for the advanced meter.)

Fiscal Year	# of "Appropriate" Buildings for EPAct 2005 (or those that can be cost effectively metered)	Standard Meters		Advanced Meters		Total		Total % of Steam Metered (at individual buildings or process level)
		# of Buildings with Standard Meters	Estimated Amount of Steam Metered (Btu/Yr)	# of Buildings with Advanced Meters	Estimated Amount of Steam Metered (Btu/Yr)	# of Appropriate Buildings for Metering	Cumulative % of "Appropriate" Buildings Metered	
2010 Report	0	0	0	0	0	0.0	#DIV/0!	0.0%
2011 Report	0	0	0	0	0	0.0	#DIV/0!	0.0%
2012 Planned	0	0	0	0	0	0.0	#DIV/0!	0.0%
2013 Planned	0	0	0	0	0	0.0	#DIV/0!	0.0%
2014 Planned	0	0	0	0	0	0.0	#DIV/0!	0.0%
2015 Planned	0	0	0	0	0	0.0	#DIV/0!	0.0%

FY 2011 Energy Management Data Report

Program:	Department of Energy	**Prepared by:**	Ernest L. Fossum
Site:	Idaho National Laboratory	**Phone:**	(208) 526-2513
Fiscal Year:	2011	**Date:**	12/6/2011

Requirement(s): See tables

Instructions: Complete cells in orange. The information requested is for completing DOE's Annual Energy Report.

Source: Site

1-5d. DOE O 436.1 & SSPP Metering Of Chilled Water Use

(Note: If a building has an advanced and a standard meter, only account for the advanced meter.)

Fiscal Year	# of "Appropriate" Buildings for EPAct 2005 (or those that can be cost effectively metered)	Standard Meters		Advanced Meters		Total		Total % of Chilled Water Metered (at individual buildings or process level)
		# of Buildings with Standard Meters	Estimated Amount of Chilled Water Metered (Btu/Yr)	# of Buildings with Advanced Meters	Estimated Amount of Chilled Water Metered (Btu/Yr)	# of Appropriate Buildings for Metering	Cumulative % of "Appropriate" Buildings Metered	
2010 Report	0	0	0	0	0	0.0	#DIV/0!	0.0%
2011 Report	0	0	0	0	0	0.0	#DIV/0!	0.0%
2012 Planned	0	0	0	0	0	0.0	#DIV/0!	0.0%
2013 Planned	0	0	0	0	0	0.0	#DIV/0!	0.0%
2014 Planned	0	0	0	0	0	0.0	#DIV/0!	0.0%
2015 Planned	0	0	0	0	0	0.0	#DIV/0!	0.0%

1-5e. Water Management Best Practice Metering Of Water Use

(Note: If a building has an advanced and a standard meter, only account for the advanced meter.)

Fiscal Year	# of "Appropriate" Buildings for EPAct 2005 (or those that can be cost effectively metered)	Standard Meters		Advanced Meters		Total		Total % of Water Metered (at individual buildings or process level)
		# of Buildings with Standard Meters	Estimated Amount of Water Metered (Gal/Yr)	# of Buildings with Advanced Meters	Estimated Amount of Water Metered (Gal/Yr)	# of Appropriate Buildings for Metering	Cumulative % of "Appropriate" Buildings Metered	
2010 Report	TBD	19	0	0	0	19.0	#VALUE!	14.0%
2011 Report	16	16	40,000,000	0	0	16.0	100.0%	4.5%
2012 Planned	TBD	17	40,000,000	0	0	17.0	#VALUE!	4.5%
2013 Planned	TBD	18	42,500,000	0	0	18.0	#VALUE!	5.0%
2014 Planned	TBD	18	45,000,000	0	0	18.0	#VALUE!	5.0%
2015 Planned	TBD	18	45,000,000	0	0	18.0	#VALUE!	5.0%

Facilities Energy Consumption and Cost

Key:	
Light Green	Pre-populated data by SPO to be reviewed and updated with changes highlighted in blue
Orange	Fields that need to reviewed and updated with changes highlighted in blue
Yellow	Optional data field to be completed, if applicable and available
	Calculated fields. No action required

Requirement(s): NECPA, EPAct 2005, EISA 2007, DOE O 436.1, E.O. 13514

Instructions: Provide FY 2011 energy consumption and cost for each quarter by energy type. FY 2011 square footage will be provide after the FIMS snapshot on November 14 via Program Offices to the sites for entry into this worksheet. Review the quality control columns and assure the information is correct, especially for baseline years. Finally, automatic calculation formulas have been set up for energy intensity, water intensity, ILA consumption and GHG emissions current performance status.

Source: Site/Lab EMS4

FY	Energy Intensity
2003	95,135.909
2011	117,120.902
% Change	23.1%

FY	Potable Water Intensity
2007	38.164
2011	34.082
% Change	-10.7%

FY	ILA Consumption
2010	0.000
2011	0.000
% Change	NA

GHG Emissions				
FY	Scope 1	Scope 2	Scope 3	Biogenic
2008	1,341.369	13,852.239	912.461	0.000
2011	1,623.760	14,064.091	926.416	0.000
% Change	21.1%	1.5%	1.5%	NA

Energy Consumption and Cost												Estimated GHG Emissions					Quality Control			
PSO	Site #	Site	Category	Subcategory	Usage Unit	FY	QTR	Usage Amount	BTU x 10^6	Cost (1,000 $)	Additional Information	Main Site Zip Code	Scope	Anthropogenic $MtCO_2e$	Biogenic $MtCO_2e$	Scope 3 - T&D Loss, $MtCO_2e$	Usage % Change	Cost % Change	$/Unit	$/Unit % Change
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2003	1	6,637.139	22,645.918	$438.171		83415	2	2,731.359	0.000	179.917			$0.07	
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2004	1	6,438.419	21,967.886	$418.629		83415	2	2,649.581	0.000	174.531	-3.09%	-4.67%	$0.07	-1.53%
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2005	1	6,539.291	22,312.061	$424.109		83415	2	2,691.092	0.000	177.265	1.54%	1.29%	$0.06	-0.25%
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2006	1	6,817.336	23,260.750	$418.313		83415	2	2,805.515	0.000	184.802	4.08%	-1.39%	$0.06	-5.70%
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2007	1	7,145.338	24,379.893	$402.385		83415	2	2,940.497	0.000	193.693	4.59%	-3.96%	$0.06	-8.96%
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2008	1	8,123.346	27,716.857	$431.062		83415	2	3,342.973	0.000	220.205	12.04%	6.65%	$0.05	-6.12%
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2009	1	8,458.365	28,859.941	$421.007		83415	2	3,480.842	0.000	229.287	3.96%	-2.39%	$0.05	-6.61%
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2010	1	8,848.594	30,191.403	$453.623		83415	2	3,641.432	0.000	239.865	4.41%	7.19%	$0.05	2.91%
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2011	1	8,793.955	30,004.974	$456.210		83415	2	3,425.620	0.000	225.649	-0.62%	0.57%	$0.05	1.18%
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2003	2	6,467.007	22,065.428	$430.960		83415	2	2,661.345	0.000	175.305			$0.07	
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2004	2	6,487.637	22,135.817	$425.627		83415	2	2,669.835	0.000	175.865	0.32%	-1.25%	$0.07	-1.58%
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2005	2	6,784.907	23,150.103	$425.909		83415	2	2,792.170	0.000	183.923	4.38%	0.07%	$0.06	-4.51%
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2006	2	6,931.356	23,649.787	$423.860		83415	2	2,852.437	0.000	187.893	2.11%	-0.48%	$0.06	-2.65%
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2007	2	7,706.360	26,294.100	$425.507		83415	2	3,171.372	0.000	208.901	10.06%	0.39%	$0.06	-10.75%
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2008	2	8,414.602	28,710.622	$436.768		83415	2	3,462.833	0.000	228.100	8.42%	2.58%	$0.05	-6.38%
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2009	2	8,432.430	28,771.451	$423.732		83415	2	3,470.169	0.000	228.584	0.21%	-3.08%	$0.05	-3.29%
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2010	2	8,293.496	28,297.408	$452.090		83415	2	3,412.994	0.000	224.817	-1.68%	6.27%	$0.05	7.82%
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2011	2	8,913.188	30,411.797	$469.823		83415	2	3,472.066	0.000	228.708	6.95%	3.77%	$0.05	-3.42%
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2003	3	6,500.997	22,181.402	$424.989		83415	2	2,675.333	0.000	176.227			$0.07	
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2004	3	6,203.397	21,165.991	$408.343		83415	2	2,552.863	0.000	168.160	-4.80%	-4.08%	$0.07	0.69%
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2005	3	6,388.105	21,796.214	$389.186		83415	2	2,628.875	0.000	173.167	2.89%	-4.92%	$0.06	-8.05%
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2006	3	6,681.166	22,796.138	$385.866		83415	2	2,749.478	0.000	181.111	4.39%	-0.86%	$0.06	-5.49%
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2007	3	7,512.078	25,631.210	$384.883		83415	2	3,091.420	0.000	203.635	11.06%	-0.26%	$0.05	-12.72%
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2008	3	8,116.047	27,691.952	$414.042		83415	2	3,339.969	0.000	220.007	7.44%	7.04%	$0.05	-0.43%
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2009	3	8,085.418	27,587.446	$401.243		83415	2	3,327.365	0.000	219.177	-0.38%	-3.19%	$0.05	-2.80%
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2010	3	8,501.971	29,008.725	$468.133		83415	2	3,498.787	0.000	230.469	4.90%	14.29%	$0.06	9.87%
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2011	3	8,718.650	29,748.034	$455.762		83415	2	3,396.285	0.000	223.717	2.49%	-2.71%	$0.05	-5.33%
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2003	4	6,847.412	23,363.370	$444.093		83415	2	2,817.892	0.000	185.617			$0.06	
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2004	4	6,533.058	22,290.794	$420.782		83415	2	2,688.527	0.000	177.096	-4.81%	-5.54%	$0.06	-0.69%

Energy Consumption and Cost												Estimated GHG Emissions					Quality Control			
PSO	Site #	Site	Category	Subcategory	Usage Unit	FY	QTR	Usage Amount	BTU x 10^6	Cost (1,000 $)	Additional Information	Main Site Zip Code	Scope	Anthropogenic $MtCO_2e$	Biogenic $MtCO_2e$	Scope 3 - T&D Loss, $MtCO_2e$	Usage % Change	Cost % Change	$/Unit	$/Unit % Change
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2005	4	6,693.684	22,838.850	$403.783		83415	2	2,754.629	0.000	181.450	2.40%	-4.21%	$0.06	-6.77%
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2006	4	6,909.631	23,575.661	$387.485		83415	2	2,843.497	0.000	187.304	3.13%	-4.21%	$0.06	-7.57%
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2007	4	7,826.279	26,703.264	$397.223		83415	2	3,220.722	0.000	212.152	11.71%	2.45%	$0.05	-10.49%
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2008	4	9,006.621	30,730.591	$440.082		83415	2	3,706.464	0.000	244.149	13.11%	9.74%	$0.05	-3.87%
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2009	4	8,624.728	29,427.572	$441.175		83415	2	3,549.305	0.000	233.796	-4.43%	0.25%	$0.05	4.48%
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2010	4	9,047.672	30,870.657	$464.488		83415	2	3,723.358	0.000	245.261	4.67%	5.02%	$0.05	0.36%
NE	602	INL-I	Buildings	Electricity	Megawatt Hour	2011	4	9,678.327	33,022.452	$502.896		83415	2	3,770.120	0.000	248.342	6.52%	7.64%	$0.05	1.20%
NE	602	INL-I	Buildings	Fuel Oil	1,000 Gallons	2005	4	0.000	0.000	$0.000		83415	1	0.000	0.000	0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
NE	602	INL-I	Buildings	Fuel Oil	1,000 Gallons	2007	4	2.516	347.208	$6.085		83415	1	25.766	0.000	0.000	100.00%	100.00%	$2.42	#DIV/0!
NE	602	INL-I	Buildings	LPG	1,000 Gallons	2003	1	0.000	0.000	$0.000		83415	1	0.000	0.000	0.000			#DIV/0!	
NE	602	INL-I	Buildings	LPG	1,000 Gallons	2004	1	0.006	0.552	$0.005		83415	1	0.035	0.000	0.000	100.00%	100.00%	$0.83	#DIV/0!
NE	602	INL-I	Buildings	LPG	1,000 Gallons	2005	1	0.006	0.561	$0.008		83415	1	0.035	0.000	0.000	1.64%	40.48%	$1.38	39.48%
NE	602	INL-I	Buildings	LPG	1,000 Gallons	2008	1	0.199	18.308	$0.389		83415	1	1.158	0.000	0.000	96.93%	97.84%	$1.95	29.55%
NE	602	INL-I	Buildings	LPG	1,000 Gallons	2003	2	0.000	0.000	$0.000		83415	1	0.000	0.000	0.000			#DIV/0!	
NE	602	INL-I	Buildings	LPG	1,000 Gallons	2004	2	0.000	0.000	$0.000		83415	1	0.000	0.000	0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
NE	602	INL-I	Buildings	LPG	1,000 Gallons	2005	2	0.010	0.892	$0.012		83415	1	0.056	0.000	0.000	100.00%	100.00%	$1.28	#DIV/0!
NE	602	INL-I	Buildings	LPG	1,000 Gallons	2004	3	0.013	1.196	$0.018		83415	1	0.076	0.000	0.000	25.38%	31.11%	$1.38	7.67%
NE	602	INL-I	Buildings	LPG	1,000 Gallons	2005	3	0.003	0.294	$0.004		83415	1	0.019	0.000	0.000	-306.25%	-318.60%	$1.34	-3.04%
NE	602	INL-I	Buildings	LPG	1,000 Gallons	2006	3	0.000	0.000	$0.000		83415	1	0.000	0.000	0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2003	1	8,085.839	8,312.242	$46.117		83415	1	441.147	0.000	0.000			$0.01	
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2004	1	7,929.292	8,151.312	$62.401		83415	1	432.606	0.000	0.000	-1.97%	26.10%	$0.01	27.53%
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2005	1	6,950.145	7,144.749	$61.116		83415	1	379.186	0.000	0.000	-14.09%	-2.10%	$0.01	10.51%
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2006	1	7,106.305	7,305.282	$80.389		83415	1	387.706	0.000	0.000	2.20%	23.97%	$0.01	22.27%
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2007	1	8,361.309	8,595.426	$91.646		83415	1	456.176	0.000	0.000	15.01%	12.28%	$0.01	-3.21%
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2008	1	9,156.276	9,412.652	$94.883		83415	1	499.548	0.000	0.000	8.68%	3.41%	$0.01	-5.77%
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2009	1	11,292.629	11,608.823	$122.084		83415	1	616.103	0.000	0.000	18.92%	22.28%	$0.01	4.15%
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2010	1	11,884.772	12,217.546	$97.469		83415	1	648.410	0.000	0.000	4.98%	-25.25%	$0.01	-31.82%
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2011	1	12,749.273	13,106.253	$104.802		83415	1	695.575	0.000	0.000	6.78%	7.00%	$0.01	0.23%
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2003	2	6,279.340	6,455.162	$35.962		83415	1	342.588	0.000	0.000			$0.01	
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2004	2	8,391.368	8,626.326	$66.310		83415	1	457.816	0.000	0.000	25.17%	45.77%	$0.01	27.53%
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2005	2	0.097	0.100	$0.124		83415	1	0.005	0.000	0.000	############	-53375.81%	$1.28	99.38%
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2006	2	7,476.916	7,686.270	$85.079		83415	1	407.926	0.000	0.000	100.00%	99.85%	$0.01	-11134.40%
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2007	2	9,667.119	9,937.798	$104.053		83415	1	527.419	0.000	0.000	22.66%	18.23%	$0.01	-5.72%
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2008	2	11,468.452	11,789.569	$119.338		83415	1	625.696	0.000	0.000	15.71%	12.81%	$0.01	-3.44%
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2009	2	11,877.595	12,210.168	$125.778		83415	1	648.018	0.000	0.000	3.44%	5.12%	$0.01	1.74%
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2010	2	10,851.212	11,155.046	$90.803		83415	1	592.021	0.000	0.000	-9.46%	-38.52%	$0.01	-26.55%
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2011	2	12,464.016	12,813.008	$103.073		83415	1	680.012	0.000	0.000	12.94%	11.90%	$0.01	-1.19%
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2003	3	1,698.060	1,745.606	$10.643		83415	1	92.643	0.000	0.000			$0.01	
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2004	3	1,737.245	1,785.888	$14.814		83415	1	94.781	0.000	0.000	2.26%	28.16%	$0.01	26.50%
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2005	3	2,819.108	2,898.043	$26.042		83415	1	153.805	0.000	0.000	38.38%	43.11%	$0.01	7.69%
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2006	3	1,213.579	1,247.559	$14.526		83415	1	66.210	0.000	0.000	-132.30%	-79.28%	$0.01	22.82%

Energy Consumption and Cost												Estimated GHG Emissions					Quality Control			
PSO	Site #	Site	Category	Subcategory	Usage Unit	FY	QTR	Usage Amount	BTU x 10^6	Cost (1,000 $)	Additional Information	Main Site Zip Code	Scope	Anthropogenic $MtCO_2e$	Biogenic $MtCO_2e$	Scope 3 - T&D Loss, $MtCO_2e$	Usage % Change	Cost % Change	$/Unit	$/Unit % Change
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2007	3	1,989.816	2,045.531	$22.836		83415	1	108.560	0.000	0.000	39.01%	36.39%	$0.01	-4.30%
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2008	3	2,334.918	2,400.296	$24.363		83415	1	127.388	0.000	0.000	14.78%	6.27%	$0.01	-9.99%
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2009	3	2,415.713	2,483.353	$26.849		83415	1	131.797	0.000	0.000	3.34%	9.26%	$0.01	6.12%
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2010	3	3,276.528	3,368.271	$29.092		83415	1	178.761	0.000	0.000	26.27%	7.71%	$0.01	-25.18%
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2011	3	3,677.595	3,780.568	$32.174		83415	1	200.642	0.000	0.000	10.91%	9.58%	$0.01	-1.49%
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2003	4	492.338	506.123	$4.298		83415	1	26.861	0.000	0.000			$0.01	
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2004	4	589.525	606.032	$5.635		83415	1	32.163	0.000	0.000	16.49%	23.73%	$0.01	8.67%
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2005	4	640.834	658.777	$6.385		83415	1	34.963	0.000	0.000	8.01%	11.75%	$0.01	4.07%
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2006	4	749.952	770.951	$8.921		83415	1	40.916	0.000	0.000	14.55%	28.43%	$0.01	16.24%
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2007	4	823.472	846.529	$9.264		83415	1	44.927	0.000	0.000	8.93%	3.70%	$0.01	-5.74%
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2008	4	1,605.238	1,650.185	$17.826		83415	1	87.579	0.000	0.000	48.70%	48.03%	$0.01	-1.31%
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2009	4	1,886.322	1,939.139	$20.740		83415	1	102.914	0.000	0.000	14.90%	14.05%	$0.01	-1.00%
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2010	4	1,018.332	1,046.845	$9.177		83415	1	55.558	0.000	0.000	-85.24%	-126.00%	$0.01	-22.01%
NE	602	INL-I	Buildings	Natural Gas	1,000 Cubic Feet	2011	4	871.193	895.586	$7.799		83415	1	47.531	0.000	0.000	-16.89%	-17.67%	$0.01	-0.67%
NE	602	INL-I	Buildings	Square Feet	1,000 Square Feet	2003	4	1,127.600				83415	NA	0.000	0.000	0.000			$0.00	
NE	602	INL-I	Buildings	Square Feet	1,000 Square Feet	2004	4	1,050.646				83415	NA	0.000	0.000	0.000	-7.32%	#DIV/0!	$0.00	#DIV/0!
NE	602	INL-I	Buildings	Square Feet	1,000 Square Feet	2005	4	1,070.843				83415	NA	0.000	0.000	0.000	1.89%	#DIV/0!	$0.00	#DIV/0!
NE	602	INL-I	Buildings	Square Feet	1,000 Square Feet	2006	4	1,129.437				83415	NA	0.000	0.000	0.000	5.19%	#DIV/0!	$0.00	#DIV/0!
NE	602	INL-I	Buildings	Square Feet	1,000 Square Feet	2007	4	1,203.864				83415	NA	0.000	0.000	0.000	6.18%	#DIV/0!	$0.00	#DIV/0!
NE	602	INL-I	Buildings	Square Feet	1,000 Square Feet	2008	4	1,204.682				83415	NA	0.000	0.000	0.000	0.07%	#DIV/0!	$0.00	#DIV/0!
NE	602	INL-I	Buildings	Square Feet	1,000 Square Feet	2009	4	1,317.096				83415	NA	0.000	0.000	0.000	8.53%	#DIV/0!	$0.00	#DIV/0!
NE	602	INL-I	Buildings	Square Feet	1,000 Square Feet	2010	4	1,315.720				83415	NA	0.000	0.000	0.000	-0.10%	#DIV/0!	$0.00	#DIV/0!
NE	602	INL-I	Buildings	Square Feet	1,000 Square Feet	2011	4	1,313.025				83415	NA	0.000	0.000	0.000	-0.21%	#DIV/0!	$0.00	#DIV/0!
NE	602	INL-I	Water	Potable	Million Gallons	2007	1	9.708		$20.183		83415	NA	0.000	0.000	0.000			$2.08	
NE	602	INL-I	Water	Potable	Million Gallons	2008	1	13.325		$20.173		83415	NA	0.000	0.000	0.000	27.14%	-0.05%	$1.51	-37.32%
NE	602	INL-I	Water	Potable	Million Gallons	2009	1	12.390		$24.600		83415	NA	0.000	0.000	0.000	-7.54%	18.00%	$1.99	23.75%
NE	602	INL-I	Water	Potable	Million Gallons	2010	1	10.791		$21.809		83415	NA	0.000	0.000	0.000	-14.82%	-12.80%	$2.02	1.76%
NE	602	INL-I	Water	Potable	Million Gallons	2011	1	8.450		$22.038		83415	NA	0.000	0.000	0.000	-27.70%	1.04%	$2.61	22.51%
NE	602	INL-I	Water	Potable	Million Gallons	2007	2	7.839		$17.043		83415	NA	0.000	0.000	0.000			$2.17	
NE	602	INL-I	Water	Potable	Million Gallons	2008	2	13.151		$19.829		83415	NA	0.000	0.000	0.000	40.39%	14.05%	$1.51	-44.19%
NE	602	INL-I	Water	Potable	Million Gallons	2009	2	11.649		$22.987		83415	NA	0.000	0.000	0.000	-12.89%	13.74%	$1.97	23.59%
NE	602	INL-I	Water	Potable	Million Gallons	2010	2	10.101		$20.370		83415	NA	0.000	0.000	0.000	-15.33%	-12.85%	$2.02	2.15%
NE	602	INL-I	Water	Potable	Million Gallons	2011	2	7.408		$18.620		83415	NA	0.000	0.000	0.000	-36.35%	-9.40%	$2.51	19.77%
NE	602	INL-I	Water	Potable	Million Gallons	2007	3	12.839		$26.663		83415	NA	0.000	0.000	0.000			$2.08	
NE	602	INL-I	Water	Potable	Million Gallons	2008	3	17.093		$26.241		83415	NA	0.000	0.000	0.000	24.89%	-1.61%	$1.54	-35.27%
NE	602	INL-I	Water	Potable	Million Gallons	2009	3	15.041		$32.225		83415	NA	0.000	0.000	0.000	-13.64%	18.57%	$2.14	28.34%
NE	602	INL-I	Water	Potable	Million Gallons	2010	3	15.396		$32.644		83415	NA	0.000	0.000	0.000	2.31%	1.28%	$2.12	-1.05%
NE	602	INL-I	Water	Potable	Million Gallons	2011	3	11.526		$32.635		83415	NA	0.000	0.000	0.000	-33.58%	-0.03%	$2.83	25.12%
NE	602	INL-I	Water	Potable	Million Gallons	2007	4	15.558		$31.899		83415	NA	0.000	0.000	0.000			$2.05	
NE	602	INL-I	Water	Potable	Million Gallons	2008	4	27.159		$42.678		83415	NA	0.000	0.000	0.000	42.71%	25.26%	$1.57	-30.48%
NE	602	INL-I	Water	Potable	Million Gallons	2009	4	20.168		$42.836		83415	NA	0.000	0.000	0.000	-34.66%	0.37%	$2.12	26.01%

Energy Consumption and Cost												Estimated GHG Emissions					Quality Control			
PSO	Site #	Site	Category	Subcategory	Usage Unit	FY	QTR	Usage Amount	BTU x 10^6	Cost (1,000 $)	Additional Information	Main Site Zip Code	Scope	Anthropogenic $MtCO_2e$	Biogenic $MtCO_2e$	Scope 3 - T&D Loss, $MtCO_2e$	Usage % Change	Cost % Change	$/Unit	$/Unit % Change
NE	602	INL-I	Water	Potable	Million Gallons	2010	4	22.119		$48.192		83415	NA	0.000	0.000	0.000	8.82%	11.11%	$2.18	2.51%
NE	602	INL-I	Water	Potable	Million Gallons	2011	4	17.367		$42.337		83415	NA	0.000	0.000	0.000	-27.36%	-13.83%	$2.44	10.63%

Facilities Energy Consumption and Cost

Key:	
Light Green	Pre-populated data by SPO to be reviewed and updated with changes highlighted in blue
Orange	Fields that need to reviewed and updated with changes highlighted in blue
Yellow	Optional data field to be completed, if applicable and available
Red	Calculated fields. No action required

Requirement(s): NECPA, EPAct 2005, EISA 2007, DOE O 436.1, E.O. 13514

Instructions: Provide FY 2011 energy consumption and cost for each quarter by energy type. FY 2011 square footage will be provide after the FIMS snapshot on November 14 via Program Offices to the sites for entry into this worksheet. Review the quality control columns and assure the information is correct, especially for baseline years. Finally, automatic calculation formulas have been set up for energy intensity, water intensity, ILA consumption and GHG emissions current performance status.

Source: Site/Lab EMS4

FY	Energy Intensity
2003	205,184.624
2011	191,407.794
% Change	-6.7%

FY	Potable Water Intensity
2007	207.655
2011	209.557
% Change	0.9%

FY	ILA Consumption
2010	0.000
2011	0.000
% Change	NA

FY	GHG Emissions Scope 1	Scope 2	Scope 3	Biogenic
2008	27,249.549	81,067.611	5,340.005	0.000
2011	18,262.865	71,876.973	4,734.608	0.000
% Change	-33.0%	-11.3%	-11.3%	NA

Energy Consumption and Cost												Estimated GHG Emissions					Quality Control			
PSO	Site #	Site	Category	Subcategory	Usage Unit	FY	QTR	Usage Amount	BTU x 10^6	Cost (1,000 $)	Additional Information	Main Site Zip Code	Scope	Anthropogenic $MtCO_2e$	Biogenic $MtCO_2e$	Scope 3 - T&D Loss, $MtCO_2e$	Usage % Change	Cost % Change	$/Unit	$/Unit % Change
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2003	1	40,297.704	137,495.766	$1,513.405		83415	2	16,583.577	0.000	1,092.377			$0.04	
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2004	1	42,720.480	145,762.278	$1,722.012		83415	2	17,580.614	0.000	1,158.053	5.67%	12.11%	$0.04	6.83%
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2005	1	38,566.250	131,588.045	$1,696.964		83415	2	15,871.038	0.000	1,045.441	-10.77%	-1.48%	$0.04	8.39%
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2006	1	54,299.080	185,268.461	$2,483.429		83415	2	22,345.516	0.000	1,471.921	28.97%	31.67%	$0.05	3.79%
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2007	1	43,203.290	147,409.625	$961.022		83415	2	17,779.303	0.000	1,171.140	-25.68%	-158.42%	$0.02	-105.61%
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2008	1	43,651.392	148,938.550	$1,215.281		83415	2	17,963.709	0.000	1,183.287	1.03%	20.92%	$0.03	20.10%
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2009	1	41,389.002	141,219.275	$1,455.289		83415	2	17,032.675	0.000	1,121.959	-5.47%	16.49%	$0.04	20.82%
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2010	1	43,312.197	147,781.216	$1,906.187		83415	2	17,824.121	0.000	1,174.093	4.44%	23.65%	$0.04	20.11%
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2011	1	41,240.704	140,713.282	$1,539.387		83415	2	16,065.009	0.000	1,058.218	-5.02%	-23.83%	$0.04	-17.91%
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2003	2	41,024.438	139,975.382	$1,540.698		83415	2	16,882.648	0.000	1,112.077			$0.04	
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2004	2	49,646.840	169,395.018	$2,022.423		83415	2	20,430.996	0.000	1,345.810	17.37%	23.82%	$0.04	7.81%
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2005	2	45,672.200	155,833.546	$2,011.355		83415	2	18,795.325	0.000	1,238.067	-8.70%	-0.55%	$0.04	7.50%
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2006	2	56,273.160	192,004.022	$2,630.092		83415	2	23,157.902	0.000	1,525.434	18.84%	23.53%	$0.05	5.77%
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2007	2	46,818.570	159,744.961	$1,044.709		83415	2	19,267.087	0.000	1,269.142	-20.19%	-151.75%	$0.02	-109.46%
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2008	2	51,022.135	174,087.525	$1,460.263		83415	2	20,996.966	0.000	1,383.091	8.24%	28.46%	$0.03	22.03%
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2009	2	46,186.259	157,587.516	$1,703.693		83415	2	19,006.874	0.000	1,252.002	-10.47%	14.29%	$0.04	22.41%
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2010	2	44,723.905	152,597.964	$1,980.092		83415	2	18,405.077	0.000	1,212.361	-3.27%	13.96%	$0.04	16.68%
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2011	2	47,479.092	161,998.662	$1,776.477		83415	2	18,495.126	0.000	1,218.292	5.80%	-11.46%	$0.04	-18.33%
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2003	3	34,880.265	119,011.464	$1,309.950		83415	2	14,354.157	0.000	945.523			$0.04	
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2004	3	39,330.580	134,195.939	$1,716.527		83415	2	16,185.580	0.000	1,066.160	11.32%	23.69%	$0.04	13.95%
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2005	3	39,641.630	135,257.242	$1,867.073		83415	2	16,313.585	0.000	1,074.592	0.78%	8.06%	$0.05	7.34%
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2006	3	44,109.340	150,501.068	$2,144.169		83415	2	18,152.167	0.000	1,195.701	10.13%	12.92%	$0.05	3.11%
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2007	3	34,800.950	118,740.841	$835.574		83415	2	14,321.517	0.000	943.373	-26.75%	-156.61%	$0.02	-102.46%
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2008	3	36,772.060	125,466.269	$1,138.853		83415	2	15,132.681	0.000	996.805	5.36%	26.63%	$0.03	22.47%
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2009	3	33,916.045	115,721.546	$1,326.628		83415	2	13,957.355	0.000	919.385	-8.42%	14.15%	$0.04	20.82%
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2010	3	34,370.462	117,272.016	$1,436.247		83415	2	14,144.360	0.000	931.703	1.32%	7.63%	$0.04	6.39%
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2011	3	36,088.557	123,134.156	$1,343.124		83415	2	14,058.028	0.000	926.016	4.76%	-6.93%	$0.04	-12.28%
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2003	4	32,433.765	110,664.006	$1,218.070		83415	2	13,347.357	0.000	879.204			$0.04	
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2004	4	34,453.850	117,556.536	$1,725.620		83415	2	14,178.676	0.000	933.964	5.86%	29.41%	$0.05	25.02%

Energy Consumption and Cost												Estimated GHG Emissions					Quality Control			
PSO	Site #	Site	Category	Subcategory	Usage Unit	FY	QTR	Usage Amount	BTU x 10^6	Cost (1,000 $)	Additional Information	Main Site Zip Code	Scope	Anthropogenic $MtCO_2e$	Biogenic $MtCO_2e$	Scope 3 - T&D Loss, $MtCO_2e$	Usage % Change	Cost % Change	$/Unit	$/Unit % Change
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2005	4	38,446.010	131,177.786	$2,015.358		83415	2	15,821.556	0.000	1,042.182	10.38%	14.38%	$0.05	4.46%
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2006	4	36,878.150	125,828.248	$845.342		83415	2	15,176.340	0.000	999.681	-4.25%	-138.41%	$0.02	-128.68%
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2007	4	32,707.350	111,597.478	$945.518		83415	2	13,459.945	0.000	886.620	-12.75%	10.59%	$0.03	20.71%
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2008	4	32,347.107	110,368.329	$1,158.826		83415	2	13,311.695	0.000	876.855	-1.11%	18.41%	$0.04	19.31%
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2009	4	31,280.775	106,730.004	$1,350.369		83415	2	12,872.871	0.000	847.949	-3.41%	14.18%	$0.04	17.01%
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2010	4	30,175.256	102,957.973	$1,092.744		83415	2	12,417.921	0.000	817.981	-3.66%	-23.58%	$0.04	-19.21%
NE	603	INL-S	Buildings	Electricity	Megawatt Hour	2011	4	31,167.911	106,344.912	$1,066.893		83415	2	12,141.227	0.000	799.755	3.18%	-2.42%	$0.03	-5.79%
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2003	1	974.180	134,436.840	$944.863		83415	1	9,976.423	0.000	0.000			$0.97	
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2004	1	652.342	90,023.196	$647.671		83415	1	6,680.531	0.000	0.000	-49.34%	-45.89%	$0.99	2.31%
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2005	1	545.020	75,212.760	$773.394		83415	1	5,581.464	0.000	0.000	-19.69%	16.26%	$1.42	30.03%
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2006	1	849.620	117,247.560	$1,751.031		83415	1	8,700.824	0.000	0.000	35.85%	55.83%	$2.06	31.15%
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2007	1	775.181	106,974.978	$1,634.985		83415	1	7,938.506	0.000	0.000	-9.60%	-7.10%	$2.11	2.29%
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2008	1	701.708	96,835.704	$1,956.088		83415	1	7,186.081	0.000	0.000	-10.47%	16.42%	$2.79	24.34%
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2009	1	599.207	82,690.566	$1,211.714		83415	1	6,136.384	0.000	0.000	-17.11%	-61.43%	$2.02	-37.85%
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2010	1	643.937	88,863.306	$1,368.915		83415	1	6,594.457	0.000	0.000	6.95%	11.48%	$2.13	4.88%
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2011	1	443.911	61,259.718	$1,198.824		83415	1	4,546.022	0.000	0.000	-45.06%	-14.19%	$2.70	21.28%
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2003	2	1,039.235	143,414.430	$1,007.960		83415	1	10,642.641	0.000	0.000			$0.97	
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2004	2	1,011.117	139,534.146	$1,051.909		83415	1	10,354.689	0.000	0.000	-2.78%	4.18%	$1.04	6.77%
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2005	2	882.028	121,719.864	$1,223.776		83415	1	9,032.709	0.000	0.000	-14.64%	14.04%	$1.39	25.02%
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2006	2	1,077.369	148,676.922	$2,067.576		83415	1	11,033.166	0.000	0.000	18.13%	40.81%	$1.92	27.70%
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2007	2	825.208	113,878.704	$1,640.156		83415	1	8,450.825	0.000	0.000	-30.56%	-26.06%	$1.99	3.44%
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2008	2	908.745	125,406.810	$2,570.792		83415	1	9,306.314	0.000	0.000	9.19%	36.20%	$2.83	29.74%
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2009	2	796.994	109,985.172	$1,239.650		83415	1	8,161.890	0.000	0.000	-14.02%	-107.38%	$1.56	-81.88%
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2010	2	734.080	101,303.040	$1,635.682		83415	1	7,517.597	0.000	0.000	-8.57%	24.21%	$2.23	30.19%
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2011	2	567.643	78,334.734	$1,835.218		83415	1	5,813.142	0.000	0.000	-29.32%	10.87%	$3.23	31.08%
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2003	3	519.677	71,715.426	$504.038		83415	1	5,321.930	0.000	0.000			$0.97	
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2004	3	324.853	44,829.714	$476.340		83415	1	3,326.768	0.000	0.000	-59.97%	-5.81%	$1.47	33.85%
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2005	3	335.490	46,297.620	$610.073		83415	1	3,435.700	0.000	0.000	3.17%	21.92%	$1.82	19.36%
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2006	3	401.682	55,432.116	$892.512		83415	1	4,113.562	0.000	0.000	16.48%	31.65%	$2.22	18.16%
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2007	3	384.221	53,022.498	$867.263		83415	1	3,934.747	0.000	0.000	-4.54%	-2.91%	$2.26	1.56%
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2008	3	464.348	64,080.024	$1,691.654		83415	1	4,755.315	0.000	0.000	17.26%	48.73%	$3.64	38.04%
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2009	3	373.440	51,534.720	$619.080		83415	1	3,824.340	0.000	0.000	-24.34%	-173.25%	$1.66	-119.76%
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2010	3	375.001	51,750.138	$916.997		83415	1	3,840.326	0.000	0.000	0.42%	32.49%	$2.45	32.21%
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2011	3	231.911	32,003.718	$786.505		83415	1	2,374.964	0.000	0.000	-61.70%	-16.59%	$3.39	27.90%
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2003	4	288.436	39,804.168	$279.756		83415	1	2,953.828	0.000	0.000			$0.97	
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2004	4	341.977	47,192.826	$470.733		83415	1	3,502.132	0.000	0.000	15.66%	40.57%	$1.38	29.54%
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2005	4	243.432	33,593.616	$557.939		83415	1	2,492.949	0.000	0.000	-40.48%	15.63%	$2.29	39.94%
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2006	4	130.260	17,975.880	$285.270		83415	1	1,333.972	0.000	0.000	-86.88%	-95.58%	$2.19	-4.66%
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2007	4	163.382	22,546.716	$390.696		83415	1	1,673.169	0.000	0.000	20.27%	26.98%	$2.39	8.42%
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2008	4	145.372	20,061.336	$523.818		83415	1	1,488.732	0.000	0.000	-12.39%	25.41%	$3.60	33.64%
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2009	4	99.334	13,708.092	$199.552		83415	1	1,017.264	0.000	0.000	-46.35%	-162.50%	$2.01	-79.37%

Energy Consumption and Cost												Estimated GHG Emissions					Quality Control			
PSO	Site #	Site	Category	Subcategory	Usage Unit	FY	QTR	Usage Amount	BTU x 10^6	Cost (1,000 $)	Additional Information	Main Site Zip Code	Scope	Anthropogenic $MtCO_2e$	Biogenic $MtCO_2e$	Scope 3 - T&D Loss, $MtCO_2e$	Usage % Change	Cost % Change	$/Unit	$/Unit % Change
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2010	4	141.708	19,555.704	$332.015		83415	1	1,451.209	0.000	0.000	29.90%	39.90%	$2.34	14.26%
NE	603	INL-S	Buildings	Fuel Oil	1,000 Gallons	2011	4	130.220	17,970.360	$424.129		83415	1	1,333.562	0.000	0.000	-8.82%	21.72%	$3.26	28.06%
NE	603	INL-S	Buildings	LNG	Billion BTUs	2003	1	0.959	959.000	$7.062		83415	1	50.896	0.000	0.000			$7.36	
NE	603	INL-S	Buildings	LNG	Billion BTUs	2004	1	1.052	1,052.000	$8.096		83415	1	55.832	0.000	0.000	8.84%	12.77%	$7.70	4.31%
NE	603	INL-S	Buildings	LNG	Billion BTUs	2005	1	0.783	783.000	$7.019		83415	1	41.555	0.000	0.000	-34.36%	-15.34%	$8.96	14.15%
NE	603	INL-S	Buildings	LNG	Billion BTUs	2006	1	1.090	1,090.000	$12.191		83415	1	57.848	0.000	0.000	28.17%	42.42%	$11.18	19.85%
NE	603	INL-S	Buildings	LNG	Billion BTUs	2007	1	1.326	1,326.000	$12.530		83415	1	70.373	0.000	0.000	17.80%	2.71%	$9.45	-18.36%
NE	603	INL-S	Buildings	LNG	Billion BTUs	2008	1	1.065	1,065.000	$8.803		83415	1	56.522	0.000	0.000	-24.51%	-42.34%	$8.27	-14.32%
NE	603	INL-S	Buildings	LNG	Billion BTUs	2009	1	1.642	1,642.000	$19.403		83415	1	87.144	0.000	0.000	35.14%	54.63%	$11.82	30.05%
NE	603	INL-S	Buildings	LNG	Billion BTUs	2010	1	1.597	1,597.000	$22.166		83415	1	84.756	0.000	0.000	-2.82%	12.47%	$13.88	14.86%
NE	603	INL-S	Buildings	LNG	Billion BTUs	2011	1	0.925	925.000	$13.559		83415	1	49.092	0.000	0.000	-72.65%	-63.48%	$14.66	5.31%
NE	603	INL-S	Buildings	LNG	Billion BTUs	2003	2	1.629	1,629.000	$11.995		83415	1	86.454	0.000	0.000			$7.36	
NE	603	INL-S	Buildings	LNG	Billion BTUs	2004	2	1.431	1,431.000	$11.372		83415	1	75.946	0.000	0.000	-13.84%	-5.48%	$7.95	7.34%
NE	603	INL-S	Buildings	LNG	Billion BTUs	2005	2	1.500	1,500.000	$15.339		83415	1	79.608	0.000	0.000	4.60%	25.86%	$10.23	22.29%
NE	603	INL-S	Buildings	LNG	Billion BTUs	2006	2	1.180	1,180.000	$13.555		83415	1	62.625	0.000	0.000	-27.12%	-13.16%	$11.49	10.98%
NE	603	INL-S	Buildings	LNG	Billion BTUs	2007	2	1.791	1,791.000	$18.746		83415	1	95.052	0.000	0.000	34.12%	27.69%	$10.47	-9.75%
NE	603	INL-S	Buildings	LNG	Billion BTUs	2008	2	1.847	1,847.000	$27.417		83415	1	98.024	0.000	0.000	3.03%	31.63%	$14.84	29.49%
NE	603	INL-S	Buildings	LNG	Billion BTUs	2009	2	1.310	1,310.000	$15.107		83415	1	69.524	0.000	0.000	-40.99%	-81.49%	$11.53	-28.72%
NE	603	INL-S	Buildings	LNG	Billion BTUs	2010	2	1.163	1,163.000	$16.966		83415	1	61.723	0.000	0.000	-12.64%	10.96%	$14.59	20.95%
NE	603	INL-S	Buildings	LNG	Billion BTUs	2011	2	1.517	1,517.000	$22.351		83415	1	80.510	0.000	0.000	23.34%	24.09%	$14.73	0.99%
NE	603	INL-S	Buildings	LNG	Billion BTUs	2003	3	0.000	0.000	$0.000		83415	1	0.000	0.000	0.000			#DIV/0!	
NE	603	INL-S	Buildings	LNG	Billion BTUs	2004	3	0.000	0.000	$0.000		83415	1	0.000	0.000	0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
NE	603	INL-S	Buildings	LNG	Billion BTUs	2005	3	0.381	381.000	$4.118		83415	1	20.220	0.000	0.000	100.00%	100.00%	$10.81	#DIV/0!
NE	603	INL-S	Buildings	LNG	Billion BTUs	2006	3	0.410	410.000	$4.188		83415	1	21.760	0.000	0.000	7.07%	1.67%	$10.21	-5.81%
NE	603	INL-S	Buildings	LNG	Billion BTUs	2007	3	0.431	431.000	$3.697		83415	1	22.874	0.000	0.000	4.87%	-13.28%	$8.58	-19.08%
NE	603	INL-S	Buildings	LNG	Billion BTUs	2008	3	0.801	801.000	$13.212		83415	1	42.511	0.000	0.000	46.19%	72.02%	$16.49	48.00%
NE	603	INL-S	Buildings	LNG	Billion BTUs	2009	3	0.562	562.000	$6.020		83415	1	29.826	0.000	0.000	-42.53%	-119.47%	$10.71	-53.98%
NE	603	INL-S	Buildings	LNG	Billion BTUs	2010	3	0.464	464.000	$6.739		83415	1	24.625	0.000	0.000	-21.12%	10.67%	$14.52	26.25%
NE	603	INL-S	Buildings	LNG	Billion BTUs	2011	3	0.573	573.000	$7.857		83415	1	30.410	0.000	0.000	19.02%	14.23%	$13.71	-5.92%
NE	603	INL-S	Buildings	LNG	Billion BTUs	2003	4	0.481	481.000	$3.542		83415	1	25.528	0.000	0.000			$7.36	
NE	603	INL-S	Buildings	LNG	Billion BTUs	2004	4	0.770	770.000	$6.149		83415	1	40.865	0.000	0.000	37.53%	42.40%	$7.99	7.79%
NE	603	INL-S	Buildings	LNG	Billion BTUs	2005	4	1.245	1,245.000	$17.929		83415	1	66.075	0.000	0.000	38.15%	65.70%	$14.40	44.55%
NE	603	INL-S	Buildings	LNG	Billion BTUs	2006	4	0.000	0.000	$0.000		83415	1	0.000	0.000	0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
NE	603	INL-S	Buildings	LNG	Billion BTUs	2007	4	0.373	373.000	$3.124		83415	1	19.796	0.000	0.000	100.00%	100.00%	$8.38	#DIV/0!
NE	603	INL-S	Buildings	LNG	Billion BTUs	2008	4	0.000	0.000	$0.000		83415	1	0.000	0.000	0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
NE	603	INL-S	Buildings	LNG	Billion BTUs	2009	4	0.000	0.000	$0.000		83415	1	0.000	0.000	0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
NE	603	INL-S	Buildings	LNG	Billion BTUs	2010	4	0.464	464.000	$6.935		83415	1	24.625	0.000	0.000	100.00%	100.00%	$14.95	#DIV/0!
NE	603	INL-S	Buildings	LNG	Billion BTUs	2011	4	0.000	0.000	$0.000		83415	1	0.000	0.000	0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2003	1	73.361	6,749.212	$71.568		83415	1	426.746	0.000	0.000			$0.98	
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2004	1	39.016	3,589.472	$40.019		83415	1	226.959	0.000	0.000	-88.03%	-78.84%	$1.03	4.89%
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2005	1	61.686	5,675.112	$77.500		83415	1	358.832	0.000	0.000	36.75%	48.36%	$1.26	18.36%

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					Energy Consumption and Cost							Estimated GHG Emissions					Quality Control			
PSO	Site #	Site	Category	Subcategory	Usage Unit	FY	QTR	Usage Amount	BTU x 10^6	Cost (1,000 $)	Additional Information	Main Site Zip Code	Scope	Anthropogenic $MtCO_2e$	Biogenic $MtCO_2e$	Scope 3 - T&D Loss, $MtCO_2e$	Usage % Change	Cost % Change	$/Unit	$/Unit % Change
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2006	1	36.576	3,364.992	$54.352		83415	1	212.765	0.000	0.000	-68.65%	-42.59%	$1.49	15.45%
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2007	1	62.752	5,773.184	$85.918		83415	1	365.033	0.000	0.000	41.71%	36.74%	$1.37	-8.53%
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2008	1	87.958	8,092.136	$177.404		83415	1	511.658	0.000	0.000	28.66%	51.57%	$2.02	32.12%
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2009	1	72.240	6,646.080	$134.769		83415	1	420.225	0.000	0.000	-21.76%	-31.64%	$1.87	-8.11%
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2010	1	86.099	7,921.108	$146.432		83415	1	500.844	0.000	0.000	16.10%	7.96%	$1.70	-9.69%
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2011	1	94.096	8,656.832	$238.447		83415	1	547.363	0.000	0.000	8.50%	38.59%	$2.53	32.89%
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2003	2	67.182	6,180.744	$72.524		83415	1	390.802	0.000	0.000			$1.08	
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2004	2	60.784	5,592.128	$64.661		83415	1	353.585	0.000	0.000	-10.53%	-12.16%	$1.06	-1.48%
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2005	2	71.230	6,553.160	$85.898		83415	1	414.350	0.000	0.000	14.67%	24.72%	$1.21	11.79%
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2006	2	64.852	5,966.384	$94.476		83415	1	377.248	0.000	0.000	-9.83%	9.08%	$1.46	17.22%
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2007	2	87.723	8,070.516	$132.517		83415	1	510.291	0.000	0.000	26.07%	28.71%	$1.51	3.56%
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2008	2	133.286	12,262.312	$297.889		83415	1	775.334	0.000	0.000	34.18%	55.51%	$2.23	32.41%
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2009	2	114.980	10,578.160	$220.425		83415	1	668.846	0.000	0.000	-15.92%	-35.14%	$1.92	-16.58%
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2010	2	138.743	12,764.356	$284.386		83415	1	807.077	0.000	0.000	17.13%	22.49%	$2.05	6.47%
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2011	2	138.607	12,751.844	$375.866		83415	1	806.286	0.000	0.000	-0.10%	24.34%	$2.71	24.41%
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2003	3	18.082	1,663.544	$16.831		83415	1	105.184	0.000	0.000			$0.93	
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2004	3	7.236	665.712	$6.912		83415	1	42.092	0.000	0.000	-149.89%	-143.50%	$0.96	2.56%
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2005	3	32.222	2,964.424	$39.170		83415	1	187.438	0.000	0.000	77.54%	82.35%	$1.22	21.42%
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2006	3	26.963	2,480.596	$39.346		83415	1	156.846	0.000	0.000	-19.50%	0.45%	$1.46	16.70%
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2007	3	21.783	2,004.036	$33.997		83415	1	126.713	0.000	0.000	-23.78%	-15.73%	$1.56	6.50%
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2008	3	52.838	4,861.096	$110.944		83415	1	307.362	0.000	0.000	58.77%	69.36%	$2.10	25.67%
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2009	3	30.665	2,821.180	$51.387		83415	1	178.380	0.000	0.000	-72.31%	-115.90%	$1.68	-25.30%
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2010	3	42.963	3,952.596	$84.906		83415	1	249.919	0.000	0.000	28.62%	39.48%	$1.98	15.21%
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2011	3	46.468	4,275.056	$119.348		83415	1	270.308	0.000	0.000	7.54%	28.86%	$2.57	23.05%
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2003	4	21.221	1,952.332	$15.438		83415	1	123.444	0.000	0.000			$0.73	
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2004	4	11.109	1,022.028	$11.859		83415	1	64.622	0.000	0.000	-91.03%	-30.18%	$1.07	31.85%
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2005	4	6.627	609.684	$8.848		83415	1	38.550	0.000	0.000	-67.63%	-34.03%	$1.34	20.05%
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2006	4	1.777	163.484	$3.018		83415	1	10.337	0.000	0.000	-272.93%	-193.17%	$1.70	21.39%
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2007	4	6.706	616.952	$10.605		83415	1	39.009	0.000	0.000	73.50%	71.54%	$1.58	-7.40%
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2008	4	10.047	924.324	$20.805		83415	1	58.444	0.000	0.000	33.25%	49.03%	$2.07	23.63%
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2009	4	5.583	513.636	$8.271		83415	1	32.477	0.000	0.000	-79.96%	-151.54%	$1.48	-39.78%
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2010	4	19.803	1,821.876	$38.662		83415	1	115.195	0.000	0.000	71.81%	78.61%	$1.95	24.12%
NE	603	INL-S	Buildings	LPG	1,000 Gallons	2011	4	7.983	734.436	$20.232		83415	1	46.438	0.000	0.000	-148.06%	-91.09%	$2.53	22.97%
NE	603	INL-S	Buildings	Square Feet	1,000 Square Feet	2003	4	4,464.917				83415	NA	0.000	0.000	0.000			$0.00	
NE	603	INL-S	Buildings	Square Feet	1,000 Square Feet	2004	4	3,999.966				83415	NA	0.000	0.000	0.000	-11.62%	#DIV/0!	$0.00	#DIV/0!
NE	603	INL-S	Buildings	Square Feet	1,000 Square Feet	2005	4	3,828.074				83415	NA	0.000	0.000	0.000	-4.49%	#DIV/0!	$0.00	#DIV/0!
NE	603	INL-S	Buildings	Square Feet	1,000 Square Feet	2006	4	4,193.801				83415	NA	0.000	0.000	0.000	8.72%	#DIV/0!	$0.00	#DIV/0!
NE	603	INL-S	Buildings	Square Feet	1,000 Square Feet	2007	4	4,691.853				83415	NA	0.000	0.000	0.000	10.62%	#DIV/0!	$0.00	#DIV/0!
NE	603	INL-S	Buildings	Square Feet	1,000 Square Feet	2008	4	4,378.910				83415	NA	0.000	0.000	0.000	-7.15%	#DIV/0!	$0.00	#DIV/0!
NE	603	INL-S	Buildings	Square Feet	1,000 Square Feet	2009	4	4,243.392				83415	NA	0.000	0.000	0.000	-3.19%	#DIV/0!	$0.00	#DIV/0!
NE	603	INL-S	Buildings	Square Feet	1,000 Square Feet	2010	4	4,129.511				83415	NA	0.000	0.000	0.000	-2.76%	#DIV/0!	$0.00	#DIV/0!

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Energy Consumption and Cost												Estimated GHG Emissions					Quality Control			
PSO	Site #	Site	Category	Subcategory	Usage Unit	FY	QTR	Usage Amount	BTU x 10^6	Cost (1,000 $)	Additional Information	Main Site Zip Code	Scope	Anthropogenic $MtCO_2e$	Biogenic $MtCO_2e$	Scope 3 - T&D Loss, $MtCO_2e$	Usage % Change	Cost % Change	$/Unit	$/Unit % Change
NE	603	INL-S	Buildings	Square Feet	1,000 Square Feet	2011	4	3,924.567				83415	NA	0.000	0.000	0.000	-5.22%	#DIV/0!	$0.00	#DIV/0!
NE	603	INL-S	Excluded	Electricity	Megawatt Hour	2003	1	9,370.306	31,971.484	$359.081		83415	2	3,856.130	0.000	254.007			$0.04	
NE	603	INL-S	Excluded	Electricity	Megawatt Hour	2007	1	9,293.400	31,709.081	$206.783		83415	2	3,824.481	0.000	251.922	-0.83%	-73.65%	$0.02	-72.23%
NE	603	INL-S	Excluded	Electricity	Megawatt Hour	2008	1	8,683.100	29,626.737	$248.467		83415	2	3,573.327	0.000	235.379	-7.03%	16.78%	$0.03	22.24%
NE	603	INL-S	Excluded	Electricity	Megawatt Hour	2009	1	7,924.200	27,037.370	$300.159		83415	2	3,261.019	0.000	214.807	-9.58%	17.22%	$0.04	24.46%
NE	603	INL-S	Excluded	Electricity	Megawatt Hour	2010	1	10,151.500	34,636.918	$446.246		83415	2	4,177.612	0.000	275.184	21.94%	32.74%	$0.04	13.83%
NE	603	INL-S	Excluded	Electricity	Megawatt Hour	2011	1	8,644.100	29,493.669	$326.389		83415	2	3,367.245	0.000	221.804	-17.44%	-36.72%	$0.04	-16.42%
NE	603	INL-S	Excluded	Electricity	Megawatt Hour	2003	2	9,539.292	32,548.064	$365.557		83415	2	3,925.672	0.000	258.588			$0.04	
NE	603	INL-S	Excluded	Electricity	Megawatt Hour	2007	2	9,798.200	33,431.458	$212.142		83415	2	4,032.220	0.000	265.606	2.64%	-72.32%	$0.02	-76.99%
NE	603	INL-S	Excluded	Electricity	Megawatt Hour	2008	2	8,076.200	27,555.994	$245.470		83415	2	3,323.571	0.000	218.927	-21.32%	13.58%	$0.03	28.77%
NE	603	INL-S	Excluded	Electricity	Megawatt Hour	2009	2	9,344.100	31,882.069	$342.244		83415	2	3,845.346	0.000	253.297	13.57%	28.28%	$0.04	17.02%
NE	603	INL-S	Excluded	Electricity	Megawatt Hour	2010	2	9,728.600	33,193.983	$422.460		83415	2	4,003.578	0.000	263.720	3.95%	18.99%	$0.04	15.65%
NE	603	INL-S	Excluded	Electricity	Megawatt Hour	2011	2	3,306.100	11,280.413	$168.543		83415	2	1,287.867	0.000	84.833	-194.26%	-150.65%	$0.05	14.82%
NE	603	INL-S	Excluded	Electricity	Megawatt Hour	2003	3	8,110.605	27,673.384	$310.808		83415	2	3,337.730	0.000	219.860			$0.04	
NE	603	INL-S	Excluded	Electricity	Megawatt Hour	2007	3	4,980.100	16,992.101	$138.924		83415	2	2,049.444	0.000	134.999	-62.86%	-123.73%	$0.03	-37.37%
NE	603	INL-S	Excluded	Electricity	Megawatt Hour	2008	3	7,349.900	25,077.859	$258.601		83415	2	3,024.679	0.000	199.239	32.24%	46.28%	$0.04	20.72%
NE	603	INL-S	Excluded	Electricity	Megawatt Hour	2009	3	9,436.100	32,195.973	$369.997		83415	2	3,883.206	0.000	255.791	22.11%	30.11%	$0.04	10.27%
NE	603	INL-S	Excluded	Electricity	Megawatt Hour	2010	3	7,961.700	27,165.320	$355.370		83415	2	3,276.451	0.000	215.823	-18.52%	-4.12%	$0.04	12.15%
NE	603	INL-S	Excluded	Electricity	Megawatt Hour	2011	3	8,808.700	30,055.284	$313.242		83415	2	3,431.363	0.000	226.027	9.62%	-13.45%	$0.04	-25.52%
NE	603	INL-S	Excluded	Electricity	Megawatt Hour	2003	4	7,540.297	25,727.493	$288.953		83415	2	3,103.033	0.000	204.400			$0.04	
NE	603	INL-S	Excluded	Electricity	Megawatt Hour	2007	4	7,499.400	25,587.953	$221.906		83415	2	3,086.203	0.000	203.291	-0.55%	-30.21%	$0.03	-29.51%
NE	603	INL-S	Excluded	Electricity	Megawatt Hour	2008	4	9,090.500	31,016.786	$333.485		83415	2	3,740.983	0.000	246.422	17.50%	33.46%	$0.04	19.34%
NE	603	INL-S	Excluded	Electricity	Megawatt Hour	2009	4	5,497.600	18,757.811	$293.061		83415	2	2,262.409	0.000	149.027	-65.35%	-13.79%	$0.05	31.18%
NE	603	INL-S	Excluded	Electricity	Megawatt Hour	2010	4	10,222.800	34,880.194	$377.256		83415	2	4,206.954	0.000	277.116	46.22%	22.32%	$0.04	-44.45%
NE	603	INL-S	Excluded	Electricity	Megawatt Hour	2011	4	7,781.200	26,549.454	$306.994		83415	2	3,031.108	0.000	199.662	-31.38%	-22.89%	$0.04	6.46%
NE	603	INL-S	Excluded	Square Feet	1,000 Square Feet	2003	4	147.325				83415	NA	0.000	0.000	0.000			$0.00	
NE	603	INL-S	Excluded	Square Feet	1,000 Square Feet	2006	4	147.325				83415	NA	0.000	0.000	0.000	0.00%	#DIV/0!	$0.00	#DIV/0!
NE	603	INL-S	Excluded	Square Feet	1,000 Square Feet	2007	4	147.517				83415	NA	0.000	0.000	0.000	0.13%	#DIV/0!	$0.00	#DIV/0!
NE	603	INL-S	Excluded	Square Feet	1,000 Square Feet	2008	4	147.325				83415	NA	0.000	0.000	0.000	-0.13%	#DIV/0!	$0.00	#DIV/0!
NE	603	INL-S	Excluded	Square Feet	1,000 Square Feet	2009	4	147.325				83415	NA	0.000	0.000	0.000	0.00%	#DIV/0!	$0.00	#DIV/0!
NE	603	INL-S	Excluded	Square Feet	1,000 Square Feet	2010	4	147.325				83415	NA	0.000	0.000	0.000	0.00%	#DIV/0!	$0.00	#DIV/0!
NE	603	INL-S	Excluded	Square Feet	1,000 Square Feet	2011	4	147.325				83415	NA	0.000	0.000	0.000	0.00%	#DIV/0!	$0.00	#DIV/0!
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2003	1	14.838	2,047.644	$21.429		83415	1	151.954	0.000	0.000			$1.44	
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2004	1	4.921	679.098	$7.529		83415	1	50.395	0.000	0.000	-201.52%	-184.62%	$1.53	5.61%
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2005	1	18.820	2,597.160	$26.707		83415	1	192.733	0.000	0.000	73.85%	71.81%	$1.42	-7.81%
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2006	1	21.693	2,993.634	$44.716		83415	1	222.155	0.000	0.000	13.24%	40.27%	$2.06	31.16%
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2007	1	37.434	5,165.892	$101.346		83415	1	383.356	0.000	0.000	42.05%	55.88%	$2.71	23.86%
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2008	1	65.602	9,053.076	$225.866		83415	1	671.820	0.000	0.000	42.94%	55.13%	$3.44	21.37%
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2009	1	53.973	7,448.274	$158.650		83415	1	552.729	0.000	0.000	-21.55%	-42.37%	$2.94	-17.13%
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2010	1	53.914	7,440.132	$142.758		83415	1	552.125	0.000	0.000	-0.11%	-11.13%	$2.65	-11.01%
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2011	1	58.724	8,103.912	$226.043		83415	1	601.383	0.000	0.000	8.19%	36.84%	$3.85	31.21%

Energy Consumption and Cost												Estimated GHG Emissions					Quality Control			
PSO	Site #	Site	Category	Subcategory	Usage Unit	FY	QTR	Usage Amount	BTU x 10^6	Cost (1,000 $)	Additional Information	Main Site Zip Code	Scope	Anthropogenic $MtCO_2e$	Biogenic $MtCO_2e$	Scope 3 - T&D Loss, $MtCO_2e$	Usage % Change	Cost % Change	$/Unit	$/Unit % Change
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2003	2	3.178	438.564	$5.103		83415	1	32.545	0.000	0.000			$1.61	
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2004	2	10.617	1,465.146	$17.008		83415	1	108.727	0.000	0.000	70.07%	70.00%	$1.60	-0.24%
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2005	2	18.327	2,529.126	$25.427		83415	1	187.684	0.000	0.000	42.07%	33.11%	$1.39	-15.46%
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2006	2	41.377	5,710.026	$79.407		83415	1	423.735	0.000	0.000	55.71%	67.98%	$1.92	27.71%
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2007	2	41.175	5,682.150	$81.837		83415	1	421.667	0.000	0.000	-0.49%	2.97%	$1.99	3.44%
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2008	2	69.785	9,630.330	$240.116		83415	1	714.657	0.000	0.000	41.00%	65.92%	$3.44	42.24%
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2009	2	60.901	8,404.338	$133.332		83415	1	623.678	0.000	0.000	-14.59%	-80.09%	$2.19	-57.16%
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2010	2	62.970	8,689.860	$175.713		83415	1	644.866	0.000	0.000	3.29%	24.12%	$2.79	21.54%
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2011	2	46.397	6,402.786	$171.165		83415	1	475.144	0.000	0.000	-35.72%	-2.66%	$3.69	24.36%
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2003	3	6.086	839.868	$5.995		83415	1	62.326	0.000	0.000			$0.99	
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2004	3	18.662	2,575.356	$34.331		83415	1	191.115	0.000	0.000	67.39%	82.54%	$1.84	46.45%
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2005	3	37.050	5,112.900	$67.373		83415	1	379.423	0.000	0.000	49.63%	49.04%	$1.82	-1.17%
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2006	3	36.384	5,020.992	$80.842		83415	1	372.603	0.000	0.000	-1.83%	16.66%	$2.22	18.16%
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2007	3	40.381	5,572.578	$112.743		83415	1	413.535	0.000	0.000	9.90%	28.30%	$2.79	20.42%
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2008	3	47.580	6,566.040	$200.026		83415	1	487.259	0.000	0.000	15.13%	43.64%	$4.20	33.59%
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2009	3	55.260	7,625.880	$120.476		83415	1	565.909	0.000	0.000	13.90%	-66.03%	$2.18	-92.83%
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2010	3	33.385	4,607.130	$88.470		83415	1	341.891	0.000	0.000	-65.52%	-36.18%	$2.65	17.73%
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2011	3	39.784	5,490.192	$155.308		83415	1	407.422	0.000	0.000	16.08%	43.04%	$3.90	32.12%
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2003	4	0.990	136.620	$0.146		83415	1	10.138	0.000	0.000			$0.15	
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2004	4	14.689	2,027.082	$20.219		83415	1	150.428	0.000	0.000	93.26%	99.28%	$1.38	89.29%
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2005	4	21.408	2,954.304	$49.066		83415	1	219.236	0.000	0.000	31.39%	58.79%	$2.29	39.94%
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2006	4	33.283	4,593.054	$72.890		83415	1	340.846	0.000	0.000	35.68%	32.68%	$2.19	-4.65%
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2007	4	51.586	7,118.868	$149.315		83415	1	528.284	0.000	0.000	35.48%	51.18%	$2.89	24.34%
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2008	4	49.272	6,799.536	$207.628		83415	1	504.587	0.000	0.000	-4.70%	28.09%	$4.21	31.31%
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2009	4	55.203	7,618.014	$137.478		83415	1	565.325	0.000	0.000	10.74%	-51.03%	$2.49	-69.21%
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2010	4	46.891	6,470.958	$136.008		83415	1	480.203	0.000	0.000	-17.73%	-1.08%	$2.90	14.14%
NE	603	INL-S	Vehicles and Equipment	Diesel	1,000 Gallons	2011	4	65.828	9,084.264	$249.164		83415	1	674.134	0.000	0.000	28.77%	45.41%	$3.79	23.37%
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2003	1	1.277	159.625	$1.740		83415	1	11.249	0.000	0.000			$1.36	
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2004	1	0.865	108.125	$4.921		83415	1	7.619	0.000	0.000	-47.63%	64.64%	$5.69	76.05%
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2005	1	1.041	130.125	$1.907		83415	1	9.170	0.000	0.000	16.91%	-158.05%	$1.83	-210.55%
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2006	1	5.520	690.000	$11.692		83415	1	48.624	0.000	0.000	81.14%	83.69%	$2.12	13.51%
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2007	1	5.289	661.125	$11.805		83415	1	46.589	0.000	0.000	-4.37%	0.96%	$2.23	5.10%
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2008	1	7.690	961.250	$21.576		83415	1	67.738	0.000	0.000	31.22%	45.29%	$2.81	20.45%
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2009	1	6.893	861.625	$14.349		83415	1	60.718	0.000	0.000	-11.56%	-50.37%	$2.08	-34.78%
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2010	1	5.542	692.750	$13.507		83415	1	48.817	0.000	0.000	-24.38%	-6.23%	$2.44	14.59%
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2011	1	5.169	646.125	$13.693		83415	1	45.532	0.000	0.000	-7.22%	1.36%	$2.65	8.00%
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2003	2	0.682	85.250	$1.029		83415	1	6.007	0.000	0.000			$1.51	
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2004	2	1.174	146.750	$1.890		83415	1	10.341	0.000	0.000	41.91%	45.56%	$1.61	6.28%
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2005	2	4.256	532.000	$7.545		83415	1	37.490	0.000	0.000	72.42%	74.95%	$1.77	9.19%
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2006	2	3.318	414.750	$7.135		83415	1	29.227	0.000	0.000	-28.27%	-5.75%	$2.15	17.56%
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2007	2	4.161	520.125	$8.942		83415	1	36.653	0.000	0.000	20.26%	20.21%	$2.15	-0.06%

Energy Consumption and Cost												Estimated GHG Emissions					Quality Control			
PSO	Site #	Site	Category	Subcategory	Usage Unit	FY	QTR	Usage Amount	BTU x 10^6	Cost (1,000 $)	Additional Information	Main Site Zip Code	Scope	Anthropogenic $MtCO_2e$	Biogenic $MtCO_2e$	Scope 3 - T&D Loss, $MtCO_2e$	Usage % Change	Cost % Change	$/Unit	$/Unit % Change
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2008	2	9.315	1,164.375	$27.015		83415	1	82.052	0.000	0.000	55.33%	66.90%	$2.90	25.90%
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2009	2	7.081	885.125	$11.111		83415	1	62.374	0.000	0.000	-31.55%	-143.14%	$1.57	-84.83%
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2010	2	7.699	962.375	$20.211		83415	1	67.818	0.000	0.000	8.03%	45.02%	$2.63	40.23%
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2011	2	5.646	705.750	$17.088		83415	1	49.733	0.000	0.000	-36.36%	-18.28%	$3.03	13.26%
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2003	3	1.219	152.375	$1.752		83415	1	10.738	0.000	0.000			$1.44	
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2004	3	1.119	139.875	$2.073		83415	1	9.857	0.000	0.000	-8.94%	15.48%	$1.85	22.42%
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2005	3	4.713	589.125	$10.108		83415	1	41.515	0.000	0.000	76.26%	79.49%	$2.14	13.62%
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2006	3	5.488	686.000	$14.307		83415	1	48.342	0.000	0.000	14.12%	29.35%	$2.61	17.73%
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2007	3	5.559	694.875	$16.342		83415	1	48.967	0.000	0.000	1.28%	12.45%	$2.94	11.32%
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2008	3	5.549	693.625	$19.953		83415	1	48.879	0.000	0.000	-0.18%	18.10%	$3.60	18.24%
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2009	3	7.218	902.250	$15.423		83415	1	63.581	0.000	0.000	23.12%	-29.37%	$2.14	-68.28%
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2010	3	6.708	838.500	$19.169		83415	1	59.088	0.000	0.000	-7.60%	19.54%	$2.86	25.23%
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2011	3	5.923	740.375	$21.194		83415	1	52.173	0.000	0.000	-13.25%	9.55%	$3.58	20.14%
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2003	4	0.000	0.000	$0.000		83415	1	0.000	0.000	0.000			#DIV/0!	
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2004	4	1.587	198.375	$2.845		83415	1	13.979	0.000	0.000	100.00%	100.00%	$1.79	#DIV/0!
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2005	4	3.948	493.500	$9.432		83415	1	34.776	0.000	0.000	59.80%	69.84%	$2.39	24.96%
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2006	4	5.494	686.750	$14.760		83415	1	48.395	0.000	0.000	28.14%	36.10%	$2.69	11.07%
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2007	4	7.106	888.250	$19.731		83415	1	62.594	0.000	0.000	22.69%	25.19%	$2.78	3.24%
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2008	4	7.743	967.875	$29.306		83415	1	68.205	0.000	0.000	8.23%	32.67%	$3.78	26.64%
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2009	4	9.148	1,143.500	$22.388		83415	1	80.581	0.000	0.000	15.36%	-30.90%	$2.45	-54.65%
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2010	4	9.072	1,134.000	$23.908		83415	1	79.912	0.000	0.000	-0.84%	6.36%	$2.64	7.14%
NE	603	INL-S	Vehicles and Equipment	Gasoline	1,000 Gallons	2011	4	6.529	816.125	$23.177		83415	1	57.512	0.000	0.000	-38.95%	-3.15%	$3.55	25.76%
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2003	1	0.232	21.344	$0.205		83415	1	1.350	0.000	0.000			$0.88	
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2004	1	0.568	52.256	$0.545		83415	1	3.304	0.000	0.000	59.15%	62.39%	$0.96	7.91%
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2005	1	0.216	19.872	$0.254		83415	1	1.256	0.000	0.000	-162.96%	-114.57%	$1.18	18.40%
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2006	1	0.309	28.428	$0.449		83415	1	1.797	0.000	0.000	30.10%	43.43%	$1.45	19.07%
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2007	1	0.000	0.000	$0.000		83415	1	0.000	0.000	0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2008	1	0.184	16.928	$0.453		83415	1	1.070	0.000	0.000	100.00%	100.00%	$2.46	#DIV/0!
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2009	1	0.289	26.588	$0.658		83415	1	1.681	0.000	0.000	36.33%	31.16%	$2.28	-8.13%
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2010	1	0.173	15.916	$0.283		83415	1	1.006	0.000	0.000	-67.05%	-132.51%	$1.64	-39.18%
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2011	1	0.122	11.224	$0.309		83415	1	0.710	0.000	0.000	-41.80%	8.41%	$2.53	35.41%
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2003	2	0.178	16.376	$0.190		83415	1	1.035	0.000	0.000			$1.07	
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2004	2	0.453	41.676	$1.890		83415	1	2.635	0.000	0.000	60.71%	89.95%	$4.17	74.42%
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2005	2	0.254	23.368	$0.037		83415	1	1.478	0.000	0.000	-78.35%	-5008.11%	$0.15	-2764.15%
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2006	2	0.130	11.960	$0.200		83415	1	0.756	0.000	0.000	-95.38%	81.50%	$1.54	90.53%
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2007	2	1.574	144.808	$3.563		83415	1	9.156	0.000	0.000	91.74%	94.39%	$2.26	32.04%
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2008	2	0.520	47.840	$1.216		83415	1	3.025	0.000	0.000	-202.69%	-193.01%	$2.34	3.20%
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2009	2	0.188	17.296	$0.399		83415	1	1.094	0.000	0.000	-176.60%	-204.76%	$2.12	-10.18%
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2010	2	0.145	13.340	$0.299		83415	1	0.843	0.000	0.000	-29.66%	-33.44%	$2.06	-2.92%
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2011	2	0.176	16.192	$0.509		83415	1	1.024	0.000	0.000	17.61%	41.26%	$2.89	28.70%
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2003	3	0.331	30.452	$0.354		83415	1	1.925	0.000	0.000			$1.07	

Energy Consumption and Cost												Estimated GHG Emissions					Quality Control			
PSO	Site #	Site	Category	Subcategory	Usage Unit	FY	QTR	Usage Amount	BTU x 10^6	Cost (1,000 $)	Additional Information	Main Site Zip Code	Scope	Anthropogenic $MtCO_2e$	Biogenic $MtCO_2e$	Scope 3 - T&D Loss, $MtCO_2e$	Usage % Change	Cost % Change	$/Unit	$/Unit % Change
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2004	3	0.220	20.240	$0.000		83415	1	1.280	0.000	0.000	-50.45%	#DIV/0!	$0.00	#DIV/0!
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2005	3	0.339	31.188	$0.385		83415	1	1.972	0.000	0.000	35.10%	100.00%	$1.14	100.00%
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2006	3	0.250	23.000	$0.382		83415	1	1.454	0.000	0.000	-35.60%	-0.79%	$1.53	25.67%
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2007	3	0.577	53.084	$1.137		83415	1	3.356	0.000	0.000	56.67%	66.40%	$1.97	22.46%
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2008	3	1.911	175.812	$4.416		83415	1	11.116	0.000	0.000	69.81%	74.25%	$2.31	14.73%
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2009	3	0.152	13.984	$0.284		83415	1	0.884	0.000	0.000	-1157.24%	-1454.93%	$1.87	-23.68%
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2010	3	0.130	11.960	$0.258		83415	1	0.756	0.000	0.000	-16.92%	-10.08%	$1.98	5.85%
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2011	3	0.000	0.000	$0.000		83415	1	0.000	0.000	0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2003	4	0.000	0.000	$0.000		83415	1	0.000	0.000	0.000			#DIV/0!	
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2004	4	0.403	37.076	$0.387		83415	1	2.344	0.000	0.000	100.00%	100.00%	$0.96	#DIV/0!
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2005	4	0.191	17.572	$0.220		83415	1	1.111	0.000	0.000	-110.99%	-75.91%	$1.15	16.63%
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2006	4	0.228	20.976	$0.335		83415	1	1.326	0.000	0.000	16.23%	34.33%	$1.47	21.61%
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2007	4	0.031	2.852	$0.069		83415	1	0.180	0.000	0.000	-635.48%	-385.51%	$2.23	33.99%
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2008	4	0.489	44.988	$1.261		83415	1	2.845	0.000	0.000	93.66%	94.53%	$2.58	13.69%
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2009	4	0.104	9.568	$0.197		83415	1	0.605	0.000	0.000	-370.19%	-540.10%	$1.89	-36.14%
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2010	4	0.110	10.120	$0.266		83415	1	0.640	0.000	0.000	5.45%	25.94%	$2.42	21.67%
NE	603	INL-S	Vehicles and Equipment	LPG	1,000 Gallons	2011	4	0.000	0.000	$0.000		83415	1	0.000	0.000	0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
NE	603	INL-S	Vehicles and Equipment	Other	Billion BTUs	2006	3	36.384	36,384.000	$80.842		83415	1	0.000	0.000	0.000	100.00%	100.00%	$2.22	#DIV/0!
NE	603	INL-S	Vehicles and Equipment	Other	Billion BTUs	2003	4	0.000	0.000	$0.000		83415	1	0.000	0.000	0.000			#DIV/0!	
NE	603	INL-S	Vehicles and Equipment	Other	Billion BTUs	2004	4	0.000	0.000	$0.000		83415	1	0.000	0.000	0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
NE	603	INL-S	Water	Aquifer Replenish	Million Gallons	2007	1	0.000		$0.000		83415	NA	0.000	0.000	0.000			#DIV/0!	
NE	603	INL-S	Water	Aquifer Replenish	Million Gallons	2008	1	0.000		$0.000		83415	NA	0.000	0.000	0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
NE	603	INL-S	Water	Aquifer Replenish	Million Gallons	2009	1	0.000		$0.000		83415	NA	0.000	0.000	0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
NE	603	INL-S	Water	Aquifer Replenish	Million Gallons	2010	1	0.000		$0.000		83415	NA	0.000	0.000	0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
NE	603	INL-S	Water	Aquifer Replenish	Million Gallons	2011	1	0.000		$0.000		83415	NA	0.000	0.000	0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
NE	603	INL-S	Water	Aquifer Replenish	Million Gallons	2007	2	0.000		$0.000		83415	NA	0.000	0.000	0.000			#DIV/0!	
NE	603	INL-S	Water	Aquifer Replenish	Million Gallons	2008	2	0.000		$0.000		83415	NA	0.000	0.000	0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
NE	603	INL-S	Water	Aquifer Replenish	Million Gallons	2009	2	0.000		$0.000		83415	NA	0.000	0.000	0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
NE	603	INL-S	Water	Aquifer Replenish	Million Gallons	2010	2	0.000		$0.000		83415	NA	0.000	0.000	0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
NE	603	INL-S	Water	Aquifer Replenish	Million Gallons	2011	2	0.000		$0.000		83415	NA	0.000	0.000	0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
NE	603	INL-S	Water	Aquifer Replenish	Million Gallons	2007	3	0.000		$0.000		83415	NA	0.000	0.000	0.000			#DIV/0!	
NE	603	INL-S	Water	Aquifer Replenish	Million Gallons	2008	3	0.000		$0.000		83415	NA	0.000	0.000	0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
NE	603	INL-S	Water	Aquifer Replenish	Million Gallons	2009	3	0.000		$0.000		83415	NA	0.000	0.000	0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
NE	603	INL-S	Water	Aquifer Replenish	Million Gallons	2010	3	0.000		$0.000		83415	NA	0.000	0.000	0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
NE	603	INL-S	Water	Aquifer Replenish	Million Gallons	2011	3	0.000		$0.000		83415	NA	0.000	0.000	0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
NE	603	INL-S	Water	Aquifer Replenish	Million Gallons	2007	4	0.000		$0.000		83415	NA	0.000	0.000	0.000			#DIV/0!	
NE	603	INL-S	Water	Aquifer Replenish	Million Gallons	2008	4	0.000		$0.000		83415	NA	0.000	0.000	0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
NE	603	INL-S	Water	Aquifer Replenish	Million Gallons	2009	4	0.000		$0.000		83415	NA	0.000	0.000	0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
NE	603	INL-S	Water	Aquifer Replenish	Million Gallons	2010	4	0.000		$0.000		83415	NA	0.000	0.000	0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
NE	603	INL-S	Water	Aquifer Replenish	Million Gallons	2011	4	0.000		$0.000		83415	NA	0.000	0.000	0.000	#DIV/0!	#DIV/0!	#DIV/0!	#DIV/0!
NE	603	INL-S	Water	Potable	Million Gallons	2007	1	246.441		$128.689		83415	NA	0.000	0.000	0.000			$0.52	

Energy Consumption and Cost												Estimated GHG Emissions					Quality Control			
PSO	Site #	Site	Category	Subcategory	Usage Unit	FY	QTR	Usage Amount	BTU x 10^6	Cost (1,000 $)	Additional Information	Main Site Zip Code	Scope	Anthropogenic $MtCO_2e$	Biogenic $MtCO_2e$	Scope 3 - T&D Loss, $MtCO_2e$	Usage % Change	Cost % Change	$/Unit	$/Unit % Change
NE	603	INL-S	Water	Potable	Million Gallons	2009	1	203.833		$124.125		83415	NA	0.000	0.000	0.000	-20.90%	-3.68%	$0.61	14.25%
NE	603	INL-S	Water	Potable	Million Gallons	2010	1	206.173		$177.699		83415	NA	0.000	0.000	0.000	1.13%	30.15%	$0.86	29.35%
NE	603	INL-S	Water	Potable	Million Gallons	2011	1	179.627		$206.020		83415	NA	0.000	0.000	0.000	-14.78%	13.75%	$1.15	24.85%
NE	603	INL-S	Water	Potable	Million Gallons	2007	2	230.427		$129.714		83415	NA	0.000	0.000	0.000	10.53%	-36.99%	$0.56	-53.11%
NE	603	INL-S	Water	Potable	Million Gallons	2009	2	197.093		$121.684		83415	NA	0.000	0.000	0.000	8.86%	-69.31%	$0.62	-85.77%
NE	603	INL-S	Water	Potable	Million Gallons	2010	2	179.782		$154.952		83415	NA	0.000	0.000	0.000	-9.63%	21.47%	$0.86	28.37%
NE	603	INL-S	Water	Potable	Million Gallons	2011	2	149.791		$129.103		83415	NA	0.000	0.000	0.000	-20.02%	-20.02%	$0.86	0.00%
NE	603	INL-S	Water	Potable	Million Gallons	2007	3	247.955		$121.977		83415	NA	0.000	0.000	0.000	27.49%	-27.03%	$0.49	-75.20%
NE	603	INL-S	Water	Potable	Million Gallons	2009	3	241.543		$143.729		83415	NA	0.000	0.000	0.000	37.99%	10.18%	$0.60	-44.84%
NE	603	INL-S	Water	Potable	Million Gallons	2010	3	193.682		$139.516		83415	NA	0.000	0.000	0.000	-24.71%	-3.02%	$0.72	17.39%
NE	603	INL-S	Water	Potable	Million Gallons	2011	3	212.099		$223.496		83415	NA	0.000	0.000	0.000	8.68%	37.58%	$1.05	31.64%
NE	603	INL-S	Water	Potable	Million Gallons	2007	4	280.096		$132.582		83415	NA	0.000	0.000	0.000			$0.47	
NE	603	INL-S	Water	Potable	Million Gallons	2009	4	272.818		$159.481		83415	NA	0.000	0.000	0.000	-2.67%	16.87%	$0.58	19.03%
NE	603	INL-S	Water	Potable	Million Gallons	2010	4	222.763		$200.356		83415	NA	0.000	0.000	0.000	-22.47%	20.40%	$0.90	35.01%
NE	603	INL-S	Water	Potable	Million Gallons	2011	4	311.776		$196.563		83415	NA	0.000	0.000	0.000	28.55%	-1.93%	$0.63	-42.66%

List of Operating On-Site Renewable Energy Systems

Key:	
Light Green	Pre-populated data by SPO to be reviewed and updated with changes highlighted in blue
Orange	Fields that need to reviewed and updated with changes highlighted in blue
Yellow	Optional data field to be completed, if applicable and available.
Red	Calculated fields. No action required

Requirement(s): EPAct 2005, DOE O 436.1, E.O. 13423, E.O. 13514

Instructions: Update the list of currently operating on-site renewable energy systems and address all cells highlighted in orange. For additional guidance see comments in row 9 of each column and Appendix C of the Site Sustainability Plan Guidance. Purchased renewable energy should be listed in the "Purchased Renewables" worksheet. Newly proposed or potential on-site renewable energy systems should be listed in the "Conservation & RE Measures" worksheet. Edited and new data cells should be highlighted in blue.

Source: Site/Lab FY 2011 CEDR (formerly known as the FY 2010 CEDR)

System Information														
PSO	Site #	Site	System Description/Name	Location Description (i.e., building name, etc.)	System Location (Zip Code)	Year Installed (YYYY)	End Use Category	Siting Status - On Federal or Indian Land?	% of RECs Retained	On or Off Grid?	Does the site own the T&D system that delivers the electricity?	Scope 1 or 2 System?	Generator Nameplate Capacity (MW)
NE	602	INL-I	Solar transpired wall	IF 663, Records Storage Facility, Idaho Falls	83415	2001	Goal Subject	On Federal Land, On User Site	100%	Non-Electric	No Electricity is Delivered (Non-Electric)	Scope 1	
NE	603	INL-S	Solar transpired wall	MFC-774, ZPPR Support Wing, INL Desert Site MFC Area.	83415	2010	Goal Subject	On Federal Land, On User Site	100%	Non-Electric	No Electricity is Delivered (Non-Electric)	Scope 1	
NE	603	INL-S	Solar transpired wall	MFC-682, MFC Machine Shop, INL Desert Site MFC Area.	83415	2010	Goal Subject	On Federal Land, On User Site	100%	Non-Electric	No Electricity is Delivered (Non-Electric)	Scope 1	

	Production/Consumption Information					Cost	Biomass Fuel Information				
System Type/Category	Estimated Annual Renewable Electricity Output (MWh/Yr)	Estimated Annual Renewable Electricity Consumed (MWh/Yr)	Estimated Annual GHG Emissions Avoided ($MtCO_2e$/Yr)	Estimated Annual Renewable Thermal Output (10^6 BTU/Yr)	Estimated Annual Renewable Thermal Consumed (10^6 BTU/Yr)	Implementation Cost ($)	Principal Biomass Fuel Type	Principal Biomass Fuel Use (10^6 BTU/Yr)	Secondary/ Blend Fuel Type	Secondary/ Blend Fuel Use (10^6 BTU/Yr)	Fuel Costs ($)
Solar Thermal (including water and space conditioning)	0.000	0.000	0.000	102.400	102.400						
Solar Thermal (including water and space conditioning)	**0.000**	**0.000**	**0.000**	**259.8**	**259.8**						
Solar Thermal (including water and space conditioning)	**0.000**	**0.000**	**0.000**	**239.9**	**239.9**						

List of Purchased Renewable Energy

Key:	
Light Green	Pre-populated data by SPO to be reviewed and updated with changes highlighted in blue
Orange	Fields that need to reviewed and updated with changes highlighted in blue
Yellow	Optional data fields to be completed if applicable and available
Red	Calculated fields. No action required.

Requirement(s): EPAct 2005, DOE O 436.1, E.O. 13423, E.O. 13514

Instructions: Update the list of purchased renewable energy resources and address all cells highlighted in orange. For additional guidance see comments in row 9 of each column and Appendix C of the Site Sustainability Plan Guidance. On-site operational renewable energy should be listed in the "Operating On-Site Renewables" worksheet. Newly proposed or potential on-site renewable energy systems should be listed in the "Conservation & RE Measures" worksheet. Edited and new data cells should be highlighted in light blue.

Source: Site/Lab FY 2011 CEDR (formerly known as the FY 2010 CEDR)

Purchase Information											Consumption Information			Cost		Biomass Fuel Information				
PSO	Site #	Site	Type of Renewable Energy Purchased	System Type/Category	Source Location (Zip Code)	Service Year (YYYY)	Purchase Year (FY)	End Use Category	Purchase Term	Siting Status: On Federal or Indian Land?	Total Renewable Electricity Purchased (MWh/Yr)	Estimated Annual GHG Emissions Avoided ($MtCO_2e$/Yr)	Total Renewable Thermal Purchased (10^6 BTU/Yr)	Annual Cost ($)	Incremental Cost ($)	Principal Biomass Fuel Type	Principal Biomass Fuel Use (10^6 BTU/Yr)	Secondary/ Blend Fuel Type	Secondary/ Blend Fuel Use (10^6 BTU/Yr)	Fuel Costs ($)
NE	602/603	INL	Renewable Energy Credit	Wind	58579		2011	Goal Subject	Short-Term (≤ 10)		16,900.000	15,331.747		$ 14,365.00						
NE	602/603	INL	Renewable Energy Credit	Wind	99999		2010	Goal Subject	Short-Term (≤ 10)		15,915.520	11,480.065		$ 16,393.00						
NE	602/603	INL	Renewable Energy Credit	Other	99999		2009	Goal Subject	Short-Term (≤ 10)		6,920.000	4,991.483		$ 6,920.00						
NE	602/603	INL	Renewable Energy Credit	Wind	76951		2008	Goal Subject	Short-Term (≤ 10)		6,600.000	3,356.081		$ 18,678.00						
NE	602/603	INL	Renewable Energy Credit	Biomass	31323		2007	Goal Subject	Short-Term (≤ 10)		6,800.000	5,262.486		$ 19,924.00						

Conservation and Renewable Energy Measures List

Requirement(s): EISA 2007, DOE O436.1

Instructions: Update the list of conservation and renewable energy measures/projects and address all cells highlighted in orange. For additional guidance see comments in row 10/11 of each column and Appendix C of the Site Sustainability Plan Guidance. On-site operational renewable energy should be listed in the "Operating On-Site Renewables" worksheet. Edited and new data cells should be highlighted in light blue.
Special Note: Information provided in this table will be used to report on EISA Section 432. The next upload for EISA Section 432 is December 15 on implemented measures. Be sure to update all fields.

Source: Site/Lab June 2011 EISA Sec 432 report

Key:	
Light Green	Pre-populated data by SPO to be reviewed and updated with changes highlighted in blue
Orange	Fields that need to reviewed and updated with changes highlighted in blue
Yellow	Optional data field to be completed, if applicable and available
Red	Calculated fields. No action required.

Measure/Project Description																Funding Overview			
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)	(t)
PSO	Site #	Site	HQ Measure #	Has this measure been included in an official DOE budget requests? If yes, provide Project/Measure #	Site Project #	Conservation Measure(s) Status	Conservation Measure(s) Type	Conservation Measure(s) Name or Description	Measure(s) Location (Zip Code)	End Use Category	Do you need technical assistance?	Does the measure contribute to HPSB requirements?	If yes to HPSB, provide FIMS Property Sequence #	Does the measure contribute to the reduction of deferred maintenance?	Is this effort/measure beyond typical maintenance and improvement to meet a goal?	Funding Source/Type (Actual or Potential)	Percent (%) of funds obligated (if applicable and for measures not yet operational)	Measure Completion Year (Anticipated or Actual - YYYY)	Estimated Service Life
NE	603	INL-S	NE-0603-0005		ECM-001	Operational	Lighting Improvements	INL ESPC Project #2 MFC - Lighting Improvements	83415	Goal Subject - Covered	No	Yes	INL MFC	Yes	Yes	ESPC	100%	2010	25.0
NE	603	INL-S	NE-0603-0006		ECM-002	Operational	Boiler Plant Improvements	INL ESPC Project #2 MFC - Boiler Plant Improvements	83415	Goal Subject - Covered	No	Yes	INL MFC	Yes	Yes	ESPC	100%	2011	25.0
NE	603	INL-S	NE-0603-0007		ECM-003	Operational	Energy Related Process	INL ESPC Project #2 MFC - Compressed Air Improvements	83415	Goal Subject - Covered	No	Yes	INL MFC	Yes	Yes	ESPC	100%	2011	25.0
NE	603	INL-S	NE-0603-0008		ECM-004	Operational	Energy Related Process	INL ESPC Project #2 MFC - Digital EMS Controls	83415	Goal Subject - Covered	No	Yes	INL MFC	No	Yes	ESPC	100%	2011	25.0
NE	603	INL-S	NE-0603-0009		ECM-005	Operational	Solar Thermal (including water	INL ESPC Project #2 MFC - Solar Thermal Transpired Walls (2)	83415	Goal Subject - Covered	No	Yes	INL MFC	No	Yes	ESPC	100%	2011	25.0
NE	603	INL-S	NE-0603-0016		BEA	Operational	Advanced Metering Systems	Metering for HPSB Candidates	83415	Goal Subject - Covered	No	Yes	21 Facilities in (c	No	Yes	M&R Direct	100%	2011	25.0
NE	603	INL-S	NE-0603-0002-A		BEA	Operational	Water and Sewer Conservation Systems	Water Leak Repairs - ATR Complex	83415	Goal Subject - Covered	No	No		Yes	No	M&R Direct	100%	2009	25.0
NE	603	INL-S	EM-0603-0013		CWI	Operational	Water and Sewer Conservation	INTEC CPP-606 Water and Sewer Conservation Systems	83415	Goal Subject - Covered	No	No	INL INTEC	Yes	Yes	Other	100%	2010	25.0
NE	602	INL-I		No	SIF FY-12 #1	Awarded/Approved	Other	INL Applied R&D for Project Development / Sustainability	83415	Goal Subject - Covered	No	Yes	INL	No	Yes	M&R Indirect	100%	2012	N/A
NE	602	INL-I		No	SIF FY-12 #2	Awarded/Approved	Chiller Plant Improvements	INL WCB Chiller Replacements	83415	Goal Subject - Covered	No	Yes	IF-616/617	Yes	Yes	M&R Indirect	100%	2012	25.0
NE	602	INL-I		No	SIF FY-12 #3	Awarded/Approved	Heating, Ventilating, and Air	INL EROB CO2 Controls	83415	Goal Subject - Covered	No	Yes	IF-654	No	Yes	M&R Indirect	100%	2012	20.0
NE	602	INL-I		No	SIF FY-12 #4	Awarded/Approved	Water and Sewer Conservation	INL WCB Water Fixture Replacements	83415	Goal Subject - Covered	No	Yes	IF-616	No	No	M&R Indirect	100%	2012	30.0
NE	602	INL-I		No	SIF FY-12 #5	Awarded/Approved	Water and Sewer Conservation	INL IRC (IF-602) Water Fixture Replacements	83415	Goal Subject - Covered	No	Yes	IF-602	No	No	M&R Indirect	100%	2012	30.0
NE	602	INL-I		No	SIF FY-12 #6	Awarded/Approved	Lighting Improvements	INL WCB Light Fixtures	83415	Goal Subject - Covered	No	Yes	IF-616/617	No	No	M&R Indirect	100%	2012	25.0
NE	602	INL-I		No	SIF FY-12 #7	Awarded/Approved	Lighting Improvements	INL WCB Lighting Controls	83415	Goal Subject - Covered	No	Yes	IF-616/617	No	Yes	M&R Indirect	100%	2012	25.0
NE	602	INL-I		No	SIF FY-12 #8	Awarded/Approved	Lighting Improvements	INL WCB External Lighting	83415	Goal Subject - Covered	No	Yes	IF-616/617	No	No	M&R Indirect	100%	2012	25.0
NE	602	INL-I		No	SIF FY-12 #9	Awarded/Approved	Lighting Improvements	INL IF-601 External Lighting	83415	Goal Subject - Covered	No	Yes	IF-601	No	No	M&R Indirect	100%	2012	25.0
NE	602	INL-I		No	SIF FY-12 #10	Awarded/Approved	Electric Motors and Drives	INL IRC Motors/Controls	83415	Goal Subject - Covered	No	Yes	IF-603	Yes	Yes	M&R Indirect	100%	2012	25.0
NE	603	INL-S	NE-0603-0014		BEA	Verified	Other	INL ESPC Project #3 CFA, ATR Complex and SMC	83415	Goal Subject - Covered	No	Yes	INL CFA, ATR C	Yes	Yes	ESPC	0%	2014	25.0
NE	603	INL-S		No	BEA	Verified	Energy Related Process	ATR Back-Up Generator Set Replacement	83415	Excluded - Covered	No	No		Yes	Yes	ESPC	0%	2014	30.0
NE	603	INL-S	EM-0603-0012		CWI	Verified	Heating, Ventilating, and Air	INTEC CPP-663 HVAC Upgrade	83415	Goal Subject - Covered	No	Yes	INL INTEC	Yes		Other	0%	2011	25.0
EM	603	INL-S		No	AMWTP	Identified	Other	All Process Buildings at RWMC (AMWTP) Shutdown	83415	Goal Subject - Covered	No	No		No	No	Disposition	0%	2018	N/A
EM	603	INL-S		No	CWI	Identified	Other	All Process Buildings at RWMC (CWI) Shutdown	83415	Goal Subject - Covered	No	No		No	No	Disposition	0%	2018	N/A
EM	603	INL-S		No	CWI	Identified	Other	CPP-659 New Waste Calcine Facility/Process Shutdown	83415	Goal Subject - Covered	No	No		No	No	Disposition	0%	2015	N/A
NE	602	INL-I		No	BEA	Identified	Building Automation	BAS System Installation and Programming	83415	Goal Subject - Covered	No	Yes	IF-606	No	Yes	M&R Indirect	0%	2013	25.0
NE	602	INL-I		No	BEA	Identified	Building Automation	BAS System Upgrade and Programming	83415	Goal Subject - Covered	No	Yes	IF-608	No	Yes	M&R Indirect	0%	2013	25.0
NE	603	INL-S		No	BEA	Identified	Heating, Ventilating, and Air Conditioning (HVAC)	Energy and Water Upgrades - Various Facilities (FY 2013)	83415	Goal Subject - Covered	No	Yes	TBD	No	Yes	M&R Indirect	0%	2013	25.0
NE	602	INL-I		No	BEA	Identified	Heating, Ventilating, and Air Conditioning (HVAC)	Energy and Water Upgrades - Various Facilities (FY-2014)	83415	Goal Subject - Covered	No	Yes	TBD	No	Yes	M&R Indirect	0%	2014	25.0
NE	603	INL-S		No	BEA	Identified	Heating, Ventilating, and Air Conditioning (HVAC)	Energy and Water Upgrades - Various Facilities (FY 2015)	83415	Goal Subject - Covered	No	Yes	TBD	No	Yes	M&R Indirect	0%	2015	25.0
NE	603	INL-S	NE-0603-0001		BEA	Identified	Standard Metering Systems	INL Sitewide Electric and Water Meter Installations	83415	Goal Subject - Covered	No	Yes	INL All	No		ESPC	0%	2014	25.0
NE	603	INL-S	NE-0603-0002-B		BEA	Identified	Water and Sewer Conservation Systems	Water Leak Repairs - CFA	83415	Goal Subject - Covered	No	No		Yes		Other	0%	2011	25.0
NE	603	INL-S	NE-0603-0003		BEA	Identified	Wind	INL On-Site Wind Farm Development - Site Development, Electrical Infrastructure, and NEPA Documentation only	83415			No		No		Other	0%	2012	25.0
NE	603	INL-S	NE-0603-0004		BEA	Identified	Solar Photovoltaic	INL On-Site Solar Array Development and Installation	83415			No				Other	0%	2011	25.0

(u)	(v)	(w)	(x)	(y)	(z)	(aa)	(ab)	(ac)	(ad)	(ae)	(af)	(ag)	(ah)	(ai)	(aj)	(ak)	(al)	(am)	(an)	(ao)
	Sustainability Metrics I - Energy and Water																			
	For measures that improve energy efficiency, provide estimated energy saved for each energy type, as applicable. Total billion Btus saved and GHG emissions avoided are calculated. If there are no savings associated with the measure enter "0". If estimated savings are unknown at this time enter "TBD".																			
Estimated Implementation Cost ($)	Estimated Annual Electricity Saved (MWh/Yr)	Estimated Annual Fuel Oil Saved (10^3 Gal/Yr)	Estimated Annual Natural Gas Saved (10^3 Cf/Yr)	Estimated Annual LPG/Propane Saved (10^3 Gal/Yr)	Estimated Annual Coal Saved (Short Ton/Yr)	Estimated Annual Steam Saved (10^9 BTU/Yr)	Estimated Annual Other Saved (10^9 BTU/Yr)	If "Other", what is "Other"?	Estimated Annual Energy Savings (10^9 BTU/Yr)	Estimated Annual GHG Emissions Avoided	Estimated Annual Energy Cost Savings ($/Yr)	Estimated Annual Potable Water Savings (10^3 Gal/Yr)	Estimated Annual ILA (Non-Potable Freshwater) Savings (10^3 Gal/Yr)	Estimated Annual Water Cost Savings ($/Yr)	Estimated Annual Ancillary Cost Savings ($/Yr)	Estimated Annual Cost Savings ($/Yr)	Estimated Annual Renewable Electricity Output (MWh/Yr)	Estimated Annual Renewable Electricity Consumed (MWh/Yr)	Estimated Annual Renewable Thermal Output (10^9 BTU/Yr)	Estimated Annual Renewable Thermal Consumed (10^9 BTU/Yr)
$1,874,000	666.940	0.000	0.000	0.000	0.000	0.000	0.000		2.276	388.849	$42,839	0.000	0.000	$0	$13,974	$56,813	0.000	0.000	0.000	0.000
$22,199,000	0.000	264.706	0.000	0.000	0.000	0.000	0.000		36.529	2,710.807	$1,479,618	3,479.000	0.000	$1,278	$29,994	$1,510,890	0.000	0.000	0.000	0.000
$1,230,000	289.952	0.000	0.000	0.000	0.000	0.000	0.000		0.989	169.052	$8,791	0.000	0.000	$0	$9,071	$17,862	0.000	0.000	0.000	0.000
$7,521,000	3,832.427	0.000	0.000	0.000	0.000	0.000	0.000		13.076	2,234.434	$119,551	0.000	0.000	$0	$0	$119,551	0.000	0.000	0.000	0.000
$757,000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000		0.000	0.000	$0	$0	$12,310	0.000	0.000	0.503	0.503
$200,000	971.400	0.000	0.000	0.000	0.000	0.000	0.000		3.314	566.359	$34,000	0.000	0.000	$0	$0	$34,000	0.000	0.000	0.000	0.000
$164,881	103.585	0.000	0.000	0.000	0.000	0.000	0.000		0.353	60.394	$3,904	4,562.500	0.000	N/A	$0	$3,904	0.000	0.000	0.000	0.000
$325,434	1,228.019	0.000	0.000	0.000	0.000	0.000	0.000		4.190	715.976	$61,412	139,000.000	0.000	$0	N/A	$61,412	0.000	0.000	0.000	0.000
$250,000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000	$0	0.000	0.000	$0	$0	$0	0.000	0.000	0.000	0.000
$312,000	TBD	0.000	0.000	0.000	0.000	0.000	0.000		#VALUE!	#VALUE!	TBD	0.000	0.000	$0	$0	$0	0.000	0.000	0.000	0.000
$34,000	37.100	0.000	2,901.500	0.000	0.000	0.000	0.000		3.109	179.931	$28,000	0.000	0.000	$0	$0	$28,000	0.000	0.000	0.000	0.000
$164,900	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000	$0	1,579.000	0.000	$2,900	$0	$2,900	0.000	0.000	0.000	0.000
$54,100	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000	$0	347.000	0.000	$700	$0	$700	0.000	0.000	0.000	0.000
$118,000	98.060	0.000	0.000	0.000	0.000	0.000	0.000		0.335	57.172	$5,000	0.000	0.000	$0	$0	$5,000	0.000	0.000	0.000	0.000
$24,300	174.080	0.000	0.000	0.000	0.000	0.000	0.000		0.594	101.495	$8,800	0.000	0.000	$0	$0	$8,800	0.000	0.000	0.000	0.000
$74,100	72.230	0.000	0.000	0.000	0.000	0.000	0.000		0.246	42.113	$3,600	0.000	0.000	$0	$0	$3,600	0.000	0.000	0.000	0.000
$12,200	1.541	0.000	0.000	0.000	0.000	0.000	0.000		0.005	0.898	$100	0.000	0.000	$0	$0	$100	0.000	0.000	0.000	0.000
$191,400	78.520	0.000	0.000	0.000	0.000	0.000	0.000		0.268	45.780	$3,600	0.000	0.000	$0	$0	$3,600	0.000	0.000	0.000	0.000
$15,000,000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000	$1,000,000	N/A	N/A	N/A	N/A	$1,000,000	0.000		0.000	0.000
$750,000	0.000	30.000	0.000	0.000	0.000	0.000	0.000		4.140	307.225	$90,000	0.000	0.000	$0	$0	$90,000	0.000	0.000	0.000	0.000
N/A	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000	N/A	N/A	N/A	N/A	N/A	$0	0.000	0.000	0.000	0.000
TBD	22,000.000	0.000	0.000	206.000	0.000	0.000	0.000		94.016	14,025.060	$806,500	7,110.000	0.000	$5,000	$0	$811,500	0.000	0.000	0.000	0.000
TBD	11,000.000	0.000	0.000	0.000	0.000	0.000	0.000		37.532	6,413.372	$403,250	0.000	0.000	$0	$0	$403,250	0.000	0.000	0.000	0.000
TBD	TBD	TBD	0.000	0.000	0.000	0.000	0.000		#VALUE!	#VALUE!	TBD	TBD	0.000	TBD	$0	$0	0.000	0.000	0.000	0.000
$20,000	182.020	0.000	0.000	0.000	0.000	0.000	0.000		0.621	106.124	$12,610	0.000	0.000	$0	$0	$12,610	0.000	0.000	0.000	0.000
$5,000	101.460	0.000	0.000	0.000	0.000	0.000	0.000		0.346	59.155	$5,080	0.000	0.000	$0	$0	$5,080	0.000	0.000	0.000	0.000
$1,000,000	1,000.000	50.000	0.000	50.000	0.000	0.000	0.000		14.912	1,385.929	$100,000	1,000.000	0.000	$750	$0	$100,750	0.000	0.000	0.000	0.000
$1,000,000	1,000.000	0.000	1,000.000	0.000	0.000	0.000	0.000		4.440	637.592	$100,000	1,000.000	0.000	$750	$0	$100,750	0.000	0.000	0.000	0.000
$1,000,000	1,000.000	50.000	0.000	50.000	0.000	0.000	0.000		14.912	1,385.929	$100,000	1,000.000	0.000	$750	$0	$100,750	0.000	0.000	0.000	0.000
$1,240,000	2,603.077	0.000	0.000	0.000	0.000	0.000	0.000		8.882	1,517.682	$85,901	N/A	N/A	N/A	$0	$85,901	0.000	0.000	0.000	0.000
$269,016	169.007	0.000	0.000	0.000	0.000	0.000	0.000		0.577	98.537	$6,370	7,482.500	0.000	N/A	$0	$6,370	0.000	0.000	0.000	0.000
$2,500,000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000	$0	N/A	N/A	N/A	$0	$0	52,560.000	0.000	N/A	N/A
$9,000,000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000	$0	N/A	N/A	N/A	$0	$0	1,051.200	1,051.200	N/A	N/A

Sustainability Metrics II - Renewables										Return on Investment					Notes	
(ap)	(aq)	(ar)	(as)	(at)	(au)	(av)	(aw)	(ax)	(ay)	(az)	(ba)	(bb)	(bc)	(bd)	(be)	(bf)
For measures that switch from a fossil fuel to a renewable source, provide estimated energy output that will replaced current fossil fuel by energy type, as applicable. If no renewable energy is associated with the measure enter "0". If estimated renewable energy output is unknown at this time enter "TBD".									Estimated Annual Cost Savings ($/Yr) from switching to a renewable energy source	Parameters for site to change:		Discount Rate	%	With SCC? No	Site Priority	Additional Information
Estimated Annual Electricity Saved (MWh/Yr)	Estimated Annual Fuel Oil Saved (10^3 Gal/Yr)	Estimated Annual Natural Gas Saved (10^3 CF/Yr)	Estimated Annual LPG/Propane Saved (10^3 Gal/Yr)	Estimated Annual Coal Saved (Short Ton/Yr)	Estimated Annual Steam Saved (10^9 BTU/Yr)	Estimated Annual Other Saved (10^9 BTU/Yr)	If "Other", what is "Other"?	Estimated Annual GHG Emissions Avoided (MtCO$_2$e/Yr)		Simple Payback (Years)	Internal Rate of Return	Net Present Value	Savings-to-Investment Ratio	Estimated Annual Social Cost of Carbon Savings ($)		
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		33	#DIV/0!	($1,211,925)	0.35	$8,321	Complete	Construction Complete
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		15	-2%	($4,591,718)	0.79	$58,011	Complete	Construction Complete
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		69	#DIV/0!	($1,021,844)	0.17	$3,618	Complete	Construction Complete
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		63	#DIV/0!	($6,127,802)	0.19	$47,817	Complete	Construction Complete
0.000	503.000	0.000	0.000	0.000	0.000	0.000		5,151.144	$12,310	61	#DIV/0!	($613,544)	0.19	$110,234	Complete	Construction Complete
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		6	9%	$196,222	1.98	$12,120	Complete	Construction Complete
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		42	#NUM!	($119,385)	0.28	$1,292	Complete	Construction Complete - All identified water leaks at the INL ATR Complex have been repaired in conjunction with other program project work scope.
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		5	11%	$390,236	2.20	$15,322	Complete	Construction Complete
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		#DIV/0!	#NUM!	($250,000)	0.00	$0	1	Stategic Investment Funding - Internal (R&D to identify Sustainability related project opportunities).
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		#DIV/0!	#NUM!	($312,000)	0.00	#VALUE!	1	Stategic Investment Funding - Internal (Design)
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		1	70%	$262,632	8.72	$3,851	1	Stategic Investment Funding - Internal (Design)
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		57	#DIV/0!	($171,105)	0.20	$0	1	Stategic Investment Funding - Internal (Design)
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		77	#DIV/0!	($45,942)	0.15	$0	1	Stategic Investment Funding - Internal (Design)
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		24	#NUM!	($59,732)	0.49	$1,223	1	Stategic Investment Funding - Internal (Design)
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		3	27%	$78,252	4.22	$2,172	1	Stategic Investment Funding - Internal (Design)
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		21	-5%	($32,147)	0.57	$901	1	Stategic Investment Funding - Internal (Design)
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		122	#DIV/0!	($11,635)	0.10	$19	1	Stategic Investment Funding - Internal (Design)
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		53	#NUM!	($149,447)	0.22	$980	1	Stategic Investment Funding - Internal (Design)
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		15	#NUM!	($3,346,417)	0.78	$0	2	Performing Investement Grade Audit
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		8	4%	$298,822	1.40	$6,575	2	Potential ESPC ECM to install the purchased generators only.
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		Missing	#VALUE!	#VALUE!	#VALUE!	$0		EM Program
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		Missing Data	#VALUE!	#VALUE!	#VALUE!	$300,136		AMWTP mission complete, all buildings shutdown with no energy or water use.
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		Missing	#VALUE!	#VALUE!	#VALUE!	$137,246		CWI mission complete, all buildings shutdown with no energy
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		Missing Data	#NUM!	#VALUE!	#VALUE!	#VALUE!		INTEC New Waste Calcine Facility mission complete, CPP-659 shut down with no energy or water use.
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		2	52%	$126,952	7.35	$2,271	4	Strategic Investment Funding - Internal (2013)
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		1	88%	$54,200	11.84	$1,266	4	Strategic Investment Funding - Internal (2013)
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		10	2%	$174,099	1.17	$29,659	4	Strategic Investment Funding - Internal (2013) Projects to be developed in FY 2012.
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		10	2%	$174,099	1.17	$13,644	5	Strategic Investment Funding - Internal (2014) Projects to be developed in FY 2013.
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		10	2%	$174,099	1.17	$29,659	6	Strategic Investment Funding - Internal (2015) Projects to be developed in FY 2014.
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		14	-2%	($238,946)	0.81	$32,478	2	INL Metering Plan developed - No funding identified. Will include in ESPC if project funding is not available.
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		42	#NUM!	($194,783)	0.28	$2,109	7	Bore holes failed to positively identify leaks. Further investigation is necessary to pinpoint the leaks as identified by the Leak Study for repair.
52.560	0.000	0.000	0.000	0.000	0.000	0.000		30.644		#DIV/0!	#NUM!	($2,500,000)	0.00	$656		Identified Opportunity - Project Work Scope has been developed and infrastructure support work may begin if funding is made available.
1.051	0.000	0.000	0.000	0.000	0.000	0.000		0.613		#DIV/0!	#NUM!	($9,000,000)	0.00	$13		Identified Opportunity - Project Work Scope not yet been developed.

Measure/Project Description																Funding Overview			
(a)	(b)	(c)	(d)	(e)	(f)	(g)	(h)	(i)	(j)	(k)	(l)	(m)	(n)	(o)	(p)	(q)	(r)	(s)	(t)
PSO	Site #	Site	HQ Measure #	Has this measure been included in an official DOE budget requests? If yes, provide Project/Measure #	Site Project #	Conservation Measure(s) Status	Conservation Measure(s) Type	Conservation Measure(s) Name or Description	Measure(s) Location (Zip Code)	End Use Category	Do you need technical assistance?	Does the measure contribute to HPSB requirements?	If yes to HPSB, provide FIMS Property Sequence #	Does the measure contribute to the reduction of deferred maintenance?	Is this effort/ measure beyond typical maintenance and improvement to meet a goal?	Funding Source/Type (Actual or Potential)	Percent (%) of funds obligated (if applicable and for measures not yet operational)	Measure Completion Year (Anticipated or Actual – YYYY)	Estimated Service Life
NE	603	INL-S		No	BEA	Identified	Energy Related Process Improvements	ATR Back-Up Generator Set Elimination - Commercial Power	83415	Excluded - Covered	No	No		Yes	Yes	Line Item	0%	2018	30.0
NE	603	INL-S		No	BEA	Identified	Water and Sewer Conservation Systems	ATR Complex Sewer Lagoon Resizing	83415	Goal Subject - Covered	No	Yes	TBD	No	Yes	GPP	0%	2018	25.0
EM	603	INL-S		No	CWI	Identified	Boiler Plant Improvements	Replace Central Boiler with Distributed Steam and Heating Systems	83415	Goal Subject - Covered	No	Yes	CPP-606	Yes	Yes	Unknown	0%	2015	30.0
EM	603	INL-S		No	CWI	Identified	Water and Sewer Conservation	End Operations of Liquid Waste Management System - INTEC	83415	Goal Subject - Covered	No	Yes	Various	Yes	Yes	Unknown	0%	2015	25.0
EM	603	INL-S		No	CWI	Identified	Advanced Metering Systems	Install Energy and Water Metering - INTEC	83415	Goal Subject - Covered	No	Yes	Various	No	Yes	Unknown	0%	2015	25.0
NE	603	INL-S	EM-0603-0015		CWI	Identified	Other	INL ESPC Project #4 INTEC and RWMC	83415	Goal Subject - Covered	No	Yes	INL INTEC and	Yes		ESPC	0%	2014	25.0
NE	602	INL-I	NE-0602-0011		BEA and CWI	Identified	Heating, Ventilating, and Air	Idaho Falls Facilities UESC Project: Energy and Water	83415	Goal Subject - Covered	No	Yes	INL Idaho Falls (	Yes		UESC	0%	2012	25.0
NE	602	INL-I	NE-0602-0010		BEA and CWI	Identified	Other	Idaho Falls Facilities UESC Project - Proposal Development	83415	Goal Subject - Covered	No	Yes		No		UESC	100%	2010	25.0

Sustainability Metrics I - Energy and Water

For measures that improve energy efficiency, provide estimated energy saved for each energy type, as applicable. Total billion Btus saved and GHG emissions avoided are calculated. If there are no savings associated with the measure enter "0". If estimated savings are unknown at this time enter "TBD".

(u) Estimated Implementation Cost ($)	(v) Estimated Annual Electricity Saved (MWh/Yr)	(w) Estimated Annual Fuel Oil Saved (10^3 Gal/Yr)	(x) Estimated Annual Natural Gas Saved (10^3 CF/Yr)	(y) Estimated Annual LPG/Propane Saved (10^3 Gal/Yr)	(z) Estimated Annual Coal Saved (Short Ton/Yr)	(aa) Estimated Annual Steam Saved (10^9 BTU/Yr)	(ab) Estimated Annual Other Saved (10^9 BTU/Yr)	(ac) If "Other", what is "Other"?	(ad) Estimated Annual Energy Savings (10^9 BTU/Yr)	(ae) Estimated Annual GHG Emissions Avoided
$60,000,000	0.000	300.000	0.000	0.000	0.000	0.000	0.000		41.400	3,072.253
$1,100,000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000
TBD	0.000	300.000	0.000	0.000	0.000	0.000	0.000		41.400	3,072.253
TBD	TBD	0.000	0.000	0.000	0.000	0.000	0.000		#VALUE!	#VALUE!
$2,000,000	750.900	0.000	0.000	0.000	0.000	0.000	0.000		2.562	437.800
$15,000,000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000
$2,100,000	7,318.783	0.000	9,446.704	0.000	0.000	0.000	0.000		34.683	4,782.491
$250,000	0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000	0.000

(u) Estimated Implementation Cost ($)	(af) Estimated Annual Energy Cost Savings ($/Yr)	(ag) Estimated Annual Potable Water Savings (10^3 Gal/Yr)	(ah) Estimated Annual ILA (Non-Potable Freshwater) Savings (10^3 Gal/Yr)	(ai) Estimated Annual Water Cost Savings ($/Yr)	(aj) Estimated Annual Ancillary Cost Savings ($/Yr)	(ak) Estimated Annual Cost Savings ($/Yr)	(al) Estimated Annual Renewable Electricity Output (MWh/Yr)	(am) Estimated Annual Renewable Electricity Consumed (MWh/Yr)	(an) Estimated Annual Renewable Thermal Output (10^9 BTU/Yr)	(ao) Estimated Annual Renewable Thermal Consumed (10^9 BTU/Y
$60,000,000	$900,000	0.000	0.000	$0	$0	$900,000	0.000	0.000	0.000	0.0
$1,100,000	$0	38,000.000	0.000	$26,000	$0	$26,000	0.000	0.000	0.000	0.0
TBD	$1,020,000	0.000	0.000	$0	$0	$1,020,000	0.000	0.000	0.000	0.0
TBD	TBD	56,000.000	0.000	TBD	$0	$0	0.000	0.000	0.000	0.0
$2,000,000	$27,035	4,000.000	0.000	$2,800	$0	$29,835	0.000	0.000	0.000	0.0
$15,000,000	$500,000	N/A	N/A	N/A	N/A	$500,000	0.000		0.000	0.0
$2,100,000	$475,581	5,259.000	0.000	$4,733	N/A	$480,314	0.000	0.000	0.000	0.0
$250,000	N/A	N/A	N/A	N/A	$0	$0	0.000		0.000	0.0

Sustainability Metrics II - Renewables										Return on Investment					Notes	
(ap)	(aq)	(ar)	(as)	(at)	(au)	(av)	(aw)	(ax)	(ay)	(az)	(ba)	(bb)	(bc)	(bd)	(be)	(bf)
For measures that switch from a fossil fuel to a renewable source, provide estimated energy output that will replaced current fossil fuel by energy type, as applicable. If no renewable energy is associated with the measure enter "0". If estimated renewable energy output is unknown at this time enter "TBD".									Estimated Annual Cost Savings ($/Yr) from switching to a renewable energy source	*Parameters for site to change:*		Discount Rate	7%	With SCC? No	Site Priority	Additional Information
Estimated Annual Electricity Saved (MWh/Yr)	Estimated Annual Fuel Oil Saved (10^3 Gal/Yr)	Estimated Annual Natural Gas Saved (10^3 CF/Yr)	Estimated Annual LPG/Propane Saved (10^3 Gal/Yr)	Estimated Annual Coal Saved (Short Ton/Yr)	Estimated Annual Steam Saved (10^9 BTU/Yr)	Estimated Annual Other Saved (10^9 BTU/Yr)	If "Other", what is "Other"?	Estimated Annual GHG Emissions Avoided ($MtCO_2e$/Yr)		Simple Payback (Years)	Internal Rate of Return	Net Present Value	Savings-to-Investment Ratio	Estimated Annual Social Cost of Carbon Savings ($)		
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		67	#DIV/0!	##########	0.17	$65,746		Line Item project to eliminate the need to run the generators whenever the Reactor is operating. Final solution to significant operational issue.
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		42	#NUM!	($797,007)	0.28	$0		Current sewage lagoon is significantly oversized, project to evaluate, design, and construct a resizing dike in lagoon.
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		Missing Data	#VALUE!	#VALUE!	#VALUE!	$65,746		Project Concept Identified, Funding Source Not Determined.
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		Missing	#VALUE!	#VALUE!	#VALUE!	#VALUE!		Project Concept Identified, Funding Source Not Determined.
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		67	#DIV/0!	($1,652,315)	0.17	$9,369		Project Concept Identified, Funding Source Not Determined.
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		30	#NUM!	($9,173,208)	0.39	$0		ESPC Project Development on hold: EM Program.
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		4	15%	$3,497,379	2.67	$102,345		Final project still being developed/refined.
0.000	0.000	0.000	0.000	0.000	0.000	0.000		0.000		#DIV/0!	#NUM!	($250,000)	0.00	$0		Survey Only - No Project

Source Energy Savings Credit

Requirement(s): E.O. 13123

Instructions: Optional, complete the tables below for projects that increase site energy use but save source energy. For additional guidance see: http://www.eere.energy.gov/femp/pdfs/sec502e_%20guidance.pdf. Edited and new data cells should be highlighted in light blue.

Source: Site/Lab

EPACT Goal Subject Buildings

Name of Project Saving Source Energy in FY 2011 (insert additional rows as necessary)	Annual Site Energy Increase with the Project (10^6 BTU/Yr)	Annual Source Energy Saved with the Project (10^6 BTU/Yr)	Adjustment to Annual Site Energy (10^6 BTU/Yr)
Project No. 1	0.0	0.0	0.0
Project No. 2	0.0	0.0	0.0
Project No. 3	0.0	0.0	0.0
Totals	0.0	0.0	0.0

EPACT Excluded Buildings

Name of Project Saving Source Energy in FY 2011 (insert additional rows as necessary)	Annual Site Energy Increase with the Project (10^6 BTU/Yr)	Annual Source Energy Saved with the Project (10^6 BTU/Yr)	Adjustment to Annual Site Energy (10^6 BTU/Yr)
Project No. 1	0.0	0.0	0.0
Project No. 2	0.0	0.0	0.0
Project No. 3	0.0	0.0	0.0
Totals	0.0	0.0	0.0

List of New Federal Building Construction and Major Renovation, HPSB Compliance and Projected Utilities Consumption

Requirement/s: EP Act 2005, EISA 2007, DOE O 436.1

Instructions: Update the list of new building construction and major renovation and address all cells highlighted in yellow. For additional guidance see comments in row 9 of each column and Appendix C of the Site Sustainability Plan Guidance. Edited and new data cells should be highlighted in light blue.

Source: Site/Lab FY 2011 CEDR and SSP

Key:	
Light Green	Pre-populated data by SPO to be reviewed and updated with changes highlighted in blue.
Orange	Fields that need to reviewed and updated with changes highlighted in blue
Yellow	Optional data field to be completed, if applicable and available
Red	Calculated field. No action required.

Basic Information																				For compliance with Sec 438 of EISA	For compliance with DOE O 436.1	Complete this section if *new* building project was CD-1 or lower on 10/1/06		Complete this section if construction has been completed
PSO	Site #	Site	Project ID	Building/Project Name	Location (Zip Code)	Planned or Actual CD-2 Date (MM/DD/YY)	Current CD Status	Total Project Cost ($M)	Number/Type of Facilities	Facility Change Status	Anticipated Electricity Usage (kWh/Yr)	Anticipated Natural Gas Usage (10^3 Cubic Feet/Yr)	Estimated Annual GHG Emissions Avoided ($MtCO_2e/Yr$)	Anticipated Potable Water Usage (10^3 Gal/Yr)	Anticipated ILA Water Usage (10^3 Gal/Yr)	Excluded from Energy Intensity?	Expected Building Occupancy Year (YYYY)	Anticipated Square Footage	If > 5,000 sq ft, will it maintain or restore pre-development hydrology?	What will the building achieve (LEED® level or GP)?	Estimated percentage below ASHRAE Std 90.1 in terms of energy use	If not at least 30% below ASHRAE Std 90.1, will design achieve maximum level of energy efficiency that is life-cycle cost effective?	In terms of energy use, percentage below ANSI/ASHRAE/IESNA Standard 90.1 achieved
NE	602	INL-1	Lease	Energy Systems Laboratory (ESL)	83415	N/A	Complete	$22			TBD	TBD	TBD	TBD			2012	91,000	Yes	LEED® Gold	Planning for 30%	Yes	
NE	602	INL-1	Lease	Research and Education Facility	83415	N/A	Complete	$50			TBD	TBD	TBD	TBD			2013	148,000	Yes	LEED® Gold	Planning for 30%	Yes	
NE	603	INL-S		MFC Dial Room Replacement	83415	N/A	Complete	$7			TBD	0	TBD	TBD			2012	1,856	Yes	Not Applicable	Not Applicable	Yes	
NE	603	INL-S		Irradiated Materials Characterization Lab (IMCL)	83415	N/A	Complete	$10			TBD	0	TBD	TBD			2013	12,000	Yes	LEED® Gold	Planning for 30%	Yes	
NE	603	INL-S		MFC Technical Support Building	83415	N/A	Complete	$12			TBD	0	TBD	TBD			2014	17,000	Yes	LEED® Gold	Planning for 30%	Yes	
NE	602	INL-2		ATR Complex Dial Room	83415	N/A	Complete	$10			TBD	0	TBD	TBD			2015	1,800	Yes	Not Applicable	Not Applicable	Yes	

INL FY 2012 CEDR 12-7-11.xlsx 5.2 New Bldg Construction

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List of Existing Buildings to Meet 15% HPSB Goal

Requirement(s): EISA 2007, DOE O 436.1, E.O. 13514

Instructions: Update the list of existing building meeting or planned to meet the HPSB goal and address all cells highlighted in yellow. For additional guidance see comments in row 9 of each column and Appendix C of the Site Sustainability Plan Guidance. Edited and new data cells should be highlighted in light blue.

Source: Site/Lab FY 2011 CEDR and SSP

Key:	
Light Green	Pre-populated data by SPO to be reviewed and updated with changes highlighted in blue.
Orange	Fields that need to reviewed and updated with changes highlighted in blue.
Yellow	Optional data fields to be completed if applicable and available.
Red	Calculated fields. No action required.

Basic Information							Guiding Principle Compliance Path							LEED® Compliance Path							
PSO	Site #	Site	Building Name	FIMS Property Sequence #	Square Footage	Compliance Path	Assessment Date (Planned or Actual) (MM/DD/YY)	Currently meets Integrated Design GP?	Currently meets Energy Performance GP?	Currently meets Water GP?	Currently meets Indoor Environmental Quality GP?	Currently meets Materials GP?	Planned or actual compliance FY for all 5 Guiding Principles (YYYY)	CD Level on 10/1/08	USGBC Project Title	Planned or Actual Registration Date (MM/DD/YY)	Planned or Actual Certification Date (MM/DD/YY)	Planned or Actual LEED® EBOM Certification Level	LEED EBOM Version	Planned or Actual LEED NC Level	Planned or Actual LEED NC Certification Date (MM/DD/YY)
NE	602	INL-1	IF-665 (CAES)	205827	38,611	LEED®	N/A													Gold	Sept 2009
NE	602	INL-1	IF-683 (RESL)	209410	13,583	LEED®	N/A													Gold-Pending	TBD
NE	602	INL-1	TRA-1608 (TSB)	207319	16,592	LEED®	N/A													Certified	Nov 2010
NE	602	INL-1	TRA-1626 (TTAF)	207320	4,483	Guiding Principles	2012	Met	Not Yet Met	Met	Met	Met	2013								
NE	602	INL-1	IF-601	96659	20,100	Guiding Principles	2012	Not Yet Met	Not Yet Met	Not Yet Met	Not Yet Met	Not Yet Met	2013								
NE	602	INL-1	IF-602	96658	46,494	Guiding Principles	2013	Not Yet Met	Not Yet Met	Not Yet Met	Not Yet Met	Not Yet Met	2014								
NE	602	INL-1	IF-616	96834	272,309	Guiding Principles	2013	Not Yet Met	Not Yet Met	Not Yet Met	Not Yet Met	Not Yet Met	2014								
NE	602	INL-1	IF-654	96845	243,063	Guiding Principles	2012	Met	Not Yet Met	Met	Not Yet Met	Met	2012								
NE	602	INL-1	IF-663	140110	21,716	Guiding Principles	2012	Met	Not Yet Met	Met	Not Yet Met	Met	2012								
NE	602	INL-1	IF-689	205824	7,649	Guiding Principles	2013	Not Yet Met	Not Yet Met	Not Yet Met	Not Yet Met	Not Yet Met	2014								
NE	602	INL-1	IF-684	207525	32,160	Guiding Principles	2013	Not Yet Met	Not Yet Met	Not Yet Met	Not Yet Met	Not Yet Met	2014								
NE	603	INL-1	CF-1611	130981	29,801	Guiding Principles	2012	Met	Not Yet Met	Not Yet Met	Not Yet Met	Not Yet Met	2013								
NE	603	INL-1	CF-1612	130982	22,715	Guiding Principles	2012	Met	Not Yet Met	Not Yet Met	Not Yet Met	Not Yet Met	2013								
NE	603	INL-1	CF-1618	141217	15,522	Guiding Principles	2012	Met	Not Yet Met	Not Yet Met	Not Yet Met	Not Yet Met	2013								
NE	603	INL-1	CF-609	95686	38,934	Guiding Principles	2014	Not Yet Met	Not Yet Met	Not Yet Met	Not Yet Met	Not Yet Met	2015								
NE	603	INL-1	CF-621	95118	11,787	Guiding Principles	2014	Not Yet Met	Not Yet Met	Not Yet Met	Not Yet Met	Not Yet Met	2015								
NE	603	INL-1	CF-623	95102	12,615	Guiding Principles	2014	Not Yet Met	Not Yet Met	Not Yet Met	Not Yet Met	Not Yet Met	2015								
NE	603	INL-1	CF-696	126655	82,152	Guiding Principles	2014	Not Yet Met	Not Yet Met	Not Yet Met	Not Yet Met	Not Yet Met	2015								
NE	603	INL-1	CF-698	95124	11,311	Guiding Principles	2014	Not Yet Met	Not Yet Met	Not Yet Met	Not Yet Met	Not Yet Met	2015								
NE	603	INL-1	MFC-710	124700	11,612	Guiding Principles	2013	Not Yet Met	Not Yet Met	Not Yet Met	Not Yet Met	Not Yet Met	2014								
NE	603	INL-1	MFC-725	200598	9,240	Guiding Principles	2013	Not Yet Met	Not Yet Met	Not Yet Met	Not Yet Met	Not Yet Met	2014								
NE	603	INL-1	MFC-782	124774	5,096	Guiding Principles	2013	Not Yet Met	Not Yet Met	Not Yet Met	Not Yet Met	Not Yet Met	2014								
NE	603	INL-1	TRA-628	96653	13,013	Guiding Principles	2013	Not Yet Met	Not Yet Met	Not Yet Met	Not Yet Met	Not Yet Met	2014								

Data Centers

Requirement(s): EISA 2007, DOE O 436.1

Instructions: Update the list of data centers and address all cells highlighted in orange. For additional guidance see comments in row 9 of each column and Appendix C of the Site Sustainability Plan Guidance.

Source: Site/Lab 2009 Data Center Survey and FY 2011 CEDR (formerly known as the FY 2010 CEDR)

Key:	
Light Green	Pre-populated data by SPO to be reviewed and updated with changes highlighted in blue
Orange	Fields that need to reviewed and updated with changes highlighted in blue
Yellow	Optional data field to be completed, if applicable and available
Red	Calculated fields. No action required

Basic Information

PSO	Site #	Site	GOCO / FED	Data Center Name	Data Center Function	Assigned DCEP POC	Data Center POC	Target Date for Closure (CY) (If Scheduled)	Phase of Closure	Street Address	Street Address 2	City	State	Zip Code	Country	Gross Floor Area (Sq.Ft.)	Facility Cost ($/Sq.Ft./Yr)	Electricity Included in Cost? (Y/N)	Ownership Type	Data Center Tier / Type	Electricity Metered (Y/N)	Total Data Center (Facility) Power Capacity (kW)
NE	602	INL-I	GOCO	IF-608 - Business Systems Data Center	General		Tina Chapman			1155 Foote Drive		Idaho Falls	ID	83415	USA	1,800		Yes	1: Agency Owned	7: Unknown	Yes	1,500,000
NE	602	INL-I	GOCO	IF-608 - External Hosted Apps Data Center	General		Tina Chapman			1155 Foote Drive		Idaho Falls	ID	83415	USA	1,284		Yes	1: Agency Owned	7: Unknown	Yes	Unknown
NE	602	INL-I	GOCO	IF-654	General		Jeff Stafford			2525 Fremont Avenue		Idaho Falls	ID	83415	USA	3,700	TBD	Yes	3: Lease and retrofit	3: Tier III	Yes	1,500,000

IT Facilities, Energy							Physical Servers										Virtualization				Network Storage			Notes
Average Data Center Electricity Usage (kWh)	Total Data Center IT Power Capacity (kW)	Average IT Electricity Usage (kWh)	Cost Per kWh (if known)	Watts per Sq.ft.	Estimated Power Usage Effectiveness (PUE)	Has A DC Pro Assessment been Conducted?	Current Rack Count (#)	Sq. Ft. per Rack	Super Computers or HPC Systems	Mainframes (IBM or compatible)	Mainframes (Other)	Windows Servers	Unix Servers	Linux Servers	Other	Total Physical Server Count (#)	Total Virtual Host Count (#)	Total Virtual OS Count (#)	Total Operating Systems Count (#)	Average CPU Utilization of All Physical Servers	SAN/NAS/ DAS - Total (TB)	SAN/NAS/ DAS - Used (TB)	Percent Used	Additional Information
503,000	300,000	575,000	$0.05	319.44	0.87	No	51	35	0	0	0	192	26	89	1	325	17	190	498	7%	100	56	56%	INL's IF-608 Data Center was built in the 1950's
110,000	70,000	150,000	$0.05	116.82	0.73	No	31	41	0	0	0	40	15	40	32	131	4	25	152	8%	34	13	38%	INL's IF-608 Data Center was built in the 1950's
TBD	1,000,000	TBD	TBD	Incomplete	Incomplete	No	41	90	8	0	0	0		20	1	29	0	0	29	20 - 90%	370	140	38%	Tier 3 facility as defined in DOE Computing Ecosystem: 0.025 - 0.1 petaFlops

Fugitive Emissions: Refrigerants and Fluorinated Gases, Mixed Refrigerants Calculator

Requirement(s): DOE O 436.1, E.O. 13514

Instructions: Complete data fields highlighted in ____, as applicable.

Source: Site/Lab

GHG Target Subject Mixed Refrigerants Calculator

Data Type Entered		Fiscal Year	2011	Fiscal Year				Corresponding Component F-gases *(as required for reporting)*													
RefrigerantType:	Composition	Quantity Purchased / Issued	Unit of Measure	Quantity Returned to Supply	Unit of Measure	Emitted Refrigerant Quantity	Unit of Measure	HFC-23	HFC-32	HFC-41	HFC-125	HFC-134a	HFC-143a	HFC-152a	HFC-227ea	HFC-236fa	HFC-245fa	PFC-14	PFC-116	PFC-218	PFC-(c)318
R-23	R-23	0.0	lbs	0.0	lbs	0.0	lbs	0.0													
R-32	R-32	15.6	lbs	0.0	lbs	15.6	lbs		15.6												
R-41	R-41	0.0	lbs	0.0	lbs	0.0	lbs			0.0											
R-125	R-125	15.6	lbs	0.0	lbs	15.6	lbs				15.6										
R-134a	R-134a	0.0	lbs	3.5	lbs	-3.3	lbs					-3.3									
R-143a	R-143a	0.0	lbs	0.0	lbs	0.0	lbs						0.0								
R-152a	R-152a	0.0	lbs	0.0	lbs	0.0	lbs							0.0							
R-227ea	R-227ea	0.0	lbs	0.0	lbs	0.0	lbs								0.0						
R-236fa	R-236fa	0.0	lbs	0.0	lbs	0.0	lbs									0.0					
R-245fa	R-245fa	0.0	lbs	0.0	lbs	0.0	lbs										0.0				
R-14	R-14	0.0	lbs	0.0	lbs	0.0	lbs											0.0			
R-116	R-116	0.0	lbs	0.0	lbs	0.0	lbs												0.0		
R-218	R-218	0.0	lbs	0.0	lbs	0.0	lbs													0.0	
R-C318	R-C318	0.0	lbs	0.0	lbs	0.0	lbs														0.0
R-401A	R-22/152a/124	0.0	lbs	0.0	lbs	417.0	lbs							54.2							
R-401B	R-22/152a/124	0.0	lbs	0.0	lbs	0.0	lbs							0.0							
R-401C	R-22/152a/124	0.0	lbs	0.0	lbs	0.0	lbs							0.0							
R-402A	R-125/290/22	0.0	lbs	0.0	lbs	0.0	lbs				0.0										
R-402B	R-125/290/22	0.0	lbs	0.0	lbs	0.0	lbs				0.0										
R-403A	R-290/22/218	0.0	lbs	0.0	lbs	0.7	lbs													0.1	
R-403B	R-290/22/218	0.0	lbs	0.0	lbs	0.0	lbs													0.0	
R-404A	R-125/143a/134a	0.0	lbs	0.0	lbs	1.5	lbs				0.7	0.1	0.8								
R-405A	R-22/152a/142b/C318	0.0	lbs	0.0	lbs	0.0	lbs							0.0							0.0
R-406A	R-22/600a/142b	0.0	lbs	0.0	lbs	0.0	lbs														
R-407A	R-32/125/134a	0.0	lbs	0.0	lbs	0.0	lbs		0.0		0.0	0.0									
R-407B	R-32/125/134a	0.0	lbs	0.0	lbs	0.0	lbs		0.0		0.0	0.0									
R-407C	R-32/125/134a	0.0	lbs	0.0	lbs	215.8	lbs		49.6		53.9	112.2									
R-407D	R-32/125/134a	0.0	lbs	0.0	lbs	0.0	lbs		0.0		0.0	0.0									
R-407E	R-32/125/134a	0.0	lbs	0.0	lbs	0.0	lbs		0.0		0.0	0.0									
R-408A	R-125/143a/22	0.0	lbs	0.0	lbs	0.0	lbs				0.0		0.0								
R-409A	R-22/124/142b	0.0	lbs	0.0	lbs	0.0	lbs														
R-409B	R-22/124/142b	0.0	lbs	0.0	lbs	0.0	lbs														
R-410A	R-32/125	0.0	lbs	0.0	lbs	10.0	lbs		5.0		5.0										
R-410B	R-32/125	0.0	lbs	0.0	lbs	0.0	lbs		0.0		0.0										
R-411A	R-1270/22/152a	0.0	lbs	0.0	lbs	0.0	lbs							0.0							
R-411B	R-1270/22/152a	0.0	lbs	0.0	lbs	0.0	lbs							0.0							
R-412A	R-22/218/143a	0.0	lbs	0.0	lbs	0.0	lbs						0.0							0.0	
R-413A	R-218/134a/600a	0.0	lbs	0.0	lbs	0.0	lbs					0.0								0.0	
R-414A	R-22/124/600a/142b	0.0	lbs	0.0	lbs	0.0	lbs														
R-414B	R-22/124/600a/142b	0.0	lbs	0.0	lbs	0.0	lbs														
R-415A	R-22/152a	0.0	lbs	0.0	lbs	0.0	lbs							0.0							
R-415B	R-22/152a	0.0	lbs	0.0	lbs	0.0	lbs							0.0							

Data Type Entered		Fiscal Year	2011	Fiscal Year				Corresponding Component F-gases *(as required for reporting)*													
Refrigerant Type	Composition	Quantity Purchased / Issued	Unit of Measure	Quantity Returned to Supply	Unit of Measure	Emitted Refrigerant Quantity	Unit of Measure	HFC-23	HFC-32	HFC-41	HFC-125	HFC-134a	HFC-143a	HFC-152a	HFC-227ea	HFC-236fa	HFC-245fa	PFC-14	PFC-116	PFC-218	PFC-(c)318
R-416A	R-134a/124/600	0.0	lbs	0.0	lbs	0.0	lbs					0.0									
R-417A	R-125/134a/600	0.0	lbs	0.0	lbs	0.0	lbs				0.0	0.0									
R-418A	R-290/22/152a	0.0	lbs	0.0	lbs	0.0	lbs							0.0							
R-419A	R-125/134a/E170	0.0	lbs	0.0	lbs	0.0	lbs				0.0	0.0									
R-420A	R-134a/142b	0.0	lbs	0.0	lbs	0.0	lbs					0.0									
R-421A	R-125/134a	0.0	lbs	0.0	lbs	0.0	lbs				0.0	0.0									
R-421B	R-125/134a	0.0	lbs	0.0	lbs	0.0	lbs				0.0	0.0									
R-422A	R-125/134a/600a	0.0	lbs	0.0	lbs	0.0	lbs				0.0	0.0									
R-422B	R-125/134a/600a	0.0	lbs	0.0	lbs	0.0	lbs				0.0	0.0									
R-422C	R-125/134a/600a	0.0	lbs	0.0	lbs	0.0	lbs				0.0	0.0									
R-422D	R-125/134a/600a	0.0	lbs	0.0	lbs	0.0	lbs				0.0	0.0									
R-423A	R-134a/227ea	0.0	lbs	0.0	lbs	0.0	lbs					0.0			0.0						
R-424A	R-125/134a/600a/600/601a	0.0	lbs	0.0	lbs	0.0	lbs				0.0	0.0									
R-425A	R-32/134a/227ea	0.0	lbs	0.0	lbs	0.0	lbs		0.0			0.0			0.0						
R-426A	R-125/134a/600/601a	0.0	lbs	0.0	lbs	0.0	lbs				0.0	0.0									
R-427A	R-32/125/143a/134a	0.0	lbs	0.0	lbs	0.0	lbs		0.0		0.0	0.0	0.0								
R-428A	R-125/143a/290/600a	0.0	lbs	0.0	lbs	0.0	lbs				0.0		0.0								
R-429A	R-E170/152a/600a	0.0	lbs	0.0	lbs	0.0	lbs							0.0							
R-430A	R-152a/600a	0.0	lbs	0.0	lbs	0.0	lbs							0.0							
R-431A	R-290/152a	0.0	lbs	0.0	lbs	0.0	lbs							0.0							
R-434A	R-125/143a/134a/600a	0.0	lbs	0.0	lbs	0.0	lbs				0.0	0.0	0.0								
R-435A	R-E170/152a	0.0	lbs	0.0	lbs	0.0	lbs							0.0							
R-437A	R-125/134a/600/601	0.0	lbs	0.0	lbs	0.0	lbs				0.0	0.0									
R-438A	R-32/125/134a/600/601a	0.0	lbs	0.0	lbs	0.0	lbs		0.0		0.0	0.0									
R-500	R-12/152a	0.0	lbs	0.0	lbs	3.4	lbs							-0.9							
R-501	R-22/12	0.0	lbs	0.0	lbs	0.0	lbs														
R-502	R-22/115	0.0	lbs	0.0	lbs	100.0	lbs														
R-503	R-23/13	0.0	lbs	0.0	lbs	0.0	lbs	0.0													
R-504	R-32/115	0.0	lbs	0.0	lbs	0.0	lbs		0.0												
R-505	R-12/31	0.0	lbs	0.0	lbs	0.0	lbs														
R-506	R-31/114	0.0	lbs	0.0	lbs	0.0	lbs														
R-507	R-125/143a	0.0	lbs	0.0	lbs	0.0	lbs				0.0		0.0								
R-507A	R-125/143a	0.0	lbs	0.0	lbs	0.0	lbs				0.0		0.0								
R-508A	R-23/116	0.0	lbs	0.0	lbs	0.0	lbs	0.0											0.0		
R-508B	R-23/116	0.0	lbs	0.0	lbs	4.5	lbs	2.1											2.4		
R-509	R-22/218	0.0	lbs	0.0	lbs	0.0	lbs													0.0	
R-509A	R-22/218	0.0	lbs	0.0	lbs	0.0	lbs													0.0	

F-Gas Type	HFC-23	HFC-32	HFC-41	HFC-125	HFC-134a	HFC-143a	HFC-152a	HFC-227ea	HFC-236fa	HFC-245fa	PFC-14	PFC-116	PFC-218	PFC-318
Total F-Gas Emitted by Type	2.1	70.2	0.0	75.2	108.9	0.8	53.5	0.0	0.0	0.0	0.0	2.4	0.1	0.0
Units of Measure	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs	lbs

Source: *American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE), Designation and Safety Classification of Refrigerants, ANSI/ASHRAE 34-2007; see at: http://www.ashrae.org/ebooks/*

Fugitive Emissions: Fugitive Fluorinated Gases and Other Fugitive Emissions (Not to Include Process Emissions)

Requirement(s): DOE O 450.1, E.O. 13514

Instructions: Complete data fields highlighted in yellow, as applicable.

Source: Site/Lab

Fugitive Emissions Default Methodology

Data Type Entered: Fiscal Year 2011 Fiscal Year

Material Type	Composition	Step 1: Target Subject Quantity Purchased / Issued	Step 1: Target Excluded Quantity Purchased / Issued	Step 1: International Quantity Purchased / Issued (Not Included under Target Subject)	Unit of Measure	Step 2: Target Subject Quantity Returned to Supply	Step 2: Target Excluded Quantity Returned to Supply	Step 2: International Quantity Returned to Supply (Not Included under Target Subject)	Unit of Measure	Mixed Refrigerants Contribution (see Tab 7.2)	Unit of Measure	Step 3: Total Quantity Emitted by Type	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure	GWP by Type	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure	Annual GHG Target Subject Emissions	Annual GHG Target Excluded Emissions	Annual GHG International Emissions	Unit of Measure
Carbon dioxide	CO2	1,667.1	0.0	0.0	lbs	0.0	0.0	0.0	lbs		lbs	1,667.1	lbs	0.756	MT	1	CO2e	0.8	MT CO2e	0.8	0.0	0.0	MT CO2e
Methane	CH4	33,388.4	0.0	0.0	lbs	0.0	0.0	0.0	lbs		lbs	33,388.4	lbs	15.145	MT	21	CO2e	318.0	MT CO2e	318.0	0.0	0.0	MT CO2e
Nitrous oxide	N2O	63.0	0.0	0.0	lbs	0.0	0.0	0.0	lbs		lbs	63.0	lbs	0.029	MT	310	CO2e	8.9	MT CO2e	8.9	0.0	0.0	MT CO2e
Hydrofluorocarbons (HFCs)																							
HFC-23	CHF3	0.0	0.0	0.0	lbs	0.0	0.0	0.0	lbs	2.1	lbs	2.1	lbs	0.001	MT	11,700	CO2e	11.0	MT CO2e	11.0	0.0	0.0	MT CO2e
HFC-32	CH2F2	268.5	0.0	0.0	lbs	0.0	0.0	0.0	lbs	70.2	lbs	338.7	lbs	0.154	MT	650	CO2e	99.9	MT CO2e	99.9	0.0	0.0	MT CO2e
HFC-41	CH3F	0.0	0.0	0.0	lbs	0.0	0.0	0.0	lbs	0.0	lbs	0.0	lbs	0.000	MT	150	CO2e	0.0	MT CO2e	0.0	0.0	0.0	MT CO2e
HFC-125	CHF2CF3	281.4	0.0	0.0	lbs	0.0	0.0	0.0	lbs	75.2	lbs	356.6	lbs	0.162	MT	2,800	CO2e	452.9	MT CO2e	452.9	0.0	0.0	MT CO2e
HFC-134	CHF2CHF2	0.0	0.0	0.0	lbs	0.0	0.0	0.0	lbs		lbs	-3.0	lbs	-0.001	MT	1,000	CO2e	-1.4	MT CO2e	0.0	0.0	0.0	MT CO2e
HFC-134a	CH2FCF3	593.3	0.0	0.0	lbs	0.0	0.0	0.0	lbs	108.9	lbs	702.2	lbs	0.319	MT	1,300	CO2e	414.1	MT CO2e	413.3	0.0	0.0	MT CO2e
HFC-143	CHF2CH2F	0.0	0.0	0.0	lbs	0.0	0.0	0.0	lbs		lbs	0.0	lbs	0.000	MT	300	CO2e	0.0	MT CO2e	0.0	0.0	0.0	MT CO2e
HFC-143a	CF3CH3	11.4	0.0	0.0	lbs	0.0	0.0	0.0	lbs	0.8	lbs	12.2	lbs	0.006	MT	3,800	CO2e	21.0	MT CO2e	21.0	0.0	0.0	MT CO2e
HFC-152	CH2FCH2F	0.0	0.0	0.0	lbs	0.0	0.0	0.0	lbs		lbs	0.0	lbs	0.000	MT	53	CO2e	0.0	MT CO2e	0.0	0.0	0.0	MT CO2e
HFC-152a	CH3CHF2	6.6	0.0	0.0	lbs	0.0	0.0	0.0	lbs	53.3	lbs	59.9	lbs	0.027	MT	140	CO2e	3.8	MT CO2e	3.8	0.0	0.0	MT CO2e
HFC-161	CH3CH2F	0.0	0.0	0.0	lbs	0.0	0.0	0.0	lbs		lbs	0.0	lbs	0.000	MT	12	CO2e	0.0	MT CO2e	0.0	0.0	0.0	MT CO2e
HFC-227ea	CF3CHFCF3	0.0	0.0	0.0	lbs	0.0	0.0	0.0	lbs	0.0	lbs	0.0	lbs	0.000	MT	2,900	CO2e	0.0	MT CO2e	0.0	0.0	0.0	MT CO2e
HFC-236cb	CH2FCF2CF3	0.0	0.0	0.0	lbs	0.0	0.0	0.0	lbs		lbs	0.0	lbs	0.000	MT	1,340	CO2e	0.0	MT CO2e	0.0	0.0	0.0	MT CO2e
HFC-236ea	CHF2CHFCF3	0.0	0.0	0.0	lbs	0.0	0.0	0.0	lbs		lbs	0.0	lbs	0.000	MT	1,370	CO2e	0.0	MT CO2e	0.0	0.0	0.0	MT CO2e
HFC-236fa	CF3CH2CF3	0.0	0.0	0.0	lbs	0.0	0.0	0.0	lbs	0.0	lbs	0.0	lbs	0.000	MT	6,300	CO2e	0.0	MT CO2e	0.0	0.0	0.0	MT CO2e
HFC-245ca	CH2FCF2CHF2	0.0	0.0	0.0	lbs	0.0	0.0	0.0	lbs		lbs	0.0	lbs	0.000	MT	560	CO2e	0.0	MT CO2e	0.0	0.0	0.0	MT CO2e
HFC-245fa	CHF2CH2CF3	60.0	0.0	0.0	lbs	0.0	0.0	0.0	lbs	0.0	lbs	60.0	lbs	0.027	MT	1,030	CO2e	28.0	MT CO2e	28.0	0.0	0.0	MT CO2e
HFC-365mfc	CF3CH2CF2CH3	5.9	0.0	0.0	lbs	0.0	0.0	0.0	lbs		lbs	5.9	lbs	0.003	MT	794	CO2e	2.1	MT CO2e	2.1	0.0	0.0	MT CO2e
HFC-43-10mee	CF3CHFCHFCF2CF3	0.0	0.0	0.0	lbs	0.0	0.0	0.0	lbs		lbs	0.0	lbs	0.000	MT	1,300	CO2e	0.0	MT CO2e	0.0	0.0	0.0	MT CO2e
Perfluorocarbons (PFCs)																							
PFC-14	CF4	0.0	0.0	0.0	lbs	0.0	0.0	0.0	lbs	0.0	lbs	0.0	lbs	0.000	MT	6,500	CO2e	0.0	MT CO2e	0.0	0.0	0.0	MT CO2e
PFC-116	C2F6 (CF3CF3)	0.0	0.0	0.0	lbs	0.0	0.0	0.0	lbs	2.4	lbs	2.4	lbs	0.001	MT	9,200	CO2e	10.1	MT CO2e	10.1	0.0	0.0	MT CO2e
PFC-218	C3F8 (CF3CF2CF3)	0.0	0.0	0.0	lbs	0.0	0.0	0.0	lbs	0.1	lbs	0.1	lbs	0.000	MT	7,000	CO2e	0.4	MT CO2e	0.4	0.0	0.0	MT CO2e
PFC-318 or PFC-c318	c-C4F8 (-(CF2)4-)	0.0	0.0	0.0	lbs	0.0	0.0	0.0	lbs	0.0	lbs	0.0	lbs	0.000	MT	8,700	CO2e	0.0	MT CO2e	0.0	0.0	0.0	MT CO2e
PFC-3-1-10	C4F10	0.0	0.0	0.0	lbs	0.0	0.0	0.0	lbs		lbs	0.0	lbs	0.000	MT	7,000	CO2e	0.0	MT CO2e	0.0	0.0	0.0	MT CO2e
PFC-4-1-12	C5F12	0.0	0.0	0.0	lbs	0.0	0.0	0.0	lbs		lbs	0.0	lbs	0.000	MT	7,500	CO2e	0.0	MT CO2e	0.0	0.0	0.0	MT CO2e
PFC-5-1-14	C6F14	0.0	0.0	0.0	lbs	0.0	0.0	0.0	lbs		lbs	0.0	lbs	0.000	MT	7,400	CO2e	0.0	MT CO2e	0.0	0.0	0.0	MT CO2e
PFC-9-1-18	C10F18	0.0	0.0	0.0	lbs	0.0	0.0	0.0	lbs		lbs	0.0	lbs	0.000	MT	7,500	CO2e	0.00	MT CO2e	0.0	0.0	0.0	MT CO2e
Perfluorocyclopropane	c-C3F6	0.0	0.0	0.0	lbs	0.0	0.0	0.0	lbs		lbs	0.0	lbs	0.000	MT	17,340	CO2e	0.0	MT CO2e	0.0	0.0	0.0	MT CO2e
Sulfur hexafluoride	SF6	47.5	0.0	0.0	lbs	0.0	0.0	0.0	lbs		lbs	73.9	lbs	0.033	MT	23,900	CO2e	796.3	MT CO2e	314.9	0.0	0.0	MT CO2e
Other fugitive gases																							
CFC-11	CCl3F	0.3	0.0	0.0	lbs	0.0	0.0	0.0	lbs		lbs	0.3	lbs	0.000	MT	3,800.0	CO2e	0.32	MT CO2e	0.32	0.0	0.0	MT CO2e
CFC-12	CCl2F2	59.0	0.0	0.0	lbs	0.0	0.0	0.0	lbs		lbs	-463.8	lbs	-0.210	MT	8,100.0	CO2e	-1,703.38	MT CO2e	216.77	0.0	0.0	MT CO2e
CFC-113	CCl2FCClF2	14.2	0.0	0.0	lbs	0.0	0.0	0.0	lbs		lbs	14.2	lbs	0.006	MT	4,800.0	CO2e	30.92	MT CO2e	30.92	0.0	0.0	MT CO2e
HCFC-22	CHClF2	131.1	0.0	0.0	lbs	0.0	0.0	0.0	lbs		lbs	147.6	lbs	0.067	MT	1,500.0	CO2e	100.40	MT CO2e	39.17	0.0	0.0	MT CO2e
HCFC-141b (C2H3FCl2) Dichlorofluoroethane	C2H3FCl2	17.5	0.0	0.0	lbs	0.0	0.0	0.0	lbs		lbs	17.5	lbs	0.008	MT	725.0	CO2e	5.74	MT CO2e	5.74	0.0	0.0	MT CO2e
HCFC-225ca	C3HF5Cl2	0.0	0.0	0.0	lbs	0.0	0.0	0.0	lbs		lbs	0.8	lbs	0.000	MT	122.0	CO2e	0.05	MT CO2e	0.05	0.0	0.0	MT CO2e
HCFC-225cb	C3HF5Cl2	0.0	0.0	0.0	lbs	0.0	0.0	0.0	lbs		lbs	0.8	lbs	0.000	MT	595.0	CO2e	0.23	MT CO2e	0.23	0.0	0.0	MT CO2e
Carbon Tetrachloride	CCl4	0.2	0.0	0.0	lbs	0.0	0.0	0.0	lbs		lbs	0.2	lbs	0.000	MT	1,400.0	CO2e	0.10	MT CO2e	0.10	0.0	0.0	MT CO2e
Methyl Chloroform	C2H3Cl3	82.1	0.0	0.0	lbs	0.0	0.0	0.0	lbs		lbs	82.1	lbs	0.037	MT	146.0	CO2e	5.44	MT CO2e	5.44	0.0	0.0	MT CO2e
HFE-449sl (HFE-7100) Chemical Blend	C5H3F9O	2.1	0.0	0.0	lbs	0.0	0.0	0.0	lbs		lbs	2.1	lbs	0.001	MT	297.0	CO2e	0.28	MT CO2e	0.3	0.0	0.0	MT CO2e
HFE-449sl (HFE-7100) Chemical Blend	C5H3F9O	2.1	0.0	0.0	lbs	0.0	0.0	0.0	lbs		lbs	2.1	lbs	0.001	MT	297.0	CO2e	0.3	MT CO2e	0.3	0.0	0.0	MT CO2e

Total CO2e	686.5	MT CO2e

Total CO2e	686.5	MT CO2e	2,216.7	0.0	0.0	MT CO2e

Source: U.S. EPA Climate Leaders Program, Technical Guidance, Direct HFC and PFC Emissions from Use of Refrigeration and Air Conditioning Equipment, May 2008, see: http://www.epa.gov/stateply/documents/resources/mfgrfg.pdf

Fugitive Emissions: On-site Wastewater Treatment (Domestic Only)

Requirement(s): [illegible]

Instructions: Complete data cells highlighted in yellow, as applicable.

Source: [illegible]

Step 1			
Waste Water Treatment Process Type	Agency has	Total Population Served	Units
On-Site Centralized WWTP with Anaerobic Digestion	No		Persons
On-Site Centralized WWTP with Nitrification / Denitrification	No		Persons
On-Site Centralized WWTP without Nitrification / Denitrification	No		Persons
On-Site Effluent Discharge to Rivers and Estuaries with Nitrification / Denitrification	No		Persons
On-Site Effluent Discharge to Rivers and Estuaries without Nitrification / Denitrification	No		Persons
On-Site Wastewater Treatment Lagoons	Yes	4270	Persons
On-Site Septic Systems	Yes	[illegible]	Persons

* WWTP = Wastewater treatment plant

Process Type	GHG Type	Composition	Total Population Served by the WWTP	Workdays per Year	Fraction Allocated to Facility	Per Capita Digester Gas Produced per Day	Unit of Measure	Fraction CH4 in Biogas	Density of CH4 (Standard Conditions)	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure	Combustion Oxidation Factor	HHV	Unit of Measure	Energy Content of Methane Combusted	Unit of Measure	Combustion Emission Factor	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure	GWP by Type	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure
			Step 2											Stationary combustion - flare											
On-Site Centralized WWTP with Anaerobic Digestion	Carbon dioxide (biogenic)	CO2												0.0430	MMBtu/kg CH4	0.0	MMBtu	0.052070	MT CO2/MMBtu	0.0	MT CO2			0.0	MT CO2 (biogenic)
	Methane	CH4	0.0	[illegible]	[illegible]	[illegible]	CuFT / Person / Day	[illegible]	[illegible]	kg / CuFT	0	kg CH4	[illegible]	0.0430	MMBtu/kg CH4	0.0	MMBtu	0.000005	MT CH4/MMBtu	0.0	MT CH4	21	CO2e	0.0	MT CO2e
	Nitrous oxide	N2O												0.0430	MMBtu/kg CH4	0.0	MMBtu	0.000001	MT N2O/MMBtu	0.0	MT N2O	310	CO2e	0.0	MT CO2e

Sub-Total CO2e	0.0	MT
Sub-Total CO2 (Biogenic)	0.0	MT

Process Type	GHG Type	Composition	Total Population Served by WWTP with NDN	Workdays per Year	Fraction Allocated to Facility	N2O Emission Factor for a WWTP	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure	Unit Conversion	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure	GWP by Type	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure
			Step 2																
On-Site Centralized WWTP with Nitrification / Denitrification	Nitrous oxide	N2O	0.0	[illegible]	[illegible]	[illegible]	g / Person / Day	0.0	g	0.000001	MT / g	0	MT N2O	0.00000	MT N2O	310	CO2e	0.0	MT CO2e

Sub-Total CO2e	0.0	MT
Sub-Total CO2 (Biogenic)		MT

Process Type	GHG Type	Composition	Total Population Served by WWTP without NDN	Workdays per Year	Fraction Allocated to Facility	N2O Emission Factor for a WWTP	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure	Unit Conversion	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure	GWP by Type	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure
			Step 2																
On-Site Centralized WWTP without Nitrification / Denitrification	Nitrous oxide	N2O	0.0	[illegible]	[illegible]	[illegible]	g / Person / Day	0.0	g	0.000001	MT / g	0	MT N2O	0.00000	MT N2O	310	CO2e	0.0	MT CO2e

Sub-Total CO2e	0.0	MT
Sub-Total CO2 (Biogenic)		MT

Process Type	GHG Type	Composition	Total Population Served by WWTP with NDN	Workdays per Year	Fraction Nitrogen & BOD Allocated to Facility	Per capita Nitrogen Load	Unit of Measure	Nitrogen uptake for cell growth (aerobic system)*	Unit of Measure	Per capita BOD5 produced per day	Unit of Measure	Total N produced	Unit of Measure	Effluent Emission Factor	Unit of Measure	N2O to N2 Ratio	Plant Nitrification / Denitrification Factor	Unit Conversion	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure	GWP by Type	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure
			Step 2																						
Effluent Discharge to Rivers and Estuaries for WWTP with Nitrification / Denitrification	Nitrous Oxide	N2O	0.0	[illegible]	[illegible]	[illegible]	kg N / person / day	[illegible]	kg N / kg BOD5	[illegible]	kg BOD5 / person / day	0.0	kg N	0.005	kg N2O-N / kg sewage-N discharged	1.5	0.7	0.001	MT / kg	0.0	MT N2O	310	CO2e	0.0	MT CO2e

*Anaerobic systems use a value of 0.0

Sub-Total CO2e	0.0	MT
Sub-Total CO2 (Biogenic)		MT

Process Type	GHG Type	Composition	Total Population Served by WWTP with NDN	Workdays per Year	Fraction Nitrogen & BOD Allocated to Facility	Per capita Nitrogen Load	Unit of Measure	Nitrogen uptake for cell growth	Unit of Measure	Per capita BOD5 produced per day	Unit of Measure	Total N produced	Unit of Measure	Effluent Emission Factor	Unit of Measure	N2O to N2 Ratio	Plant Nitrification / Denitrification Factor	Unit Conversion	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure	GWP by Type	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure
			Step 2																						
Effluent Discharge to Rivers and Estuaries for WWTP without Nitrification / Denitrification	Nitrous Oxide	N2O	0.0	[illegible]	[illegible]	[illegible]	kg N / person / day	[illegible]	kg N / kg BOD5	[illegible]	kg BOD5 / person / day	0.0	kg N	0.005	kg N2O-N / kg sewage-N discharged	1.6	0.6	0.001	MT / kg	0.0	MT N2O	310	CO2e	0.0	MT CO2e

Sub-Total CO2e	0.0	MT
Sub-Total CO2 (Biogenic)		MT

Process Type	GHG Type	Composition	Total Population Served by the Lagoons	Workdays per Year	Fraction BOD Allocated to Facility	Per capita BOD5 produced per day	Unit of Measure	Fraction of BOD5 Removed by Primary Treatment	Maximum CH4 Production Capacity	Unit of Measure	CH4 Correction Factor for Anaerobic Systems	Fraction of Lagoon BOD5 Removed	Total Quantity Emitted by Type	Unit of Measure	Unit Conversion	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure		Total Quantity Emitted by Type	Unit of Measure	GWP by Type	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure
			Step 2																						
On-site Wastewater Treatment Lagoons	Methane	CH4	4,270.0	192.00	[illegible]	[illegible]	kg BOD5 / person / day	[illegible]	[illegible]	kg CH4 / kg BOD5	[illegible]	[illegible]	12413.39004	kg CH4	0.001	MT / kg	12.41339004	MT		12.41339004	MT CH4	21	CO2e	260.7	MT CO2e

Sub-Total CO2e	260.7	MT
Sub-Total CO2 (Biogenic)		MT

Process Type	GHG Type	Composition	Total Population Served by the Septic System	Workdays per Year	Fraction BOD Allocated to Facility	Per capita BOD5 produced per day	Unit of Measure		Maximum CH4 Production Capacity	Unit of Measure	CH4 Correction Factor for Septic Systems		Total Quantity Emitted by Type	Unit of Measure	Unit Conversion	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure		Total Quantity Emitted by Type	Unit of Measure	GWP by Type	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure
			Step 2																						
On-site Septic Systems	Methane	CH4	0.0	365.00	[illegible]	[illegible]	kg BOD5 / person / day		[illegible]	kg CH4 / kg BOD5	[illegible]		[illegible]	kg CH4	0.001	MT / kg	0.0	MT		0.0	MT CH4	21	CO2e	0.0	MT CO2e

Sub-Total CO2e	0.0	MT
Sub-Total CO2 (Biogenic)		MT

Total CO2e	260.7	MT
Total CO2 (Biogenic)	0.0	MT

Step 3		
Total CO2e	260.7	MT CO2e
Total CO2 (Biogenic)	0.0	MT CO2

Source 1: U.S. EPA, Inventory of U.S. Greenhouse Gas Emissions and Sinks, [illegible]
Source 2: Local Government Operations Protocol (LGO Protocol), Chapter 10, [illegible]

Fugitive Emissions: On-site Landfills and Municipal Solid Waste Facilities (Domestic Only)

Requirement(s): DOE O 436.1, E.O. 13514

Instructions: Complete data fields highlighted in [illegible] as applicable

Source: Site/Lab

Process Type	GHG Type	Composition	Total Quantity	Unit of Measure
Landfill Gas Production	Mass of Solid Waste Disposed On-site		709.0	Short Tons
	Landfill Open Date		1964	Year
	Landfill Close Date		2025	Year

Process Type	GHG Type	Composition	Total Quantity Emitted by Type	Unit of Measure	Percentage Uncontrolled Release	Landfill Gas Collection System Efficiency	Venting Loss	Total Quantity	Unit of Measure	Methatropic Bacteria Oxidation Factor	HHV	Unit of Measure	Energy Content of Methane Combusted	Unit of Measure	Combustion Emission Factor	Unit of Measure	Combustion Oxidation Factor	Total Quantity Emitted by Type	Unit of Measure	GWP by Type	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure
Landfill Gas Production	Carbon dioxide (biogenic)	CO2	827.9	MT (Megagram)	100%			827.9	MT									827.9	MT			827.9	MT CO2 (biogenic)
	Methane	CH4	301.7	MT (Megagram)	100%			301.7	MT	10%								271.5	MT	21	CO2e	5,702.1	MT CO2e
Methatropic Oxidation	Carbon dioxide (biogenic)	CO2								10%								83.0	MT			83.0	MT CO2 (biogenic)
Landfill Gas Collection Loss	Methane	CH4				0%		0.0	MT	10%								0.0	MT	21	CO2e	0.0	MT CO2e
Methatropic Oxidation	Carbon dioxide (biogenic)	CO2								10%								0.0	MT			0.0	MT CO2 (biogenic)
Landfill Gas Flaring	Carbon dioxide (biogenic)	CO2									43.8	MMBtu/MT CH4	0.0	MMBtu	0.052070	MT CO2/MMBtu	[illegible]	0.0	MT			0.0	MT CO2 (biogenic)
	Methane	CH4				0%	0%	0.0	MT		43.8	MMBtu/MT CH4	0.0	MMBtu	0.000003	MT CH4/MMBtu		0.0	MT	21	CO2e	0.0	MT CO2e
	Nitrous oxide	N2O									43.8	MMBtu/MT CH4	0.0	MMBtu	0.000001	MT N2O/MMBtu		0.0	MT	310	CO2e	0.0	MT CO2e
Landfill Gas Flare Venting	Methane	CH4						0.0	MT									0.0	MT	21	CO2e	0.0	MT CO2e

Total CO2e	5,702.1	MT CO2e
Total CO2 (biogenic)	910.9	MT CO2

Total CO2e	5,702.1	MT CO2e
Total CO2 (biogenic)	910.9	MT CO2

Source 1: *U.S. EPA Technology Transfer Network, Clean Air Technology Center, Landfill Gas Emissions Model (LandGEM), see at: http://www.epa.gov/ttncatc1/products.html*

Source 2: [illegible]

Source 3: *U.S. EPA Climate Leaders Program, Technical Guidance, Offset Project Methodology for Project Type: Landfill Methane Collection and Combustion, see at: http://www.epa.gov/stateply/documents/resources/draft_landfill_offset_protocol.pdf*

Industrial Process Emissions By Process (Not Reported under Tab 7.3 Fugitive F-gases)

Requirement(s): DOE O 436.1, E.O. 13514

Instructions: Complete data fields highlighted in yellow, as applicable

Source: Site/Lab

Process Type	GHG Type	Composition	Target Subject Total Quantity Emitted by Type	Target Excluded Total Quantity Emitted by Type	International Total Quantity Emitted by Type (lbs) Included under Target Subject	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure	GWP by Type	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure	Target Subject Total Quantity Emitted by Type	Target Excluded Total Quantity Emitted by	International Total Quantity Emitted by Type (lbs) Included under Target Subject	Unit of Measure
Adipic Acid Production	Nitrous oxide	N_2O	0.0	0.0	0.0	lbs	0.0	kg	310	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Aluminum Production	Carbon dioxide	CO_2	0.0	0.0	0.0	lbs	0.0	kg	1	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Aluminum Production	PFC-14	CF_4	0.0	0.0	0.0	lbs	0.0	kg	6,500	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Aluminum Production	PFC-116	C_2F_6 (CF_3CF_3)	0.0	0.0	0.0	lbs	0.0	kg	9,200	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Ammonia Production	Carbon dioxide	CO_2	0.0	0.0	0.0	lbs	0.0	kg	1	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Cement Production	Carbon dioxide	CO_2	0.0	0.0	0.0	lbs	0.0	kg	1	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
HCFC-22 Production	HFC-23	CHF_3	0.0	0.0	0.0	lbs	0.0	kg	11,700	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Iron and Steel Production	Carbon dioxide	CO_2	0.0	0.0	0.0	lbs	0.0	kg	1	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Lime Production	Carbon dioxide	CO_2	0.0	0.0	0.0	lbs	0.0	kg	1	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Nitric Acid Production	Nitrous oxide	N_2O	0.0	0.0	0.0	lbs	0.0	kg	310	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Particle Accelerators	Sulfur hexafluoride	SF_6	0.0	0.0	0.0	lbs	0.0	kg	23,900	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Pulp and Paper Production	Carbon dioxide	CO_2	0.0	0.0	0.0	lbs	0.0	kg	1	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Refrigeration and Air Condition Equipment Manufacturing	HFC-23	CHF_3	0.0	0.0	0.0	lbs	0.0	kg	11,700	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Refrigeration and Air Condition Equipment Manufacturing	HFC-32	CH_2F_2	0.0	0.0	0.0	lbs	0.0	kg	650	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Refrigeration and Air Condition Equipment Manufacturing	HFC-41	CH_3F	0.0	0.0	0.0	lbs	0.0	kg	150	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Refrigeration and Air Condition Equipment Manufacturing	HFC-125	CHF_2CF_3	0.0	0.0	0.0	lbs	0.0	kg	2,800	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Refrigeration and Air Condition Equipment Manufacturing	HFC-134a	CH_2FCF_3	0.0	0.0	0.0	lbs	0.0	kg	1,300	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Refrigeration and Air Condition Equipment Manufacturing	HFC-143a	CF_3CH_3	0.0	0.0	0.0	lbs	0.0	kg	3,800	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Refrigeration and Air Condition Equipment Manufacturing	HFC-152a	CH_3CHF_2	0.0	0.0	0.0	lbs	0.0	kg	140	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Refrigeration and Air Condition Equipment Manufacturing	HFC-227ea	CF_3CHFCF_3	0.0	0.0	0.0	lbs	0.0	kg	2,900	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Refrigeration and Air Condition Equipment Manufacturing	HFC-236fa	$CF_3CH_2CF_3$	0.0	0.0	0.0	lbs	0.0	kg	6,300	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Refrigeration and Air Condition Equipment Manufacturing	HFC-245fa	$CHF_2CH_2CF_3$	0.0	0.0	0.0	lbs	0.0	kg	1,030	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Refrigeration and Air Condition Equipment Manufacturing	PFC-14	CF_4	0.0	0.0	0.0	lbs	0.0	kg	6,500	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Refrigeration and Air Condition Equipment Manufacturing	PFC-116	C_2F_6 (CF_3CF_3)	0.0	0.0	0.0	lbs	0.0	kg	9,200	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Refrigeration and Air Condition Equipment Manufacturing	PFC-218	C_3F_8 ($CF_3CF_2CF_3$)	0.0	0.0	0.0	lbs	0.0	kg	7,000	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Refrigeration and Air Condition Equipment Manufacturing	PFC-318 or PFC-c318	c-C_4F_8 (-(CF_2)4-)	0.0	0.0	0.0	lbs	0.0	kg	8,700	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Semiconductor Manufacturing	HFC-23	CHF_3	0.0	0.0	0.0	lbs	0.0	kg	11,700	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Semiconductor Manufacturing	HFC-32	CH_2F_2	0.0	0.0	0.0	lbs	0.0	kg	650	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Semiconductor Manufacturing	PFC-14	CF_4	0.0	0.0	0.0	lbs	0.0	kg	6,500	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Semiconductor Manufacturing	PFC-116	C_2F_6 (CF_3CF_3)	0.0	0.0	0.0	lbs	0.0	kg	9,200	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Semiconductor Manufacturing	PFC-218	C_3F_8 ($CF_3CF_2CF_3$)	0.0	0.0	0.0	lbs	0.0	kg	7,000	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Semiconductor Manufacturing	PFC-318 or PFC-c318	c-C_4F_8 (-(CF_2)4-)	0.0	0.0	0.0	lbs	0.0	kg	8,700	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Semiconductor Manufacturing	Sulfur hexafluoride	SF_6	0.0	0.0	0.0	lbs	0.0	kg	23,900	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
[Enter Process Name]	[Enter GHG Name]	[Enter Molecular Composition]	0.0	0.0	0.0	lbs	0.0	kg	[Enter GWP]	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
[Enter Process Name]	[Enter GHG Name]	[Enter Molecular Composition]	0.0	0.0	0.0	lbs	0.0	kg	[Enter GWP]	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
[Enter Process Name]	[Enter GHG Name]	[Enter Molecular Composition]	0.0	0.0	0.0	lbs	0.0	kg	[Enter GWP]	CO_2e	0.0	kg CO_2e	0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e
Total Process Emissions	0.0	MT CO_2e											0.0	MT CO_2e	0.0	0.0	0.0	MT CO_2e

Source 1: U.S. EPA, Mandatory Greenhouse Gas Reporting Rule (MRR), Federal Register, October 30, 2009 see at: http://www.epa.gov/climatechange/emissions/ghgrulemaking.html
Source 2: IPCC 2006 Guidelines, Volume 3, Industrial Processes and Product Use, see at: http://www.ipcc-nggip.iges.or.jp/public/2006gl/vol3.html

Federal Employee Business Air Travel

Requirement(s): DOE O 436.1, E.O. 13514

Instructions: Complete data fields highlighted in orange, as applicable.

Source: Site/Lab

Default Methodology

			Step 1		Step 2					
Process Type	Flight Distance Type	Fuel Type	GHG Target Subject Mileage Air Travel by Segment Type	Unit of Measure	Emission Factor CO_2	Unit of Measure	Emission Factor CH_4	Unit of Measure	Emission Factor N_2O	Unit of Measure
Air Business Travel	Short Haul	Jet Fuel	3,066,129.0	Passenger miles	0.277	kg CO2/Passe	0.000010	kg CH4/Pas	0.000009	kg N2O/Passenger Mi
	Medum Haul	Jet Fuel	5,244,640.0	Passenger miles	0.229	kg CO2/Passe	0.000010	kg CH4/Pas	0.000009	kg N2O/Passenger Mi
	Long Haul	Jet Fuel	21,963,466.0	Passenger miles	0.185	kg CO2/Passe	0.000010	kg CH4/Pas	0.000009	kg N2O/Passenger Mi
	Unknown	Jet Fuel	0.0	Passenger miles	0.271	kg CO2/Passe	0.000010	kg CH4/Pas	0.000009	kg N2O/Passenger Mi

Advanced Methodology

			Step 4							
Process Type	GHG Type	Composition	Annual GHG Target Subject Emissions	Unit of Measure	Emission Factor CO_2	Unit of Measure	Emission Factor CH_4	Unit of Measure	Emission Factor N_2O	Unit of Measure
Air Business Travel	Carbon dioxide	CO2	0.0	lbs						
	Methane	CH4		lbs						
	Nitrous oxide	N2O		lbs						

Total CO2e	6,200.0	MT CO2e

Source 1: *U.S. DOE, Federal Energy Management Program, See at: http://www1.eere.energy.gov/femp/docs/energydatareportfy09.xls*
Source 2: *U.S. DOE, Federal Energy Management Program, Section 9, Technical Support Document*
Source 3: *GSA Travel MIS Tool*

Federal Employee Business Ground Travel (Domestic Only)

Requirement(s): DOE O 436.1, E.O. 13514

Instructions: Complete data fields highlighted in , as applicable.

Source: Site/Lab

Default Methodology

Step 2

Process Type	Vehicle Type	Fuel Type	Number of Agency Business Trips	Average Rental Mileage per Trip	Average MPG	Unit of Measure	Total Mileage by Vehicle Type	Unit of Measure	Emission Factor CO2	Unit of Measure	Emission Factor CH4	Unit of Measure	Emission Factor N2O	Unit of Measure	Total Quantity Emitted CO2	Total Quantity Emitted CH4	Total Quantity Emitted N2O	Unit of Measure	GWP Factor for CO2	GWP Factor for CH4	GWP Factor for N2O	Unit of Measure	Total Quantity Emitted (CO2e)	Unit of Measure	Total Quantity Emitted (CO2e)	Unit of Measure
Ground Business Travel Emissions - Rentals Emissions	Passenger Car	Gasoline	409.0	[illegible]			171,371.0	Miles	0.364	kg CO2/Mile	0.000031	kg CH4/Mile	0.000032	kg N2O/Mile	62,379.0	5.3	5.5	kg	1	21	310	CO2e	64,190.6	kg CO2e	64.2	MT CO2e
	SUV or Truck	Gasoline	0.0	[illegible]			0.0	Miles	0.519	kg CO2/Mile	0.000036	kg CH4/Mile	0.000047	kg N2O/Mile	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e

Sub-Total Rental Emissions	64.2	MT CO2e

Advanced Methodology

Step 2

Process Type	Vehicle Type	Fuel Type	Total Mileage by Vehicle Type	Average Passenger Miles per Trip	Average MPG	Unit of Measure	Total Mileage by Vehicle Type	Unit of Measure	Emission Factor CO2	Unit of Measure	Emission Factor CH4	Unit of Measure	Emission Factor N2O	Unit of Measure	Total Quantity Emitted CO2	Total Quantity Emitted CH4	Total Quantity Emitted N2O	Unit of Measure	GWP Factor for CO2	GWP Factor for CH4	GWP Factor for N2O	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure
Ground Business Travel Emissions - Rental Mileage by Class	Economy	Gasoline					2,107.9	Miles	0.315	kg CO2/Mile	0.000011	kg CH4/Mile	0.000015	kg N2O/Mile	664.0	0.0	0.0	kg	1	21	310	CO2e	674.2	kg CO2e	0.7	MT CO2e
	Compact	Gasoline					43,406.7	Miles	0.287	kg CO2/Mile	0.000011	kg CH4/Mile	0.000015	kg N2O/Mile	12,457.7	0.5	0.7	kg	1	21	310	CO2e	12,669.1	kg CO2e	12.7	MT CO2e
	Midsize	Gasoline					236,740.8	Miles	0.314	kg CO2/Mile	0.000011	kg CH4/Mile	0.000015	kg N2O/Mile	74,336.6	2.5	3.6	kg	1	21	310	CO2e	75,489.7	kg CO2e	75.5	MT CO2e
	Full Size	Gasoline					204,424.2	Miles	0.392	kg CO2/Mile	0.000011	kg CH4/Mile	0.000015	kg N2O/Mile	80,134.3	2.1	3.1	kg	1	21	310	CO2e	81,129.9	kg CO2e	81.1	MT CO2e
	Luxury	Gasoline					39,563.5	Miles	0.445	kg CO2/Mile	0.000011	kg CH4/Mile	0.000015	kg N2O/Mile	17,605.8	0.4	0.6	kg	1	21	310	CO2e	17,798.4	kg CO2e	17.8	MT CO2e
	Minivan/Wagon	Gasoline					17,652.0	Miles	0.435	kg CO2/Mile	0.000011	kg CH4/Mile	0.000015	kg N2O/Mile	7,678.6	0.2	0.3	kg	1	21	310	CO2e	7,764.6	kg CO2e	7.8	MT CO2e
	Small SUV	Gasoline					119,588.9	Miles	0.442	kg CO2/Mile	0.000015	kg CH4/Mile	0.000015	kg N2O/Mile	52,858.3	1.8	1.9	kg	1	21	310	CO2e	53,477.5	kg CO2e	53.5	MT CO2e
	Medium SUV	Gasoline					65,367.0	Miles	0.528	kg CO2/Mile	0.000015	kg CH4/Mile	0.000016	kg N2O/Mile	34,513.8	1.0	1.0	kg	1	21	310	CO2e	34,852.2	kg CO2e	34.9	MT CO2e
	Large SUV	Gasoline					44,974.0	Miles	0.557	kg CO2/Mile	0.000015	kg CH4/Mile	0.000016	kg N2O/Mile	25,050.5	0.7	0.7	kg	1	21	310	CO2e	25,283.4	kg CO2e	25.3	MT CO2e
	Passenger Van	Gasoline					2,402.0	Miles	0.585	kg CO2/Mile	0.000015	kg CH4/Mile	0.000016	kg N2O/Mile	1,405.2	0.0	0.0	kg	1	21	310	CO2e	1,417.6	kg CO2e	1.4	MT CO2e
	1/2 Ton Pickup	Gasoline					0.0	Miles	0.545	kg CO2/Mile	0.000015	kg CH4/Mile	0.000016	kg N2O/Mile	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e
	Unknown	Gasoline					5,352.5	Miles	0.545	kg CO2/Mile	0.000015	kg CH4/Mile	0.000016	kg N2O/Mile	2,917.1	0.1	0.1	kg	1	21	310	CO2e	2,944.8	kg CO2e	2.9	MT CO2e

Sub-Total Rental Emissions	313.5	MT CO2e

Advanced Methodology

Step 2

Process Type	Vehicle Type	Fuel Type	Total Quantity Fuel Purchased	Unit of Measure	Average MPG	Unit of Measure	Total Mileage by Vehicle Type	Unit of Measure	Emission Factor CO2	Unit of Measure	Emission Factor CH4	Unit of Measure	Emission Factor N2O	Unit of Measure	Total Quantity Emitted CO2	Total Quantity Emitted CH4	Total Quantity Emitted N2O	Unit of Measure	GWP Factor for CO2	GWP Factor for CH4	GWP Factor for N2O	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure
Ground Business Travel Emissions - Rental Direct Fuel Purchase	Passenger Car	Gasoline	0.0	Gallons	[illegible]	Miles / Gallon			8.778	kg CO2/Gallon	0.00024	kg CH4/Gallon	0.00034	kg N2O/Gallon	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e
	SUV or Truck	Gasoline	0.0	Gallons	[illegible]	Miles / Gallon			8.778	kg CO2/Gallon	0.00027	kg CH4/Gallon	0.00028	kg N2O/Gallon	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e
	SUV or Truck	Diesel	0.0	Gallons	[illegible]	Miles / Gallon			10.206	kg CO2/Gallon	0.00002	kg CH4/Gallon	0.00003	kg N2O/Gallon	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e

Sub-Total Rental Direct Fuel Purchase Emissions	0.0	MT CO2e

Advanced Methodology

Step 2

Process Type	Vehicle Type	Fuel Type	Number of Agency Business Trips	Average Passenger Miles per Trip	Average MPG	Unit of Measure	Total Mileage by Vehicle Type	Unit of Measure	Emission Factor CO2	Unit of Measure	Emission Factor CH4	Unit of Measure	Emission Factor N2O	Unit of Measure	Total Quantity Emitted CO2	Total Quantity Emitted CH4	Total Quantity Emitted N2O	Unit of Measure	GWP Factor for CO2	GWP Factor for CH4	GWP Factor for N2O	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure
Ground Business Travel Emissions - Rental Trip Mileage	Passenger Car	Gasoline	0.0	0.0			0.0	Miles	0.364	kg CO2/Mile	0.000031	kg CH4/Mile	0.000032	kg N2O/Mile	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e
	SUV or Truck	Gasoline	0.0	0.0			0.0	Miles	0.519	kg CO2/Mile	0.000036	kg CH4/Mile	0.000047	kg N2O/Mile	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e
	SUV or Truck	Diesel	0.0	0.0			0.0	Miles	0.561	kg CO2/Mile	0.000001	kg CH4/Mile	0.0000015	kg N2O/Mile	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e

Sub-Total Rental Direct Fuel Purchase Emissions	0.0	MT CO2e

Advanced Methodology

Step 2

Process Type	Vehicle Type	Fuel Type	Total Reimbursed Mileage	Average Passenger Miles per Trip	Average MPG	Unit of Measure	Total Mileage by Vehicle Type	Unit of Measure	Emission Factor CO2	Unit of Measure	Emission Factor CH4	Unit of Measure	Emission Factor N2O	Unit of Measure	Total Quantity Emitted CO2	Total Quantity Emitted CH4	Total Quantity Emitted N2O	Unit of Measure	GWP Factor for CO2	GWP Factor for CH4	GWP Factor for N2O	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure
Ground Business Travel Emissions - POV Mileage	Passenger Car	Gasoline	820,539.0				820,539.0	Miles	0.364	kg CO2/Mile	0.000031	kg CH4/Mile	0.000032	kg N2O/Mile	298,676.2	25.4	26.3	kg	1	21	310	CO2e	307,350.1	kg CO2e	307.4	MT CO2e
	SUV or Truck	Gasoline	445,385.4				445,385.4	Miles	0.519	kg CO2/Mile	0.000036	kg CH4/Mile	0.000047	kg N2O/Mile	231,155.0	16.0	20.9	kg	1	21	310	CO2e	237,981.0	kg CO2e	238.0	MT CO2e

Sub-Total Rental Direct Fuel Purchase Emissions	545.3	MT CO2e

Advanced Methodology

Step 2

Process Type	Vehicle Type	Fuel Type	Number of Agency Business Trips	Average Passenger Miles per Trip	Average MPG	Unit of Measure	Total Mileage by Vehicle Type	Unit of Measure	Emission Factor CO2	Unit of Measure	Emission Factor CH4	Unit of Measure	Emission Factor N2O	Unit of Measure	Total Quantity Emitted CO2	Total Quantity Emitted CH4	Total Quantity Emitted N2O	Unit of Measure	GWP Factor for CO2	GWP Factor for CH4	GWP Factor for N2O	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure
Ground Business Travel - Mass Transit Trip Mileage	Bus	Diesel	0.0	0.0			0.0	Miles	0.107	kg CO2/Passenger	0.000001	kg CH4/Passenge	0.0000005	kg N2O/Passenger Mi	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e
	Metro / Transit Rail	Electric	0.0	0.0			0.0	Miles	0.163	kg CO2/Passenger	0.000004	kg CH4/Passenge	0.000002	kg N2O/Passenger Mi	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e
	Commuter Rail	Diesel	0.0	0.0			0.0	Miles	0.172	kg CO2/Passenger	0.000002	kg CH4/Passenge	0.000001	kg N2O/Passenger Mi	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e
	Intercity Rail	Diesel	0.0	0.0			0.0	Miles	0.185	kg CO2/Passenger	0.000002	kg CH4/Passenge	0.000001	kg N2O/Passenger Mi	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e

Sub-Total Rental Direct Fuel Purchase Emissions	0.0	MT CO2e

Total Ground Business Travel Emissions	923.0

Total Ground Business Travel Emissions	923.0	MT CO2e

Source: U.S. EPA Climate Leaders Program Technical Guidance, Optional Emissions from Commuting, Business Travel, and Product Transport, see: http://www.epa.gov/stateply/documents/resources/commute_travel_product.pdf

			Step 1				Step 3										Step 4							
Process Type	Vehicle Type	Fuel Type	Commute Distance Traveled (Miles / Day)	Number of Commute Days per Year	Total Mileage by Vehicle Type	Unit of Measure	Emission Factor CO2	Unit of Measure	Emission Factor CH4	Unit of Measure	Emission Factor N2O	Unit of Measure	Total Quantity Emitted CO2	Total Quantity Emitted CH4	Total Quantity Emitted N2O	Unit of Measure	GWP Factor for CO2	GWP Factor for CH4	GWP Factor for N2O	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure
602 Commuter Travel																								
Commuter Travel - Personal Owned Vehicles	POV Passenger Car	Gasoline	26,096.0	216.0	5,636,743.5	Miles	0.364	kg CO2/Mile	0.000031	kg CH4/Mile	0.000032	kg N2O/Mile	2,051,774.3	174.7	180.4	kg	1	21	310	CO2e	########	kg CO2e	2,111.4	MT CO2e
	POV SUV or Truck	Gasoline	16,734.1	216.0	3,614,563.4	Miles	0.519	kg CO2/Mile	0.000036	kg CH4/Mile	0.000047	kg N2O/Mile	1,875,958.4	130.1	169.9	kg	1	21	310	CO2e	########	kg CO2e	1,931.4	MT CO2e
	POV SUV or Truck	Diesel	2,082.1	216.0	449,733.4	Miles	0.561	kg CO2/Mile	0.000001	kg CH4/Mile	0.0000015	kg N2O/Mile	252,197.5	0.4	0.7	kg	1	21	310	CO2e	252,416.0	kg CO2e	252.4	MT CO2e
	Motorcycle	Gasoline	372.6	216.0	80,485.0	Miles	0.167	kg CO2/Mile	0.00007	kg CH4/Mile	0.000007	kg N2O/Mile	13,441.1	5.6	0.6	kg	1	21	310	CO2e	13,734.1	kg CO2e	13.7	MT CO2e
	POV Passenger Car	Alternative	780.5	216.0	323,904.0	Miles	0.167	kg CO2/Mile	0.00007	kg CH4/Mile	0.000007	kg N2O/Mile	54,092.0	22.7	2.3	kg	1	21	310	CO2e	55,271.0	kg CO2e	55.3	MT CO2e
	POV Passenger Car	**Diesel**	827.3	216.0	175,072.0	Miles	0.561	kg CO2/Mile	0.000001	kg CH4/Mile	0.0000015	kg N2O/Mile	109,435.4	0.2	0.3	kg	1	21	310	CO2e	109,530.2	kg CO2e	109.5	MT CO2e
Commuter Travel - Car / Van Pools	Car Pool	Gasoline	0.0	216.0	0.0	Miles	0.182	kg CO2/Passenger Mile	0.0000155	kg CH4/Passenger Mile	0.000016	kg N2O/Passenger Mile	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e
	Van Pool	Gasoline	0.0	216.0	0.0	Miles	0.130	kg CO2/Passenger Mile	0.000009	kg CH4/Passenger Mile	0.00001175	kg N2O/Passenger Mile	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e
Commuter Travel - Mass Transit	Bus	Diesel	0.0	216.0	0.0	Miles	0.107	kg CO2/Passenger Mile	0.0000006	kg CH4/Passenger Mile	0.0000005	kg N2O/Passenger Mile	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e
	Metro / Transit Rail	Electric	0.0	216.0	0.0	Miles	0.163	kg CO2/Passenger Mile	0.000004	kg CH4/Passenger Mile	0.000002	kg N2O/Passenger Mile	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e
	Commuter Rail	Diesel	0.0	216.0	0.0	Miles	0.172	kg CO2/Passenger Mile	0.000002	kg CH4/Passenger Mile	0.000001	kg N2O/Passenger Mile	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e
	Intercity Rail	Diesel	0.0	216.0	0.0	Miles	0.185	kg CO2/Passenger Mile	0.000002	kg CH4/Passenger Mile	0.000001	kg N2O/Passenger Mile	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e
	[ENTER NAME]	[Enter Fuel]	0.0	216.0	0.0	Miles	0.0	kg CO2/Mile	0.0	kg CH4/Mile	0.0	kg N2O/Mile	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e
Commuter Travel - Human Powered	Walking and/or Bicycling		1,489.0	216.0	321,624.0	Miles	0	kg CO2/Mile	0	kg CH4/Mile	0	kg N2O/Mile	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e
603 Commuter Travel																								
Commuter Travel - Personal Owned Vehicles	POV Passenger Car	Gasoline	64,030.1	192.0	12,293,779.2	Miles	0.364	kg CO2/Mile	0.000031	kg CH4/Mile	0.000032	kg N2O/Mile	4,474,935.6	381.1	393.4	kg	1	21	310	CO2e	########	kg CO2e	4,604.9	MT CO2e
	POV SUV or Truck	Gasoline	29,252.3	192.0	5,616,441.6	Miles	0.519	kg CO2/Mile	0.000036	kg CH4/Mile	0.000047	kg N2O/Mile	2,914,933.2	202.2	264.0	kg	1	21	310	CO2e	########	kg CO2e	3,001.0	MT CO2e
	POV SUV or Truck	Diesel	10,101.0	192.0	1,939,393.9	Miles	0.561	kg CO2/Mile	0.000001	kg CH4/Mile	0.0000015	kg N2O/Mile	1,087,560.7	1.9	2.9	kg	1	21	310	CO2e	########	kg CO2e	1,088.5	MT CO2e
	Motorcycle	Gasoline	644.8	192.0	123,805.4	Miles	0.167	kg CO2/Mile	0.00007	kg CH4/Mile	0.000007	kg N2O/Mile	20,675.5	8.7	0.9	kg	1	21	310	CO2e	21,126.2	kg CO2e	21.1	MT CO2e
	POV Passenger Car	Alternative	1,686.6	192.0	323,823.4	Miles	0.167	kg CO2/Mile	0.00007	kg CH4/Mile	0.000007	kg N2O/Mile	54,078.5	22.7	2.3	kg	1	21	310	CO2e	55,257.2	kg CO2e	55.3	MT CO2e
	POV Passenger Car	**Diesel**	1,016.3	192.0	195,127.7	Miles	0.561	kg CO2/Mile	0.000001	kg CH4/Mile	0.0000015	kg N2O/Mile	109,466.6	0.2	0.3	kg	1	21	310	CO2e	109,561.5	kg CO2e	109.6	MT CO2e
Commuter Travel - Car / Van Pools	Car Pool	Gasoline	8,130.8	192.0	1,561,119.4	Miles	0.182	kg CO2/Passenger Mile	0.0000155	kg CH4/Passenger Mile	0.000016	kg N2O/Passenger Mile	284,123.7	24.2	25.0	kg	1	21	310	CO2e	292,375.0	kg CO2e	292.4	MT CO2e
	Van Pool	Gasoline	18,271.9	192.0	3,508,204.8	Miles	0.130	kg CO2/Passenger Mile	0.000009	kg CH4/Passenger Mile	0.00001175	kg N2O/Passenger Mile	455,189.6	31.6	41.2	kg	1	21	310	CO2e	468,631.3	kg CO2e	468.6	MT CO2e
Commuter Travel - Mass Transit	Bus	Diesel	0.0	192.0	0.0	Miles	0.107	kg CO2/Passenger Mile	0.0000006	kg CH4/Passenger Mile	0.0000005	kg N2O/Passenger Mile	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e
	Metro / Transit Rail	Electric	0.0	192.0	0.0	Miles	0.163	kg CO2/Passenger Mile	0.000004	kg CH4/Passenger Mile	0.000002	kg N2O/Passenger Mile	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e
	Commuter Rail	Diesel	0.0	192.0	0.0	Miles	0.172	kg CO2/Passenger Mile	0.000002	kg CH4/Passenger Mile	0.000001	kg N2O/Passenger Mile	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e
	Intercity Rail	Diesel	0.0	192.0	0.0	Miles	0.185	kg CO2/Passenger Mile	0.000002	kg CH4/Passenger Mile	0.000001	kg N2O/Passenger Mile	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e
	[ENTER NAME]	[Enter Fuel]	0.0	192.0	0.0	Miles	0.0	kg CO2/Mile	0.0	kg CH4/Mile	0.0	kg N2O/Mile	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e
Commuter Travel - Human Powered	Walking and/or Bicycling		1,012.0	192.0	194,304.0	Miles	0	kg CO2/Mile	0	kg CH4/Mile	0	kg N2O/Mile	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e
DOE-ID 602 and 603 Commuter Travel																								
Commuter Travel - Personal Owned Vehicles	POV Passenger Car	Gasoline	3297.8	216.0	712,283.9	Miles	0.364	kg CO2/Mile	0.000031	kg CH4/Mile	0.000032	kg N2O/Mile	259,272.1	22.1	22.8	kg	1	21	310	CO2e	266,301.6	kg CO2e	266.3	MT CO2e
	POV SUV or Truck	Gasoline	1721.9	216.0	371,921.9	Miles	0.519	kg CO2/Mile	0.000036	kg CH4/Mile	0.000047	kg N2O/Mile	193,028.5	13.4	17.5	kg	1	21	310	CO2e	198,728.6	kg CO2e	198.7	MT CO2e
	POV SUV or Truck	Diesel	370.1	216.0	79,943.8	Miles	0.561	kg CO2/Mile	0.000001	kg CH4/Mile	0.0000015	kg N2O/Mile	44,830.3	0.1	0.1	kg	1	21	310	CO2e	44,869.2	kg CO2e	44.9	MT CO2e
	Motorcycle	Gasoline	41.4	216.0	8,943.9	Miles	0.167	kg CO2/Mile	0.00007	kg CH4/Mile	0.000007	kg N2O/Mile	1,494.5	0.6	0.1	kg	1	21	310	CO2e	1,527.0	kg CO2e	1.5	MT CO2e
	POV Passenger Car	Alternative	321.3	216.0	69,400.4	Miles	0.167	kg CO2/Mile	0.00007	kg CH4/Mile	0.000007	kg N2O/Mile	54,092.0	22.7	2.3	kg	1	21	310	CO2e	55,271.0	kg CO2e	55.3	MT CO2e
	POV Passenger Car	**Diesel**	96.4	216.0	20,815.9	Miles	0.561	kg CO2/Mile	0.000001	kg CH4/Mile	0.0000015	kg N2O/Mile	109,435.4	0.2	0.3	kg	1	21	310	CO2e	109,530.2	kg CO2e	109.5	MT CO2e
Commuter Travel - Car / Van Pools	Car Pool	Gasoline	0.0	216.0	0.0	Miles	0.182	kg CO2/Passenger Mile	0.0000155	kg CH4/Passenger Mile	0.000016	kg N2O/Passenger Mile	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e
	Van Pool	Gasoline	0.0	216.0	0.0	Miles	0.130	kg CO2/Passenger Mile	0.000009	kg CH4/Passenger Mile	0.00001175	kg N2O/Passenger Mile	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e
Commuter Travel - Mass Transit	Bus	Diesel	0.0	216.0	0.0	Miles	0.107	kg CO2/Passenger Mile	0.0000006	kg CH4/Passenger Mile	0.0000005	kg N2O/Passenger Mile	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e
	Metro / Transit Rail	Electric	0.0	216.0	0.0	Miles	0.163	kg CO2/Passenger Mile	0.000004	kg CH4/Passenger Mile	0.000002	kg N2O/Passenger Mile	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e
	Commuter Rail	Diesel	0.0	216.0	0.0	Miles	0.172	kg CO2/Passenger Mile	0.000002	kg CH4/Passenger Mile	0.000001	kg N2O/Passenger Mile	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e
	Intercity Rail	Diesel	0.0	216.0	0.0	Miles	0.185	kg CO2/Passenger Mile	0.000002	kg CH4/Passenger Mile	0.000001	kg N2O/Passenger Mile	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e
	[ENTER NAME]	[Enter Fuel]	0.0	216.0	0.0	Miles	0.0	kg CO2/Mile	0.0	kg CH4/Mile	0.0	kg N2O/Mile	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e
Commuter Travel - Human Powered	Walking and/or Bicycling		39.3	216.0	8,538.2	Miles	0	kg CO2/Mile	0	kg CH4/Mile	0	kg N2O/Mile	0.0	0.0	0.0	kg	1	21	310	CO2e	0.0	kg CO2e	0.0	MT CO2e
Total Commuter Travel Emissions		14,702	MT CO2e																		**Total Commuter Travel Emissions**		14,702	MT CO2e

Source: U.S. EPA Climate Leaders Program Technical Guidance: Optional Emissions from Commuting, Business Travel, and Product Transport, tec. http://www.epa.gov/stateply/documents/resources/commute_travel_product.pdf

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Waste Water Treatment Process Type	Target Subject Federal Employees Served	Percentage
Contracted Centralized WWTP with Anaerobic Digestion	2,304.0	[illegible]
Contracted Centralized WWTP with Nitrification / Denitrification	841.0	[illegible]
Contracted Centralized WWTP without Nitrification / Denitrification	1,463.0	63.5%
Contracted Effluent Discharge to Rivers and Estuaries with Nitrification / Denitrification	841.0	36.5%
Contracted Effluent Discharge to Rivers and Estuaries without Nitrification / Denitrification	1,463.0	63.5%
Contracted Wastewater Treatment Lagoons	0.0	[illegible]

Process Type	GHG Type	Composition	Population Served by the WWTP	Workdays per Year	Fraction Allocated to Facility	Per Capita Digester Gas Produced per Day	Unit of Measure	Fraction CH4 in Biogas	Density of CH4 (Standard Conditions)	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure	Combustion Oxidation Factor	HHV	Unit of Measure	Energy Content of Methane Combusted	Unit of Measure	Combustion Emission Factor	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure	GWP by Type	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure
Contracted Centralized WWTP with Anaerobic Digestion	Carbon dioxide (biogenic)	CO2												0.0438	MMBtu/Kg CH4	157.2	MMBtu	0.052070	MT CO2/MMBtu	8.2	MT CO2			8.2	MT CO2 (biogenic)
	Methane	CH4	2,304.0	216.00	[illegible]	[illegible]	CUFT / Person / Day	[illegible]	[illegible]	kg / CUFT	3536.17903	kg CH4	[illegible]	0.0438	MMBtu/Kg CH4	157.2	MMBtu	0.000003	MT CH4/MMBtu	0.0	MT CH4	21	CO2e	0.0	MT CO2e
	Nitrous oxide	N2O												0.0438	MMBtu/Kg CH4	157.2	MMBtu	0.000001	MT N2O/MMBtu	0.0	MT N2O	310	CO2e	0.0	MT CO2e

Sub-Total CO2e	0.0	MT
Sub-Total CO2 (biogenic)	8.2	MT

Process Type	GHG Type	Composition	Population Served by WWTP with N/D	Workdays per Year	Fraction Allocated to Facility	N2O Emission Factor for a WWTP	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure	Unit Conversion	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure	GWP by Type	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure
Contracted Centralized WWTP with Nitrification / Denitrification	Nitrous oxide	N2O	841.0	216.00	[illegible]	[illegible]	g / Person / Day	2,088.3	g	0.000001	MT / g	0.0020883	MT N2O	0.0	MT N2O	310	CO2e	0.6	MT CO2e

Sub-Total CO2e	0.6	MT
Sub-Total CO2 (biogenic)		MT

Process Type	GHG Type	Composition	Population Served by WWTP without N/D	Workdays per Year	Fraction Allocated to Facility	N2O Emission Factor for a WWTP	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure	Unit Conversion	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure	GWP by Type	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure
Contracted Centralized WWTP without Nitrification / Denitrification	Nitrous oxide	N2O	1,463.0	216.00	[illegible]	[illegible]	g / Person / Day	1,061.2	g	0.000001	MT / g	0.0010612	MT N2O	0.0	MT N2O	310	CO2e	0.3	MT CO2e

Sub-Total CO2e	0.3	MT
Sub-Total CO2 (biogenic)		MT

Process Type	GHG Type	Composition	Population Served by WWTP with N/D	Workdays per Year	Fraction Nitrogen & BOD Allocated to Facility	Per capita Nitrogen Load	Unit of Measure	Nitrogen uptake for cell growth	Unit of Measure	Per capita BOD5 produced per day	Unit of Measure	Total N produced	Unit of Measure	Effluent Emission Factor	Unit of Measure	N2O to N2 Ratio	Plant Nitrification / Denitrification Factor	Unit Conversion	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure	GWP by Type	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure
Effluent Discharge to Rivers and Estuaries for WWTP with Nitrification / Denitrification	Nitrous Oxide	N2O	841.0	216.00	[illegible]	[illegible]	kg N / Day	[illegible]	kg N / kg BOD5	[illegible]	kg BOD5 / Day	2,341.3	kg N	0.005	kg N2O-N / kg sewage-N Produced	1.6	0.7	0.001	MT / kg	0.0	MT N2O	310	CO2e	1.7	MT CO2e

Sub-Total CO2e	1.7	MT
Sub-Total CO2 (biogenic)		MT

Process Type	GHG Type	Composition	Population Served by WWTP with N/D	Workdays per Year	Fraction Nitrogen & BOD Allocated to Facility	Per capita Nitrogen Load	Unit of Measure	Nitrogen uptake for cell growth	Unit of Measure	Per capita BOD5 produced per day	Unit of Measure	Total N produced	Unit of Measure	Effluent Emission Factor	Unit of Measure	N2O to N2 Ratio	Plant Nitrification / Denitrification Factor	Unit Conversion	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure	GWP by Type	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure
Effluent Discharge to Rivers and Estuaries for WWTP without Nitrification / Denitrification	Nitrous Oxide	N2O	1,463.0	216.00	[illegible]	[illegible]	kg N / Day	[illegible]	kg N / kg BOD5	[illegible]	kg BOD5 / Day	4,136.3	kg N	0.005	kg N2O-N / kg sewage-N Produced	1.6	0.0	0.001	MT / kg	0.0	MT N2O	310	CO2e	11.6	MT CO2e

Sub-Total CO2e	11.6	MT
Sub-Total CO2 (biogenic)		MT

Process Type	GHG Type	Composition	Population Served by the Lagoons	Workdays per Year	Fraction BOD Allocated to Facility	Per capita BOD5 produced per day	Unit of Measure	Fraction of BOD5 Removed by Primary Treatment	Maximum CH4 Production Capacity	Unit of Measure	CH4 Correction Factor for Anaerobic Systems	Fraction of Lagoon BOD5 Removal	Total Quantity Emitted by Type	Unit of Measure	Unit Conversion	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure		Total Quantity Emitted by Type	Unit of Measure	GWP by Type	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure
Contracted Wastewater Treatment Lagoons	Methane	CH4	0.0	[illegible]	[illegible]	[illegible]	kg BOD5 / Day	[illegible]	[illegible]	kg CH4 / kg BOD5	[illegible]	[illegible]	0	kg CH4	0.001	MT / kg	0	MT		0	MT CH4	21	CO2e	0.0	MT CO2e

Sub-Total CO2e	0.0	MT
Sub-Total CO2 (biogenic)		MT

Total CO2e	14.5	MT CO2e
Total CO2 (biogenic)	8.2	MT Biogenic CO2

Total CO2e	14.5	MT
Total CO2 (biogenic)	8.2	MT

Source 1: U.S. EPA, Inventory of U.S. Greenhouse Gas Emissions and Sinks; see at: http://www.epa.gov/climatechange/emissions/usinventoryreport.html
Source 2: Local Government Operations Protocol (LGO Protocol), Chapter 10; see at: http://www.theclimateregistry.org/resources/protocols/local-government-operations-protocol/

Step 1			
Process Type	Data Elements	Target Subject Quantity	Unit of Measure
Landfill Gas Calculation	Mass of Solid Waste Disposed Off-site	750.2	Short Tons
	Mass of Solid Waste Disposed Off-	680.6	MT (Megagram)
	Degradable organic carbon (DOC)	0.203	Megagram C / Megagram waste
	DOC Anaerobic Degradability	50%	Percent
	Methane Correction Factor	1	Factor
	Methane % of Landfill Gas	50%	Percent
	Methane Molecular Weight	1.33	
	Carbon Dioxide Molecular Weight	3.67	

			Step 2																				
Process Type	GHG Type	Composition	Total Quantity Emitted by Type	Unit of Measure	Percentage Uncontrolled Release	Landfill Gas Collection System Efficiency	Venting Loss	Total Quantity	Unit of Measure	Methanotropic Bacteria Oxidation	HHV	Unit of Measure	Energy Content of Methane Combusted	Unit of Measure	Combustion Emission Factor	Unit of Measure	Combustion Oxidation Factor	Total Quantity Emitted by Type	Unit of Measure	GWP by Type	Unit of Measure	Total Quantity Emitted by Type	Unit of Measure
Landfill Gas Production	Carbon dioxide (biogenic)	CO2	126.6	MT (Megagram)	100%			126.6	MT									126.6	MT CO2			126.6	MT CO2 (biogenic)
	Methane	CH4	46.1	MT (Megagram)	100%			46.1	MT	10%								41.4	MT CH4	21	CO2e	870.4	MT CO2e
Methotropic Oxidation	Carbon dioxide (biogenic)	CO2								10%								12.7	MT			12.7	MT CO2 (biogenic)
Landfill Gas Collection Loss	Methane	CH4				0%		0.0	MT	10%								0.0	MT CH4	21	CO2e	0.0	MT CO2e
Methotropic Oxidation	Carbon dioxide (biogenic)	CO2								10%								0.0	MT			0.0	MT CO2 (biogenic)
Landfill Gas Flaring	Carbon dioxide (biogenic)	CO2									43.8	MMBtu/MT CH4	0.0	MMBtu	0.052070	MT CO2/MMBtu	[illegible]	0.0	MT CO2			0.0	MT CO2 (biogenic)
	Methane	CH4				0%		0.0	MT		43.8	MMBtu/MT CH4	0.0	MMBtu	0.000003	MT CH4/MMBtu		0.0	MT CH4	21	CO2e	0.0	MT CO2e
	Nitrous oxide	N2O									43.8	MMBtu/MT CH4	0.0	MMBtu	0.000001	MT N2O/MMBtu		0.0	MT N2O	310	CO2e	0.0	MT CO2e
Landfill Gas Flare Venting	Methane	CH4						0.0	MT									0.0	MT CH4	21	CO2e	0.0	MT CO2e

Total CO2e	870.4	MT CO2e
Total CO2 (biogenic)	139.3	MT Biogenic CO2

Total CO2e	870.4	MT
Total CO2 (biogenic)	139.3	MT

Source 1: *U.S. EPA, Inventory of U.S. Greenhouse Gas Emissions and Sinks, see at: http://www.epa.gov/climatechange/emissions/usinventoryreport.html*

Source 2: *U.S. EPA Climate Leaders Program, Technical Guidance, Direct Emissions from Municipal Solid Waste Landfilling, October 2004, see at: http://www.epa.gov/stateply/documents/resources/mfgrfs.pdf*

Source 3: *U.S. EPA Climate Leaders Program, Technical Guidance, Offset Project Methodology for Project Type: Landfill Methane Collection and Combustion, see at: http://www.epa.gov/stateply/documents/resources/draft_landfill_offset_protocol.pdf*

FY 2008 Site GHG Estimates

Requirement(s): DOE O 436.1, E.O. 13514

Instructions: Informational only, provides estimated FY 2008 GHG emissions. Sites should review estimates and if need be correct baseline data in the appropriate tab. For fugitive emissions and scope 3 errors, send revised tabs 7.1 through 7.6 and 8.1 through 8.6, respectively, as a separate file labeled "FY 2008 Corrections" with your CEDR.

Source: Site/Lab

PSO	Site #	Site	Scope	For Report Sort	Fuel Group	Fuel	Sum Of Consumption	Original Unit	MTAnthroCO2	MTBiogenicCO2	Total MTCO2e	JOIN_Factor
NE	602	INL-I	Scope 1	Combined Facility Energy Use (from EMS4)	EMS4	LPG-(K Gal)	0.20	kgal	1.16		1.16	LPG-(K Gal)
NE	602	INL-I	Scope 1	Combined Facility Energy Use (from EMS4)	EMS4	Natural Gas-(MCF)	24,564.88	thousand cubic feet	1,340.21		1,340.21	Natural Gas-(MCF)
NE	602	INL-I	Scope 1	Fleet vehicle consumption (from FAST)	FAST	B20	50,954.00	gallons	424.73	105.91	530.64	B20
NE	602	INL-I	Scope 1	Fleet vehicle consumption (from FAST)	FAST	CNG 3600	582.00	gallons at 3600 psi	1.04		1.04	CNG 3600
NE	602	INL-I	Scope 1	Fleet vehicle consumption (from FAST)	FAST	DSL	623,095.00	gallons	6,612.06		6,612.06	DSL
NE	602	INL-I	Scope 1	Fleet vehicle consumption (from FAST)	FAST	DSL ER	5,674.00	gallons			60.21	DSL ER
NE	602	INL-I	Scope 1	Fleet vehicle consumption (from FAST)	FAST	E85	25,826.00	gallons	24.83	135.22	160.05	E85
NE	602	INL-I	Scope 1	Fleet vehicle consumption (from FAST)	FAST	GAS	415,004.00	gallons	3,677.51		3,677.51	GAS
NE	602	INL-I	Scope 1	Fleet vehicle consumption (from FAST)	FAST	GAS LE	81,479.00	gallons			722.02	GAS LE
NE	602	INL-I	Scope 1	Fleet vehicle consumption (from FAST)	FAST	LNG	45,994.00	gallons @ 14.7psi and -234 degrees F	201.38		201.38	LNG
NE	602	INL-I	Scope 1	Fugitive Emissions (from PPTRS)	FUGITIVE	HFC-125	100.38	lbs	127.49		127.49	HFC-125
NE	602	INL-I	Scope 1	Fugitive Emissions (from PPTRS)	FUGITIVE	HFC-134a	253.42	lbs	149.43		149.43	HFC-134a
NE	602	INL-I	Scope 1	Fugitive Emissions (from PPTRS)	FUGITIVE	HFC-143a	0.72	lbs	1.24		1.24	HFC-143a
NE	602	INL-I	Scope 1	Fugitive Emissions (from PPTRS)	FUGITIVE	HFC-152a	24.61	lbs	1.56		1.56	HFC-152a
NE	602	INL-I	Scope 1	Fugitive Emissions (from PPTRS)	FUGITIVE	HFC-23	0.40	lbs	2.12		2.12	HFC-23
NE	602	INL-I	Scope 1	Fugitive Emissions (from PPTRS)	FUGITIVE	HFC-32	78.00	lbs	23.00		23.00	HFC-32
NE	602	INL-I	Scope 1	Fugitive Emissions (from PPTRS)	FUGITIVE	HFC-365mfc	22.83	lbs	8.22		8.22	HFC-365mfc
NE	602	INL-I	Scope 1	Fugitive Emissions (from PPTRS)	FUGITIVE	HFC-43-10mee	1.70	lbs	1.00		1.00	HFC-43-10mee
NE	602	INL-I	Scope 1	Fugitive Emissions (from PPTRS)	FUGITIVE	PFC-116	0.50	lbs	2.09		2.09	PFC-116
NE	602	INL-I	Scope 1	Fugitive Emissions (from PPTRS)	FUGITIVE	SF6	1.50	lbs	16.26		16.26	SF6
NE	602	INL-I	Scope 1	PPTRS On-Site Landfill	LANDFILL	Anthropogenic CO2e	5,972.40	mt	5,972.40		5,972.40	Anthropogenic CO2e
NE	602	INL-I	Scope 1	PPTRS On-Site Landfill	LANDFILL	Biogenic CO2e	866.00	mt		866.00	866.00	Biogenic CO2e
NE	602	INL-I	Scope 1	PPTRS On-Site WWTP	WWTP	Anthropogenic CO2e	281.10	mt	281.10		281.10	Anthropogenic CO2e
NE	602	INL-I	Scope 2	Combined Facility Energy Use (from EMS4)	EMS4	Electricity-MWH	33,660.62	mwh	13,852.16		13,852.16	NWPP
NE	602	INL-I	Scope 3	From PPTRS	SCOPE_3	Business Air Travel	4,319.00	MTCO2e	4,319.00		4,319.00	Business Air Travel
NE	602	INL-I	Scope 3	From PPTRS	SCOPE_3	Business Ground Travel	1,408.00	MTCO2e	1,408.00		1,408.00	Business Ground Travel
NE	602	INL-I	Scope 3	From PPTRS	SCOPE_3	Employee Commute	20,525.00	MTCO2e	20,525.00		20,525.00	Employee Commute
NE	602	INL-I	Scope 3	From PPTRS	SCOPE_3	Off-Site Landfill	176.33	MTCO2e		176.33	176.33	Off-Site Landfill (Bio)
NE	602	INL-I	Scope 3	From PPTRS	SCOPE_3	Off-Site Landfill	557.75	MTCO2e	557.75		557.75	Off-Site Landfill (Anthro)
NE	602	INL-I	Scope 3	From PPTRS	SCOPE_3	Off-Site WWTP	27.10	MTCO2e		27.10	27.10	Off-Site WWTP (Bio)
NE	602	INL-I	Scope 3	From PPTRS	SCOPE_3	Off-Site WWTP	52.72	MTCO2e	52.72		52.72	Off-Site WWTP (Anthro)
NE	602	INL-I	Scope 3	From PPTRS	T_D_LOSSES	Transmission and Distribution Losses	912.46	MTCO2e	912.46		912.46	Transmission and Distribution Losses
NE	603	INL-S	Scope 1	Combined Facility Energy Use (from EMS4)	EMS4	Fuel Oil-(K Gal)	2,220.17	kgal	22,736.44		22,736.44	Fuel Oil-(K Gal)
NE	603	INL-S	Scope 1	Combined Facility Energy Use (from EMS4)	EMS4	LNG	3.71	bbtu	197.06		197.06	LNG1
NE	603	INL-S	Scope 1	Combined Facility Energy Use (from EMS4)	EMS4	LPG-(K Gal)	287.23	kgal	1,670.85		1,670.85	LPG-(K Gal)
NE	603	INL-S	Scope 1	Non-FAST mobility consumption (from EMS4)	EMS4	Auto Gas-(K Gal)	30.30	kgal	266.87		266.87	Auto Gas-(K Gal)
NE	603	INL-S	Scope 1	Non-FAST mobility consumption (from EMS4)	EMS4	Diesel-(K Gal)	232.24	kgal	2,378.32		2,378.32	Diesel-(K Gal)
NE	603	INL-S	Scope 2	Combined Facility Energy Use (from EMS4)	EMS4	Electricity-MWH	196,992.39	mwh	81,067.14		81,067.14	NWPP
NE	603	INL-S	Scope 3	From PPTRS	SCOPE_3	Business Air Travel	3,879.70	MTCO2e	3,879.70		3,879.70	Business Air Travel
NE	603	INL-S	Scope 3	From PPTRS	SCOPE_3	Business Ground Travel	61.00	MTCO2e	61.00		61.00	Business Ground Travel
NE	603	INL-S	Scope 3	From PPTRS	SCOPE_3	Off-Site WWTP	1.17	MTCO2e		1.17	1.17	Off-Site WWTP (Bio)
NE	603	INL-S	Scope 3	From PPTRS	SCOPE_3	Off-Site WWTP	2.28	MTCO2e	2.28		2.28	Off-Site WWTP (Anthro)
NE	603	INL-S	Scope 3	From PPTRS	T_D_LOSSES	Transmission and Distribution Losses	5,339.97	MTCO2e	5,339.97		5,339.97	Transmission and Distribution Losses