



Green Star Award Standards Achievement Report

Please submit one double-sided hard copy and an electronic version of this report to Green Star to earn your Green Star Award. The hard copy report and any supplemental information can be sent to Green Star, 880 H Street, Suite 106, Anchorage, AK 99501. The electronic version can be sent to info@greenstarinc.org.

Please include at least **one digital photo** illustrating your organization's Green Star efforts, preferably with team members in the photo. Quarterly report submittal deadlines are March 31, June 30, September 30, and December 30 of each year. Thank you for your participation in Green Star!



Organization Information

*Note: The Alaska Railroad earned an initial Green Star in 1994. This form serves as a **Recertification** of our Green Star.*

Name of Organization: Alaska Railroad Corporation

Contact Person: Stephenie Wheeler, Public Involvement Officer

Green Team Leader (if different): same

Mailing Address: P.O. Box 107500

City: Anchorage

State: AK

Zip: 99510-7500

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Phone : 265-2671

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Email: wheelers@akrr.com

Number of Employees: ~900

Full-time: Nearly all, but about 200 are seasonal (summer)

Multiple Locations

If you have more than one location, please provide addresses for the different locations and indicate which ones you wish to include within this report.

The Alaska Railroad has operating Yard locations in Anchorage, Fairbanks, Whittier and Seward; as well as section operations (track maintenance, etc.) in areas in between the yards. For the purposes of this Green Star Award, the Anchorage Railroad Reserve (yard and office buildings in the Anchorage operating area) will be included.

However, because of the transportation nature of the railroad, some items that we will bring to light in this report have impact all along the rail line, from Seward to Fairbanks. This includes facility maintenance and management policies and actions; train/locomotive fleet maintenance and management; and heavy equipment / work vehicle maintenance and management.



Organization Description

Please provide a brief description of your organization (year established, mission, products, services, ethics etc.): please use a separate page if necessary

The Alaska Railroad is steeped in history, playing a pivotal role in our country's military and economic endeavors, as well as in the development of the 49th state. It grew from humble beginnings in 1904 as a private rail line stretching just a few miles north from its starting point in Seward. The owners, the Alaska Central Railway, and later the Alaska Northern Railway, went bankrupt.

A decade passed before the federal government became interested in an Alaskan railroad for mining and military purposes. In May 1914, President Woodrow Wilson created the Alaskan Engineering Commission, charged with determining the best route from a southern ice-free harbor to the winter-bound rivers of the Interior. In April 1915, President Wilson chose the roughly 500-mile route starting in Seward and ending in Fairbanks. A skeptical Congress funded the eight-year construction project. Finally, on a sweltering and sunny day, July 15, 1923, President Warren Harding drove the golden spike in Nenana, marking the railroad's completion.

In 1985, the federal government wanted out of the railroad business, and the State of Alaska offered to buy the Alaska Railroad for \$22 million. The State of Alaska became the official owner of the Alaska Railroad Corporation and remains so to this day.

The state-owned Alaska Railroad is incorporated and run like a private business. A seven-member board of directors guides the railroad's policy and direction to ensure the railroad remains self-sufficient, as required by law. The Alaska Railroad receives no operating funds from the state. Rather, it must generate enough revenues to cover operations and maintenance expenses.

ARRC Vision: Building a great railroad across a great land.

ARRC Mission: to be profitable by focusing on safe, high-quality service to our freight, passenger and real estate customers; and to foster the development of Alaska's economy by integrating railroad and railbelt community development plans.

The railroad has three major business segments:

- 1) Passenger Service – year-round service on a weekly basis between Anchorage and Fairbanks from mid-September to mid-May; and on a daily basis between Seward, Anchorage, Denali and Fairbanks during the summer months. The Alaska Railroad carries nearly 500,000 passengers annually.
- 2) Freight Service –The Alaska Railroad Corporation is a powerful economic engine, hauling millions of tons of freight per year, including building products to construct Alaska homes and businesses, and support for critical resource industries such as coal, petroleum products and gas. ARRC hauls commodities via trailers/containers; in hoppers for gravel, coal and similar materials; in fuel tank cars for petroleum-based cargo; and by flat car for timber, pipe and other such materials.
- 3) Real Estate – the railroad owns more than 36,000 acres, half of which is used for railroad operations, including yard facilities and right-of-way. The other half of the land is available for commercial and community use through leases and permits.

The Green Star Standards

Your organization must complete all eight Standards to achieve the Green Star Award. Please check the items you have completed and provide a brief written description where indicated. You may attach any supporting documentation that you wish. For more detail about implementing each standard, see the references to chapters in *Becoming a Green Star* (online at www.greenstarinc.org/guideindex.php) and/or Green Star Tip Sheets (online at www.greenstarinc.org/tipsheets.php). Hard copies are available from Green Star.

Green Star Standard #1: Sign the Green Star Agreement, committing your organization to the Green Star Award process.

To complete this standard, please complete the following activities or actions:

X	Acquire a commitment from an owner or manager in the form of a signed Green Star Agreement. Include the signed memorandum with this report. Include a separate Agreement for each location included in the report.
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Green Star Standard #2: Implement internal initiatives that emphasize Green Star activities.

To achieve this standard, please implement **all** of the following Outreach/Education activities and at least **two (2)** Training/Incentives activities. Please include at least one of your own initiatives within these categories.

~ Outreach/Education ~ Complete all activities.

X	Identify a Team Leader or Green Star champion who will oversee daily Green Star activities and provide his/her contact information on first page of this report.
X	Adopt the Green Star policy provided in the Green Star Agreement (see Standard #1) and incorporate it into your organization's policies.
X	Post and circulate your Green Star policy statement internally.
X	Post a bulletin board of waste reduction, recycling, energy conservation, and pollution prevention information.
X	Discuss your Green Star initiatives regularly at staff meetings or other similar forums.
X	Include reminders about Green Star Standards in employee newsletters, emails, or other regular communications.
	Other initiative, please describe:
X	Include Green Star Tips in the Employee Newsletter, <i>All Aboard</i>
X	Include Green TIPS on break room bulletin boards
X	Include Green Star information and environmental-stewardship related stories and information in our quarterly newsletter to community/civic leaders (<i>Community Ties</i>)
X	Include Green Star information and environmental-stewardship related stories / information in our tri-yearly newsletter to Railroad leaseholders and permit holders (<i>Tenant Ties</i>)
X	Intranet (internal employee website) includes a Green Star page, including Green tips and Air Quality Tips, recycling program information, and a link to the Green Star web site.
X	Internet (external company website) includes information about Railroad's support of Green Star, including a link to the Green Star web site.

~ Training/Incentives ~ Complete at least two (2) activities.

	Include in-house waste reduction and recycling efforts in job descriptions, employee orientations, training programs, and/or performance appraisals.
	Create a suggestion box or another communication channel for new waste reduction and pollution prevention ideas and offer periodic prizes or awards to employees who identify new areas for waste reduction and pollution prevention.
	Use a percentage of the money saved from energy conservation or waste reduction for employee programs and awards.
	Other initiative, please describe:
X	Employees are encouraged to submit photos and Green tips/suggestions to the All Aboard newsletter for possible publication.
X	Include employee actions that reduce waste, conserve energy and prevent pollution in the Alaska Railroad Employee Recognition Program.



Please describe your initiatives for Standard #2.

EMPLOYEE RECOGNITION PROGRAM:

The Alaska Railroad has added environmental stewardship and innovations to actions worthy of an employee being nominated for an award within the Alaska Railroad's Employee Recognition program. Updated Employee Recognition Program Description and Nomination Forms available on the ARRC employee intranet. Nominees are recognized for notable achievements by way of:

- Innovation (i.e. similar to a patent award) – employee creates a new tool, method or procedure for getting the job done better, with measurable results
- Safety – employee goes beyond the call of duty contributing to corporate safety goals
- Excellence in Efficiency – employee enhances results/decreases expense to an exceptional degree, with measurable results
- Environment – employee develops procedure or program that reduces waste, prevents pollution, improves air quality or conserves energy

The Recognition Program Description and Forms are included in the Supporting Materials Binder (Tab 1).

BULLETIN BOARD AND RECYCLE LOCATION POSTINGS:

The Alaska Railroad's Green Star & Air Quality Policy and Green TIPS flyers are posted on ARRC Building Employee Bulletin Boards and near building recycling efforts. Recycling instructions are posted near recycling locations in each building as well. *Copies of these flyers are included in the Supporting Materials Binder (Tab 1).*

ALASKA RAILROAD NEWSLETTERS:

The Alaska Railroad announces Green Star program support, recertification effort, recent highlights and future goals, and Green Tips in all three of its newsletters. Since July 2007, ARRC newsletters are printed on recycled paper and each newsletter now sports both the Green Star and Recycle logos, as a means to promote both efforts.

- *All Aboard* newsletter is distributed to all ARRC employees (800 to 1,000 people depending on the time of year) on a bi-monthly basis (6 times per year)
- *Community Ties* newsletter is distributed to 2,000-plus government, civic and community leaders around the state. The Railroad has offered readers an opportunity to get this newsletter by email. About 30 have responded with a request for the electronic version, saving paper and postage for at least some.
- *Tenant Ties* newsletter is distributed three times per year to about 300 ARRC land leaseholders and permit holders along the rail line.

Appropriate copies of Alaska Railroad newsletters are included in the Supporting Materials Binder (Tab 1)

ALASKA RAILROAD WEB SITES:

The Alaska Railroad has included a Green Star section on both its internal and external web sites.

- *The Intranet* is available to all ARRC employees and includes information important to employees. A Quick Link has been added to the Intranet Front Page to link to the Green Star page, which outlines ARRC's pursuit of its Green Star and Air Quality Awards, and includes Green Tips/Air Quality Tips, recycling program information and a link to the Green Star web site.
- *The Corporate website* – www.AlaskaRailroad.com - includes Green Star information and indication of support and link to Green Star web site. This is located under INFORMATION – SAFETY & ENVIRONMENT.

See Appendix 1: Incentives & Outreach for additional details.

Green Star Standard #3: Reduce solid waste disposal.

*Please implement activities under all **three (3)** of the following headings. See each heading for further instructions, check the appropriate boxes, and provide additional detail where indicated.*

Alter Purchasing Habits. (See Chapter 5 in *Becoming a Green Star* and Tip Sheet #1)

Please complete at least six (6) of the activities.

X	Purchase non-perishables and commonly used products in bulk and select products with the least packaging to reduce packaging waste.
X	Buy recyclable products so you can send waste to the recycler instead of to the landfill.
X	Purchase recycled-content products. To check this activity, list at least 4 (four) items that your organization purchases with recycled content (below). In the list, please include the level of recycled material in the items, and whether it is post-consumer waste or not.
X	Compare energy efficiency ratings on different equipment models when making purchasing decisions.
X	Purchase office equipment that is USEPA ENERGY STAR® rated. Find out more at www.epa.gov/energystar .
	Purchase reusable and durable items. For example, use ceramic mugs instead of disposable foam or paper cups. In business meetings, lunches, and conferences, use real plates and forks instead of plastic or paper, or request this of your caterer.
	Purchase rechargeable batteries for battery-powered equipment and establish a procedure for battery care.
	Take advantage of the <i>Alaska Materials Exchange</i> at www.greenstarinc.org and the landfill's hazardous material reuse program to avoid purchasing new materials.
X	Other initiatives. Please describe: Reduced Hazardous Waste streams by as much as 70% by replacing hazardous chemicals and solvents and cleaners with environmentally-friendly alternatives.
X	Switch to a recycled coated paper for printing three different corporate newsletters.

Please provide details about the initiatives you've implemented in the above category.

Bulk Purchases: The railroad buys most of its vehicle/equipment fluids (oils, antifreeze, cleaners, etc.) in 55-gallon drums, as opposed to smaller containers. Reusable metal cans with spouts and hoses are kept nearby the drums to be used to get the fluids out. Petroleum projects are purchased from Inlet Petroleum, which in turns delivers the commodity. Absorbent pads in the shops are no longer purchased in smaller plastic-wrapped packages. Rather, they now come in bulk rolls, eliminating much of the packaging waste.

Recyclable Products: A) BATTERIES: ARRC purchases recyclable Nicad, Lithium and Lead batteries, which are all donated after use to be recycled; Nicad & Lithium batteries go to Battery Plus and Lead batteries goes to Interstate for recycling. B) SCRAP WOOD is collected and donated to Alaska Recycling; C) SCRAP METAL is collected and shipped to recyclers locally and in Seattle; D) Cardboard is collected and donated to Alaska Recycling; E) USED ANTIFREEZE is shipped to a recycler in the Lower 48; F) USED STODDARD SOLVENT is blended into fuel for re-use as heating fuel; G) Office paper is recycled as part of a company-supported Pilot Program in 3 high-traffic buildings.

Recycled Content: A) Recycled 30% PCC / RC Xerox Multi-use paper for B/W copying; B) 100% RC/40% PCC Recycled Steno Pads; C) 100% RC/40% PCC Recycled Writing Pads; D) 30% PCC/RC Recycled Astrobright cardstock and colored paper; E) 100% RC / 40% PCC Recycled Post-It notes; E) Glass Grit made from 100% locally recycled glass bottles are used in locomotives during the summer and no-snow months for traction on the track.

Energy Efficiency Purchases: ARRC's Purchasing Department considers energy efficiency in all machinery purchases. All leased copiers and other similar office machinery are Energy Star rated. All copiers are able to make double-sided copiers. About half of the leased copiers are able to scan and network to avoid making hard copies all together.

Printing Choices: Due to the extensive use of photos in the Alaska Railroad's three newsletters, ARRC has been printing these publications on TopKote coated paper, which is a relatively inexpensive but high-performing coated paper. In mid-2007, ARRC investigated use of coated paper with recycled content, settling on a Productolith, a brand with 10% recycled content, which is the maximum for this type of paper. Newsletters printed after July 2007 are on the recycled paper.

Hazardous Material Reduction: Over the past six years the ARRC Health-Safety-Environment (HSE) Department has made a concerted effort to replace hazardous materials such as solvents and cleansers with environmentally-friendly alternatives such as citrus-based cleaners. This has reduced hazmat streams by as much as 70%.

See Appendix 2: Procurement & Supply Management for additional details.

See Appendix 3: Yard Waste Management for additional details.

Practice Waste Prevention (See Chapter 4 in *Becoming a Green Star* and Tip Sheet #2) To check this initiative, please complete at least **six (6)** paper reduction tasks and list at least **three (3)** other waste reduction activities.

Reduce Paper Use.

Please complete at least six (6) of the activities.

X	Copy and print your documents double sided.
X	Communicate electronically and resist the urge to print your emails.
X	Circulate, post, or email memos instead of disseminating copies to everyone.
X	Use blank sides of once-used paper for receiving faxes, in copiers and printers, and/or for note taking and scratch pads. The Print Shop uses scrap paper to make scratch pads.
	Use facsimile post-it notes instead of full-page facsimile cover pages.
	Program your computer to accept incoming faxes electronically.
X	Proofread documents on the computer screen before printing.
X	Other paper reduction activities. Please describe: <u>Automated Purchasing:</u> The Alaska Railroad has been using an automated purchasing/tracking system for well over 10 years; and with CMMS a majority of procurement activity can be done electronically. A purchasing card or procurement card (P-Card) is used for purchases less than \$1,000. P-Card purchases are electronically tracked, eliminating the need for hardcopy invoices, requisition triplicate copies, purchase order triplicate copies, and an ARRC check for payment. About 2/3 of all purchases are made by P-Card. For other purchases, Inventory, bill of sale, and other paperwork are now kept electronically. Prior to CMMS, paperwork would be sent to accounting for payment and processing. Instead of sending over hard copies, all of the paperwork is now emailed to accounting in electronic format. This has vastly cut down on the amount of paper copies being made. See Appendix 2: Procurement & Supply Management for additional details.
X	<u>Electronic Records Retention:</u> In 2006, the Alaska Railroad began developing an electronic solution to organizing and managing company documents and records, which will ultimately mean additional progress can be made on the purchasing front. As the Railroad adopts and implements the electronic records retention software, paper records will be replaced by easily retrievable and protected electronic records. See Appendix 4: Electronic Records Retention for additional details.

Other Waste Prevention Activities. Please list at least **three (3)** other waste prevention activities below:

1. ARRC has established a Waste Management Office in the Anchorage Yard to provide direct oversight and support for the most efficient use and reuse of yard materials and ensuing waste. A full-time position staffs the office, and is responsible for detailed and regulatory-compliant collection, separation and consolidation, recycling and disposal.
2. Stoddard Solvent used in Car Shop is reused in Bearing Shop, which in turn is reused in the Wheel Shop; Stoddard Solvent used in Diesel Shop Air Brake Room is reused in Diesel Shop. Once the Stoddard Solvent is spent, it is blended into fuel for re-use in industrial heating furnaces.
3. Used Oil from vehicle and locomotive maintenance activity is collected in the shops and consolidated by the Waste Management Office for pick up by a contractor that reuses the oil as furnace fuel.
4. Used Absorbent Pads are also collected by the shops, consolidated by Waste Management Office and the same contractor picks up for reuse as a furnace fuel.



5. Dunnage (packing material that keeps pallets separate in box cars or pipe separated in stacks) is saved and reused to re-pack piping onto trucks and to store pallets in various locations.
6. Other Packing Materials - The Yard Warehouse saves packing materials (such as cardboard boxes and peanuts) and reuses these for reshipping and other storage uses.
7. Contaminated Diesel Fuel is collected by the Waste Management Office and it is picked up by a contractor who cleans it for reuse.

See Appendix 3: Yard Waste Management for additional details.

In the office environment:

1. Unwanted Supplies – are “advertised” via email to all ARRC offices to avoid unnecessary purchases, as well as disposal. In most cases, “extra” supplies are snapped up by other offices and departments.
2. Reusable Internal Mail Envelopes – The Alaska Railroad’s internal mail system exclusively uses re-usable envelopes for inter-office correspondence and flow of printed information. Mail recipients simply cross out their name, and put a new recipient’s name on the envelope before resending.

Implement a Recycling Program. (See Chapter 3 and Appendix C in *Becoming a Green Star and Tip Sheet #3*)

To complete this initiative, you should be able to check the items that represent a significant waste for your organization.

Check all the items you recycle.

	Mixed paper	X	Aluminum scrap
X	Office paper	X	Copper/brass scrap
	Newspaper	X	Electronics/computers
X	Corrugated cardboard	X	Toner cartridges
	Magazines		Yard waste
X	Telephone books	X	Wood waste
X	Aluminum cans		Fluorescent lamps and ballasts
X	Glass bottles	X	Used oil
	Steel cans	X	Lead-acid batteries
X	Plastic bottles (#1) – soda and water	X	Other batteries (Nicad and Lithium)
	Plastic jugs (#2) – milk and detergent	X	Antifreeze
	Plastic bags and film	X	Other items, please list: Absorbent Pads and Petroleum-contaminated Soil / Sand

Describe how your recycling program works:

Recycling is accomplished differently between the Office environment and the Industrial Yard environment.

OFFICE ENVIRONMENT:

The railroad’s company-funded recycling program within the office environment is just getting re-started after several years hiatus during which employees took over with a volunteer-led effort. Today, the office recycling is a mix of company-funded and employee volunteer efforts.

Office Paper: ARRC has initiated a company-funded pilot office paper recycling program, beginning with weekly pick up in the three largest office buildings – the Anchorage Operations Center, Headquarters Building, and the Ship Creek Depot. Based on pilot program results, future plans call for construction of a recycle structure near the HQ building to allow for an expansion of the types of recyclables collected... i.e. aluminum cans, plastic bottles and cardboard. include other to other buildings with office environments in the Anchorage operating area within the next 1-2 years. Office paper will be collected in individual bins, which are then emptied into larger bins in strategic central locations on each of the buildings’ floors. A recycling contractor will pick up full large bins on a weekly basis. Volunteers from several other buildings bring their recycled office paper to the HQ building for pick up as part of the pilot program. (See ARRC Recycling Pilot Program Plan in the Supporting Materials Binder, Appendix 5)



Telephone Books: When new telephone books are delivered annually, ARRC offices collect the old books and turn these into the recycling center for recycling. Old books are collected for a 2-3 week period of time, after which they are collected in central areas in each building for Anchorage Recycle Center pick up.

Aluminum Cans: Aluminum cans are collected in bins in the break areas of the Headquarters Building (second and third floor), Building 16, Warehouse #1, Building 29 Boiler Plant, Anchorage Operations Center, Projects Building, Security Building, and Historic Ship Creek Depot Volunteers bag the contents of full bins, re-line the bins, and deliver the bottles to the Anchorage Recycle Center. Cans are donated. Aluminum cans are one of the items that will eventually be included in the company-funded recycle program.

Plastic Bottles: Primarily plastic water bottles are collected in bins in the break areas of the Headquarters Building (second and third floor), Building 16, Building 29 Boiler Plant, Anchorage Operations Center, and Projects Building. Volunteers bag the contents of full bins, re-line the bins, and deliver the bottles to the Anchorage Recycle Center. Plastic bottles may be one of the items that will eventually be included in the company-funded recycle program

Glass Bottles: Glass bottles are collected in bins in the break areas of the Building 29 Boiler Plant and Anchorage Operations Center. Volunteers bag the contents of full bins, re-line the bins, and deliver the bottles to the Anchorage Recycle Center.

Cardboard: Cardboard is collected on the first floor of the Headquarters Building, Building 16, Anchorage Operations Center, and Projects Building. Some intact boxes are kept for reuse, while the majority is broken down and delivered to the Anchorage Recycle Center periodically for recycle. Plastic bottles may be one of the items that will eventually be included in the company-funded recycle program

Toner Cartridges: The Information Systems Department requests all Anchorage-area office users who replace toner cartridges to notify I.S. to pick up the used cartridges and bring to the Headquarters Building for processing. Alternatively, I.S. will replace the toner in various printers around Anchorage and bring the used cartridges back to HQ. At the HQ Building, an I.S. volunteer repacks used cartridges in appropriate HP toner boxes, using the recycle label, and these are set out for the UPS to pick up. The program is free and very easy to do with HP toner models. I.S. investigates recycling for other toner manufacturers as well, and when available, also preps for recycle pickup.

Computer / Electronics Equipment: ARRC attempts to reuse computer/ electronic hardware (Monitors, CPUs, laptops, Printers, Faxes, etc.) whenever possible. Usable hardware is provided to the State Surplus system for sale / use by other state and local agencies. A certain number of PCs become obsolete and are programmed for replacement each year. Old computers are taken to the Green Star electronics recycle partner Total Reclaim. In 2006, 125 computers were recycled. Approximately 110 computers have been collected for recycle in September/October 2007.

See Appendix 5: Recycling Outside the Yards for additional details.

INDUSTRIAL YARD ENVIRONMENT:

Recycling in the industrial yard environment is all company investigated, planned, directed and funded. A dedicated Waste Management Office and full-time employee oversee recycling activity as part of the Railroad's overall waste management policies and procedures.

Cardboard: Cardboard is collected in large industrial-size bins in the yard maintenance shops and warehouse. When full, the Anchorage Recycling Center picks up the contents at no charge and in turn is allowed to keep the proceeds from selling the cardboard to recyclers in the Lower 48.

Scrap Metal: Scrap metal is collected in the yard maintenance shops in smaller industrial bins. These are in turn emptied into a large gondola (like a large hopper rail car) behind the shops in the yard. When full, the gondola is sent to the local Alaska Metals Recycling facility or in some cases, it is shipped via rail barge to the lower 48 for recycling.

Wood Waste: Scrap wood is placed into a large industrial bin in the back of the yard (near the scrap metal gondola). When full, Alaska Recycling picks up for recycling.

Used Oil: Used oil from railcar, vehicle and locomotive maintenance shops is collected at maintenance stations, some is filtered in an oil-water separator, and all of this is consolidated by the Waste Management Office into 50-gallon used oil tank. The tank is pumped by contractors (Emerald Alaska or ECC), who then filter and clean the oil for re-use as industrial furnace fuel.

Lead-Acid Batteries: Lead batteries are collected by the Waste Management Office and stored until sufficient number are collected for pickup by Interstate, which recycles the batteries to salvage lead, acid and plastic.

Nicad & Lithium Batteries: ARRC collects Nicad and Lithium batteries from the maintenance shops and donates them to the local Battery Plus distributor, which in turn recycles these types of batteries.

Antifreeze: Used antifreeze is collected into drums, which are then shipped by Clean Harbors (ARRC’s disposal contractor) to Seattle, where it is distributed to various brokers who send it to antifreeze recyclers.

Petroleum-contaminated Soil/Sand: Soil/sand that is contaminated by accidental oil spills in the yard is dug up and collected in drums. These are picked up by Anchorage Soil Recyclers, which cleans the soil by burning the contaminants out. The clean soil can then be re-used.

Absorbent pads: Fibrous pads used to absorb petroleum products (oil, lubes, etc.) from the maintenance shops are also collected by contractor Entec, who burns them for heat.

See Appendix 3: Yard Waste Management for additional details.

Green Star Standard #4: Reduce energy and water consumption.

Implement at least **six (6)** of these items from any category or identify your own. See Chapters 6 & 7 in *Becoming a Green Star* and Tip Sheets #4-#8 for more information. Remember, if none of the suggested activities fit your facility, the “Other” category allows you to be creative with your initiatives. Fill in as many as you like in this category.

Lighting

X	Use energy-efficient lamps and light fixtures, including compact fluorescent lamps, T-8 or T-5 fluorescent lamps.
	Use natural light whenever possible to reduce lighting costs.
X	Reduce lighting in areas that are used infrequently. You can do this by educating staff about turning off unnecessary lighting, by installing switches in numerous convenient areas, or by installing motion sensors or timers to control lights.
	Remove extra lamps and install reflectors to cut electrical usage in overhead fluorescent fixtures.

Heating, Ventilation, and Air Conditioning (HVAC)

	Upgrade to energy-efficient HVAC systems for greatest energy savings.
	Establish policies and procedures to turn off equipment when not in use.
X	Install Energy Management Systems to monitor and control energy use in your facility. <i>(See Preventive Maintenance Program development below)</i> .
	Reduce peak load.
X	Check for and repair leaky seals, drafts and faulty vents. <i>(See description of infrared scans below)</i>
X	Keep equipment / buildings well tuned to maximize fuel efficiency and reduce waste. <i>(See PM Program below)</i>

Building Envelope

X	Caulk and weather strip windows. <i>(See description of infrared scans and heat-loss corrective repairs below)</i>
	Install thermal windowpanes to reduce energy loss.
X	Install vinyl curtains or strips on warehouse or loading dock doors. <i>(See description of infrared scans and heat-loss corrective repairs below)</i>

General Electrical/Maintenance

X	Upgrade computers, copiers, other office equipment as they wear out to more energy efficient models.
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Water

X	Install water-saving equipment such as ultra low-flow toilets and urinals, waterless urinals, low-flow and sensed sinks, low-flow showerheads, and/or water-efficient dishwashers / washing machines.
	Landscape to reduce water use and stormwater runoff.
	Identify and repair water leaks.
	Encourage water-saving behaviors, such as using brooms and rakes to clean parking lots and floors instead of water hoses.

Other

	Other initiatives, please describe:
X	<u>Infrared Scans</u> of ARRC buildings to identify heat loss areas for immediate repair. prior to the 2007-2008 winter season.
X	<u>Formation of a dedicated Facilities Management & Maintenance staff and program.</u>
X	<u>Facilities Preventive Maintenance (PM) Program</u> initiation and development.
X	<u>Adopt LEED Facilities Policy that requires ARRC</u> to consider green options when faced with the need to replace aging building systems.
X	<u>Facilities Maintenance Supply Satellite Facility</u> created from a “recycled” maintenance shop office structure and using waste heat from the Yard boiler heating system.
X	<u>Reconditioned Heat Exchange Units.</u> For more efficient maintenance shop heating.
X	<u>Use of Solar and Wind Power</u> to operate crossing signals and train signals at sidings (passing lanes)

Please describe your initiatives in this Standard:

LIGHTING:

The ARRC Headquarters Building was previously outfitted with T-12 4-lamp florescent light fixtures which use standard magnetic ballasts that are less energy efficient. These fixtures also become obsolete in 2010. In early fall 2007 ARRC replaced nearly 500 T-12 fixtures with T-8 florescent light fixture that feature more efficient electronic ballast. The cost to replace 480 fixtures in the HQ building alone is projected at about \$28,000 to purchase the fixtures, and another \$20,000 to \$25,000 for labor to install, demolish and dispose of old fixtures.

Overall energy savings could be as much as 18-20 percent. Estimated savings are calculated at 22,632 KWH/year or at most \$4,791/year. The Facilities Department will closely monitor the building’s electric bill to determine exact savings. Annual facility maintenance costs may be shaved by as much as \$7,026 / year as well. Given energy and maintenance savings, ARRC estimates it will take 3.5 to 4 years to recapture the cost of fixture replacement.

ARRC is tracking monthly electrical usage for the Headquarters Building, anticipating an overall reduction in annual average usage, thanks in large part to more efficient lighting. *(Copies of Municipal Light & Power bills January – July 2007 are included in the Supporting Materials Binder (Tab 6))*

ARRC is also starting a pilot program in some areas of the HQ Building that will use motion detectors to automatically turn lights on and off. The system will be installed in low-use rooms, such as supply storage and filing areas. Motion detectors would cause lights to switch on when someone enters, and then turn off when no motion is detected for some period of time. This pilot program may also entail installation of setback thermostats, which lower the building temperature when the building is not occupied, and raise the temperature just prior to when occupants arrive.

WATER CONSERVATION:

The parts washing machine in the heavy equipment / locomotive wash bay is used to clean smaller vehicle / locomotive engine parts. This machine reuses the same water several times through a filtering mechanism. Water is also conserved by cleaning the small items in a more efficient, enclosed machine, as opposed to placing the parts in the middle of the bay and using a sprayer.



OTHER:

Infrared Scans of ARRC buildings to identify heat loss areas for immediate repair. These thermal images (taken fall 2006 and spring 2007) by a contractor show areas of energy/heat loss that cannot be detected by the naked eye. Using these images, the Facilities Department spent the spring and summer 2007 fixing rooftop leaks, corner cracks, thin or non-existent insulation, poorly caulked seams, uncapped ventilation outlets, separated weather stripping and broken windows, etc. Repairs are set to be complete prior to the 2007-2008 winter season. *(Copies of infrared facility images are included in the Supporting Materials Binder (Tab 6))*

Formation of a dedicated Facilities Management & Maintenance staff and program. In 2006-2007, ARRC formed a Facilities Department and staffed it with experienced and skilled personnel sufficient to develop and implement a facilities management and maintenance program for the Railroad. Staff includes a Facilities Program Manager, Facilities Contracts Manager, Facilities Maintenance Supervisor, Facilities Project Engineer, and Facilities Technician. These personnel are supported by dozens of carpenters, electricians, plumbers and other facilities skilled laborers.

Facilities Preventive Maintenance (PM) Program. With the advent of a Facilities Department, there are more resources and manpower dedicated to facilities improvement and formulating a comprehensive preventive maintenance (PM) program. The PM program takes a scheduled and proactive approach, as opposed to reactive maintenance to fix a problem when it comes up. Regular building maintenance — or preventive maintenance — helps conserve both energy and materials over the life of the building. As of mid-2007, the department is in the process of surveying each and every building the Railroad uses in its operations, from Seward to Whittier to Anchorage to Fairbanks and points in between. The effort will inventory areas and equipment that require replacement, cleaning, repair and regularly scheduled PM work. The department anticipates that it will take about two years to complete this inventory and develop a comprehensive PM program. Helpful to this effort is that the Facilities Department is now linked into the railroad's CMMS system, allowing for better tracking and historical documentation of maintenance activity, including dates, parts, labor requirements and recommendations for the future. Recording and tracking repair histories will allow the department to more easily identify failures, recognize repetitive problems, schedule and prioritize work, and ultimately to improve our level of service.

Adopt LEED Facilities Policy. The Alaska Railroad Facilities Department has adopted a policy for considering green options when faced with the need to replace aging building systems. In other words, the department is looking comprehensively at Leadership in Energy & Environmental Design (LEED) for Existing Buildings (EB) that will lead to greater energy conservation and less pollution generation.

For example, in the Headquarters Building, the railroad spent \$160,000 in 2006 to replace a Freon-based compressor system that kept the building's computer room from overheating. The new system uses ambient air for cooling a glycol-circulating system, which takes advantage of Alaska's cooler weather. This means that during the colder months, energy will not be used to cool the computer room; rather cold air temperatures outside will be used to cool the room indoors.

ARRC is tracking monthly electrical usage for the Headquarters Building, anticipating an overall reduction in annual average usage, thanks in part to the more efficient computer room cooling system. *(Copies of Municipal Light & Power bills January – July 2007 are included in the Supporting Materials Binder (Tab 6))*

Another example of this commitment comes in Fairbanks. In September 2006, the ARRC replaced an antiquated coal-fired power plant that had heated the Fairbanks Railroad Yard buildings. The old plant typically burned up to 4,000 tons of coal each heating season (September to May). The railroad replaced building heating systems with more efficient circulating hot water systems. The source of heat is Aurora Energy's power plant, which serves other areas of Fairbanks as well. The Aurora Energy plant is much cleaner and more efficient than the old Railroad boiler plant. The new system allows ARRC to regulate heat use and therefore reduces our overall energy use. In addition, the five employees who had been dedicated to keep the boiler plant running are now freed to focus on other pressing facility maintenance needs.

Facilities Maintenance Supply Satellite Facility. ARRC salvaged an office structure taken from one of the maintenance shop buildings and turned it into a maintenance supply satellite that stores common tools and supplies for building maintenance (i.e. light bulbs, screws, brackets, caulking, etc.) create a Facilities Maintenance Supply satellite storage facility within the yard. A natural gas Boiler Plant building heats all of the shops in the yard, with piping that run underground in concrete ducts (a utilidor) that connect the plant with other buildings. Recent pipe insulation efforts keep 85% of the heat from escaping from the piping, but there is still some heat that escapes into the utilidor ducting. The satellite storage facility is situated in the middle of the other yard buildings, and on top of a utilidor vent. The heat coming through the utilidor will be sufficient to keep the small structure warm enough to use as storage, and at no additional cost, since this would otherwise be wasted heat. The centralized location of the satellite supply facility

creates other efficiencies. Currently building maintenance supplies are stored about a mile from the main yard buildings, so when Facilities Department electricians, carpenters and plumbers need hardware and parts, they will be available close by, and personnel can avoid a drive back to the main storage facility.

Reconditioned Heat Exchange Units. Heat traveling from the Boiler Plant in piping, through the utilidor, eventually runs into heat exchange units leading into buildings 26, 27 and 28 (maintenance shops). The Facilities Department performed extensive preventive maintenance and reconditioned the motors in these heat exchange units so they are more efficient in pushing the heated air into the buildings. Originally, these heat exchange units included large “heat wheels” that were supposed to circulate the air more efficiently; however, they turned out not to be as efficient as hoped, and tended to spread dust and debris. These wheels were removed in early 2007 and the 2,000 pounds of aluminum were recycled. Moreover, the Railroad is experimenting with a steam-to-glycol conversion test. One of the heat exchange units is now using glycol, compared to steam, which is high temperature, dangerous and inefficient. If the conversion proves successful, the rest of the six units will be converted by 2008. Pipe insulation, patching of heat-loss leaks, and heat exchange unit reconditioning is expected to yield significant savings in natural gas use.

ARRC is tracking monthly Natural Gas usage for the Anchorage Yard Boiler Plant, anticipating an overall reduction in annual average usage, thanks more efficient heat exchange units, utilidor piping insulation, and energy loss prevention facility repairs. *(Copies of Enstar gas bills January – May 2007 are included in the Supporting Materials Binder (Tab 6))*

See Appendix 6: Facilities Management & Maintenance for additional details.

Use of Solar and Wind Power. At some of the more remote crossings and sidings (train passing lane pullout) the Alaska Railroad has installed solar and wind power generation systems to power signals. Signals may be a wayside (by the track) train signal, which tells a train to switch into or out of a siding, for example. Or, the signals may be at a crossing and comprise the flashing lights and the gate arm that lowers to stop road traffic from crossing when a train approaches. Solar panels can provide enough power to operate either wayside or crossing signals. Windmills generate electricity to charge battery systems that operate signals as well.

See Appendix 7: Solar & Wind Power for additional details.

Green Star Standard #5: Reduce the use and improve management of hazardous materials and wastes.

Please implement at least **three (3)** initiatives from the next two categories. See Chapter 9 of *Becoming a Green Star* and Tip Sheet #9 for more information.

~ Reduce use of toxics ~ Complete at least three (3) activities.

X	Request Material Safety Data Sheets (MSDSs) prior to deciding which chemicals to buy, and select the safest, most non-toxic products.
	Request the use of soy or water-based products (inks, markers, paints etc.) instead of petroleum-based products when ordering printed materials.
	Use water-based correction fluid or cover-up tape, less toxic markers, and/or non-toxic glue instead of rubber cement.
X	Use less toxic office cleaning products, such as Simple Green or citrus-based cleaners.
	Replace disposable batteries with rechargeable and solar batteries.
X	Replace solvents in solvent sinks with less toxic alternatives or use alternative methods of parts washing.
	Use chlorine-free paper.
	Ask for non-toxic carpet adhesives when installing new carpet.
	Investigate integrated pest management (IPM) techniques if you have insects, rodents, or unwanted vegetation at your workplace.
X	Other initiatives, please describe: Use of Recycled Glass Grit for locomotive traction replaces silica sand for part of the year. The non-toxic glass grit does not produce potentially harmful silica dust and contains no metals.



Please describe your above initiatives:

HAZMAT REDUCTION & MSDS REVIEW:

Approximately six years ago, the ARRC Health-Safety-Environment (HSE) Department began the process of eliminating hazardous materials that could be replaced by non-regulated, recycled or less toxic alternatives. Many unnecessary chlorinated solvents and cleaners were eliminated or replaced with environmentally friendly alternatives, such as citrus-based cleaners. In doing so, hazardous waste streams have been greatly reduced, perhaps as much as 70% or more. To keep it that way, before any chemicals ... cleanser, solvent, etc.... is purchased it must be approved by the HSE department, which looks up the chemical's Material Safety Data Sheets to determine if there is a less toxic alternative. Thanks to this concerted effort to reduce most of the more toxic chemicals, all ARRC locations within Alaska are conditionally exempt because they generate less than 2,200 lbs of hazardous waste each month. The exception is Anchorage, but even Anchorage is conditionally exempt over half of the year.

See Appendix 3: Yard Waste Management for additional details.

RECYCLED GLASS GRIT:

In June 2006, the Alaska Railroad traded imported sand for locally recycled glass grit to provide its fleet of locomotives with traction in slippery conditions or when climbing hills. ARRC locomotives are equipped with delivery systems that spread traction control media — such as sand or glass grit — onto the track. Made from locally recycled waste glass, the grit is used during summer and no-snow months, replacing the imported sand for about half the year. The other half of the year, ARRC uses sand shipped from Wisconsin because Alaska's sand has too much clay which makes it more slippery when wet. The recycled glass option has yielded a number of benefits for the Railroad and for the local recycling effort. The non-toxic glass grit does not produce potentially harmful silica dust and contains no metals.

See Appendix 2: Procurement & Supply Management for additional details.

~ Manage toxics properly ~ Complete at least two (2) activities.

X	Resell, donate, or recycle used computers and electronics.
	Take usable products in their original, labeled containers, at least 3/4 full to the Anchorage Regional Landfill's Reuse Program for Hazardous Materials.
X	Meet and exceed all legal requirements in the use and handling of hazardous materials.
X	Label your containers clearly so wastes are not mixed (segregation of wastes is important: e.g., if you mix used oil and antifreeze, neither of them can be recycled).
	Bolt shelving to walls, put lips on shelves, and ensure that hazardous wastes are safely and securely stored for earthquake or accident protection.
	Secure all tanks with chains or brackets.
X	Ensure that flammable materials are stored in locked "flammables" cabinets.
X	Train employees in proper handling of hazardous materials and ensure that appropriate safety equipment is available.
X	Make MSDSs (material safety data sheets) available to all staff.
	Other initiatives, please describe:
X	Comprehensive Spill Prevention & Response Program developed and exercised frequently.

Please describe your above initiatives:

MSDS AVAILABILITY:

Appropriate MSDS sheets are kept throughout our system, available to all personnel who may come into contact with any chemical/material that has an MSDS. The railroad's HSE Department also has copies of MSDS sheets for all chemicals and materials that would require this reference.



HAZMAT STORAGE AND DISPOSAL MANAGEMENT

The ARRC Anchorage Yard includes a Waste Management Office that is responsible for handling used yard materials, determining whether the materials can be used or recycled, or whether they are waste to be disposed. The goals of this office are to reduce waste wherever possible, to reuse or recycle any waste that is generated, and to dispose of waste – hazardous and otherwise – in a lawful and efficient manner. If waste is identified as a hazardous waste, it is treated according to environmental laws and regulations.

Located in Building 29, the Waste Management Office (WMO) is staffed by a full-time employee. Yard employees are trained to drop off waste materials in a marked bin outside Building 29 and to complete an identification tag that includes the type of material, approximate amount/quantity, date and where it was generated. The WMO processes the drop offs by separating them, and consolidating into larger containers. Information from the ID tag, as well as WMO handling actions, is recorded in an electronic database. This database effectively tracks all waste streams from Anchorage Yard and Operations (*Print out of waste streams in 2006 and 2007 in Supporting Materials binder, Appendix 3*).

The Waste Management Office includes two large Hazardous Materials Storage lockers... Building 17 is for storing hazardous materials and Building 18 is for storing petroleum products (contaminated diesel, used oil, etc.) until they can be picked up and disposed of by Clean Harbors or by recycling contractors. Disposal tracking paperwork ensures that ARRC is informed of the final disposition of all waste. Paperwork starts with a manifest, which is returned to ARRC with a certificate of disposal. The Waste Management Office also includes the “Barrel Farm” behind Building 29, which includes non-regulated waste stored in sealed 55-gallon drums until they can be recycled or disposed of. Material includes used grease and lubricants, antifreeze, alkaline batteries and contaminated soils.

HAZMAT TRAINING:

The Alaska Railroad transports hazardous materials, the bulk of which is petroleum based. Hazmat class categories dictate how the materials are prepared and shipped. This is regulated by the federal government. (49 CFR assigns the hazard class.) The railroad will not accept any hazmat for transport that is not in compliance with these regulations. In addition, the railroad has long initiated security measures that go beyond federal requirements. To enforce these measures, the railroad provides hazmat transportation training to any employee that may come into contact with hazardous materials that are being shipped via rail: Training includes:

1. General Awareness – how to tell if hazmat is present, via shipping papers, placards, etc.
2. Function-specific – how a specific job position applies to how hazmat movement is handled. For example, the train crew is trained to keep railcars with hazmat a certain distance from other types of cars.
3. Safety Training – in the event of an incident (not HANDLING or CLEANUP, but rather who to notify and how to evacuate).

The HSE Department also provides annual hazmat handling and hazmat waste storage training for anyone in a craft that would expose them to handling or storing oil-based or hazmat products. This includes hundreds of employees in Maintenance of Way (track maintenance), the locomotive/heavy equipment maintenance shops, etc. Training includes classroom instruction with a test.

See Appendix 3: Yard Waste Management for additional details.

SPILL PREVENTION & RESPONSE:

The Alaska Railroad puts a high priority on Emergency Preparedness and Response. A solid program has always been a critical part of the ARRC operational plan. However, since January 2000, ARRC has invested extensively in Preparedness and Response. The ARRC continues to invest in the ability to address emergency situations. Our Spill Prevention & Response program includes a Manager dedicated to response and preparedness, newly developed software for incident management, a state-of-the-art Emergency Operation Facility, and one of the most comprehensive inventories of response equipment. Major Components include:

- Emergency Operation Center
- Extensive training and drill program
- Contracted Response Action Contractors – including Chadeaux, Trident and Restoration Science and Engineering
- System wide distribution of key response equipment vans, trailers and vehicles
- Emergency Management Software – Incident Action Plan from The Response Group
- Developed relationships with local, State, and Federal organizations and agencies

- Mobile Forward Command Vehicle
- Investment in Alaska Land Mobile Radio system for all Emergency Response Team members and key positions at the ARRC
- Emergency preparedness and response plans that set the industry standard
- A bi-annual Whistle Stop Train that stops in 9 major communities along the ARRC right of way to conduct training and outreach for community officials, police, emergency responders and citizens. This train is open for State and Federal agencies to participate and provide information and training to these communities as well.

Every year the ARRC conducts at least one passenger train emergency drill and one oil spill drill. However, the Alaska Railroad team participates in many more drills. For example, so far in 2007 the ARRC has participated in 3 terrorist related drills, 2 passenger train drills, one hazmat drill, and a major oil spill drill in September 2007.

See Appendix 8: Environmental Management System for additional details.

Standard #6: Reach out to the community about your Green Star efforts.

To meet this standard, please choose activities within at least **two (2)** of the four activities listed below. For more information, see Chapter 10 of *Becoming a Green Star* or Tip Sheet #10.

<p>X</p> <p>X</p>	<p>Outreach/Education Please describe your activities.</p> <p><u>NEWSLETTERS:</u> The Alaska Railroad has announced support of the Green Star program, recertification effort, recent highlights and future goals in all three of its newsletters.</p> <ul style="list-style-type: none"> • <i>All Aboard</i> newsletter is distributed to all ARRC employees (800 to 1,000 people depending on the time of year) on a bi-monthly basis (6 times per year). This newsletter will also feature Green Tips from Green Star and employees submissions. • <i>Community Ties</i> newsletter is distributed to 2,000-plus government, civic and community leaders around the state. The Railroad has offered readers an opportunity to get this newsletter by email. About 30 have responded with a request for the electronic version, saving paper and postage for at least some. • <i>Tenant Ties</i> newsletter is distributed three times per year to about 250 ARRC land leaseholders and permit holders along the rail line. <p><i>Appropriate copies of Alaska Railroad newsletters are included in the Supporting Materials Binder (Tab 1)</i></p> <p><u>WEB SITES:</u> The Alaska Railroad has two web sites... 1) an internal employee web site; and 2) an external web site. Both will feature our participation in the Green Star Program. The internal web site will also encourage employee participation with tips on how to participate. The external web site will encourage other businesses to consider earning a Green Star and providing a link to the Green Star web site.</p> <p>See Appendix 1: Incentives & Outreach for additional details.</p>
<p>X</p>	<p>Participation in Green Star Activities Check the activities and describe your organization's participation.</p> <p><u>X</u> recycled items with Green Star Electronics Recycling partner, Total Reclaim. In 2006, ARRC arranged for Total Reclaim to pick up 125 computers for recycle. So far in 2007 (as of August 2007) 110 computers have been collected with plans to recycle with Total Reclaim by the end of 2007.</p> <p><u>ALPAR RECYCLING BACKHAUL SUPPORT:</u> For several years, the Alaska Railroad has supported the Alaskans for Litter Prevention and Recycling (ALPAR) effort to backhaul recycled material, which helps keep Alaskan recycling centers afloat through discounted and even free transport to the Lower 48, where it can be processed. Each year, ARRC helps to move about 100 trailer containers full of recycled material from the Anchorage Recycling Center. Material comes from all over the state, including Fairbanks and Kenai, but most is generated in Anchorage. ARRC has transported trailers donated by Horizon, TOTE and Lynden freight companies, moving them by rail from Anchorage to Whittier for Alaska Marine Lines, which operates the rail-barge service between Whittier and Seattle. ARRC does not charge for transport by rail if the freight carriers (Horizon, TOTE, Lynden and AML) also donate their services to ALPAR.</p>



	<p>Most recently in 2006, ARRC partnered with AML to help ALPAR move more than 2,200 tons of recycled materials (mostly cardboard and paper) to Whittier and on to Seattle. The material was sold to mills in the northwest and remade into many new products, including new cardboard boxes. The free transportation not only helps keep recycling centers viable, but the proceeds from the sale of recycled materials also helps to underwrite other ALPAR programs and services. The Alaska Railroad was the recipient of a 2006 ALPAR annual award for its part in supporting the backhaul as well as for using of glass grit made from locally recycled glass.</p> <p>In April 2007, the Alaskans for Litter Prevention and Recycling (ALPAR) presented the Alaska Railroad with ALPAR's 2006 Board of Directors Award, recognizing ARRC's commitment to recycling efforts that benefit railbelt communities and support of litter clean-up efforts statewide. The award was among 11 presented to businesses, organizations and individuals across Alaska at ALPAR's annual awards banquet.</p> <p><u>COMMUNITY SCRAP METAL BACKHAUL SUPPORT</u></p> <p>Each year, since at least 2003, the Alaska Railroad has partnered with local governments and organizations to assist with scrap metal backhaul for small remote communities. The railroad donates the use of gondolas (large "hopper" like rail cars) which are used to collect scrap metal and vehicles. ARRC has donated 3 to 5 gondolas to Whittier each year, transporting them from Whittier to Anchorage at no charge. ARRC has donated and 15 to 20 gondolas for use by communities along the Yukon River, transporting these from Nenana to Anchorage. The value of gondola use is more than \$1,600 per gondola.</p> <p>See Appendix 5: Recycling Outside the Yards for additional details</p>
	<p>Recruit a New Member Please describe your efforts and provide contact information.</p>
	<p>Sponsor Green Star Programs Please describe your efforts.</p>

Green Star Standard #7: Provide measures for your success.

Please list at least **two (2)** initiatives you have chosen to measure and **attach the measures**. Include baseline data and changes over time after implementing the initiatives. See Chapter 2 of *Becoming a Green Star* for information about waste assessments as a tool to measure success. See Tip Sheet #11 for ideas about measuring your success.

Florescent Lighting Retrofit and Computer Room Temperature Control in HQ Building:

The Railroad is tracking the savings that will be realized from two significant improvements – replacement of the T-12 with the T-8 florescent lighting, and replacement of the Freon-based Computer room cooling system with the ambient air cooling system. The baseline is monthly electric usage and cost January – July 2007, which will be compared to the same months in 2008. ARRC is tracking monthly electrical usage for the Headquarters Building, anticipating an overall reduction in annual average usage, thanks in part to the more efficient computer room cooling system. *(Copies of Municipal Light & Power bills for HQ Bldg January – July 2007 are included in the Supporting Materials Binder (Tab 6))*

	<u>KWH 2007</u>	<u>KWH 2008</u>
January	100,960	
February	107,360	
March	92,480	
April	100,480	
May	107,520	
June	117,120	
July	126,240	

Heat/Energy Loss Repair Efforts for Buildings All Along the Railbelt:

The \$15,000 investment in the infrared scanning included photo printouts of all of the thermal images. The Railroad is accomplishing repairs during summer 2007, with plans to return with the Infrared contractor to some Anchorage, Fairbanks and Seward facilities to document corrected heat loss problems that were discovered in the first round of scans. This will provide a graphic measure of progress and reduced energy/heat loss. *(Copies of Infrared images taken during September 2006 and March 2007 of facilities in Anchorage, Fairbanks and Seward are included in the Supporting Materials Binder (Tab 6))*



Heat Loss Prevention Efforts for the Anchorage Yard Buildings / Boiler Facility:

Pipe insulation, patching of heat-loss leaks, and heat exchange unit reconditioning is expected to yield significant savings in natural gas use. The Facilities Department has established a baseline in tracking natural gas use (quantity and cost) to be compared to natural gas use during the same months in 2008 to determine exact savings from these efforts. The Enstar Billing for January - May 2007 will be compared to the same period in 2008. *(Copies of Enstar bills for the Anchorage Yard Boiler Plan for January – May 2007 are included in the Supporting Materials Binder (Tab 6))*

	<u>CCF 2007</u>	<u>CCF 2008</u>
January	167,420	
February	112,850	
March	154,650	
April	97,760	
May	37,340	

Use of Recycled Office Products.

Corporate Express is the Railroad's primary office product supplier. One of the services Corporate Express provides is to track the dollar amount that ARRC spends on recycled office products as well as the percentage of purchased office products that are recycled. These charts have been procured for 2006 and 2007 year-to-date and will continue to be requested and monitored. This will allow ARRC to track 2007 expenditures and percent of recycled products compared to 2006, when fewer recycled products were purchased. Annual comparisons will continue as a gauge for how well we are doing and what other recycled products we can consider substituting. *(Copies of the Corporate Express Recycled Product Summaries for 2006 and 2007 YTD are included in the Supporting Materials Binder (Tab 2))*

Yard Waste / Hazmat Waste Stream Tracking

ARRC tracks the major categories of waste from Anchorage Yard operations in an electronic database overseen by the Waste Management Office. As part of this tracking, ARRC monitors the quantity of Hazardous Waste generated from yard locations on a monthly basis. The database affords immediate access to waste stream quantity reporting and analysis. *Copies of Summaries of Yard Waste Streams for 2006 and 2007 YTD are included in the Supporting Materials Binder (Tab 3)).*

Comprehensive Facilities Use and Efficiency Tracking.

With the advent of a Facilities Department, there are more resources and manpower dedicated to facilities improvement and formulating a comprehensive preventive maintenance (PM) program. As part of this 2-year effort, the department is in the process of surveying each and every building the Railroad uses in its operations. The effort will inventory building square footage, occupancy, energy use, equipment that require replacement, cleaning, repair and regularly scheduled PM work. Once this inventory is in place, the railroad will be in a much better position to track energy use and efficiency improvements as progress is made in upgrading building structures and systems. This tracking mechanism is still in its infancy. Major progress is anticipated for Green Star recertification reporting in 2009.

Green Star Standard #8: Identify future goals to ensure program momentum.

Please list your future goals to maintain and enhance your Green Star program. Include at least **three (3)** goals, but you may provide up to six. See Tip Sheet #12 for more details about the future of your Green Star award.

1. STRATEGIC PLAN

Include environmental stewardship as a specific goal in our Strategic Planning Process. Updated annually, the ARRC Strategic Plan, a five-year planning document, is shared with employees, government leaders, and key business partners.

2. PROCUREMENT DOCUMENTS

Add language in ARRC's Procurement / Supply Management Department's requests for proposal (RFPs) and/or bid documents that express appreciation for potential suppliers/vendors that are Green Star awardees, and that encourages other companies to consider pursuing a Green Star as a means to demonstrate environmental stewardship.

3. ON-BOARD TRAIN RECYCLING

Plans have been developed to begin a recycling effort aboard passenger trains, beginning with the 2008 daily passenger service season (mid-May to mid-September 2008). The Railroad serves approximately 300,000 passengers each summer, offering significant recycling potential, even if only a fraction of passengers participate. Goals are to collect 1500 pounds of glass, 1000 pounds of plastic and 1500 pounds of paper per month the first year; with a 20% increase in collection the second year (i.e. 1800 lbs glass, 1200 lbs plastic and 1800 lbs paper per month). Plans call for glass, plastic and can recycle bins to be located in one to two rail cars per train and for the tour guides to request passenger

participation and provide basic instructions as part of their prepared monologue. At the end of the trip in Anchorage, tour guides will empty full individual bins, depositing the recyclables in divided luggage crates near the depot back door. Collected recyclables will be weighed and documented for records, and then the recycling company will be notified for pickup. Bins must be a Federal Railroad Administration-approved stainless steel container, estimated to cost \$100-\$300 each. Nine bins will be needed for a typical passenger train, with an average total cost of \$1800 per train. *(Copy of Power Point presentation in Supporting Materials Binder (Tab 12)).*

4. GREEN EVENTS

The Alaska Railroad hosts two Public Open House events in May each year... one in Fairbanks and one in Anchorage. ARRC also hosts project open house events each January in Anchorage, Fairbanks, Wasilla and Seward. There are also Employee Picnic events held each June, one in Fairbanks and one in Anchorage. To the extent feasible, ARRC will pursue a making these events "Green Events" using the Green Star recycling resources noted on the web site. It is anticipated that a pilot program will begin with Anchorage events, where resources are more readily available, including the Public Open House in Anchorage in May 2008, and the Employee Picnic in Anchorage in June 2008. If recycling efforts prove successful, ARRC will expand Green Events efforts to other similar events and locations.

5. COMPANY-FUNDED OFFICE RECYCLING EXPANSION

Expand company-funded / supported recycling program. The current Pilot Program includes weekly pick up of office paper at the AOC, HQ and Depot buildings. One goal of expansion is to incorporate other buildings in the Anchorage Yard, particularly those building that have volunteer-led recycling efforts. A second goal is expand the types of materials that are picked up for recycling, to include cans, bottles and cardboard, in addition to the office paper. As of September 2007, a 2008 budget item is proposed to spend \$30,000 to construct a recycling collection facility near the HQ Building that would facilitate pickup of paper, cardboard, cans and plastic bottles.

6. EXPAND FLORESCENT LIGHTING RETROFIT PROGRAM

Expand the pilot program in the Headquarters Building, which replaces 4-lamp T-12 fixtures with more efficient 3-lamp T-8 fixtures, to other appropriate Railroad operating buildings.

See Appendix 12: Future Goals for additional details.