

**Washington Specification Guide**  
**Conservation Activity Plan**  
**Agriculture Energy Management Plan - Headquarters**  
**Practice/Activity Code 122**  
**(No.)**

This specification guide is to assist the Technical Service Provider (TSP) in the interpretation of the National Criteria in the preparation of the Agricultural Energy Management Plan (AgEMP). It will address the critical elements that must be included to meet the participant's objectives. The National Criteria can be found on the Washington NRCS Website within the Electronic Field Office Technical Guide (eFOTG), in Section III under the Conservation Activity Plans (CAPs) Technical Criteria.

For further guidance on NRCS's conservation planning procedures, go to: NRCS's National Planning Procedures Handbook: Title 180, Part 600 and/or Section IV of FOTG/ Non-Practice Statement of Work/ Conservation Planning Statement of Work.

For the list of NRCS *resource concerns*, the *quality criteria* for each resource concern, and acceptable *tools* for inventory and analysis of the resource concerns, go to the Washington NRCS Website within the Section III electronic Field Office Technical Guide (eFOTG), in the Resource Quality Criteria Folder.

Always check the Washington NRCS Website within the Section IV of the electronic Field Office Technical Guide (eFOTG) for revised standards and/or specification guides before providing technical assistance.

***Section headings below correspond to the section headings contained in the National Criteria for AgEMP Headquarters.***

5. **Criteria for Headquarters Energy Audit** - The Energy Audit is to be tailored to the individual farm and should cover the primary energy users such as irrigation pumping (i.e. the lawns and shrubby surrounding the headquarters), heating and cooling of livestock production facilities, manure collection and transfer, grain drying and similar common on-farm activities. The headquarters energy audit is only for the power use on the headquarters of the farm or ranch. The Washington State University (WSU) Extension Energy's agriculture energy conservation tools and protocol, such as CAFÉ DAIRY will be used in Washington State, to be released June 1<sup>st</sup> 2011 for the Headquarters audit. Available at: <http://www.energy.wsu.edu/AgriculturalEfficiency.aspx>
  - a. Current energy usage – describe activity and primary equipment involved with each headquarters operation. Record and describe the procedures used to collect the energy use, including the time or year the tests were conducted, how long data was collected and how the power use was extrapolated for the rest of the year.

- b. Recommended energy improvements and estimated cost.
- c. Expected energy savings from these improvements and estimated payback period in years.
- d. Document the type of energy resource used and current energy consumption by each major activity at the farm headquarters.
- e. Describe components of the major activities:
  - Manufacturer
  - Equipment component factory ratings (HP, efficiency, BTU use)
  - Management use efficiencies (ex. manual/automatic controls)
  - Estimated annual energy use
- f. Summary of energy use by energy resource
- g. Assessment - Alternatives Development – Where appropriate, relates the benefit of each change with the effect on other planned alternatives. For example, if a plate cooler is recommended for a dairy facility to cool the milk, water must be pumped from the well. A VFD on the well may not be as beneficial since it now has to operate longer.
- h. Describe the proposed energy saving actions
- i. Document energy savings for the major activities at the farm headquarters as BTU's, KW hours, etc. Document a simple payback period (in years) for the proposed changes. The proposed changes should be listed in order of benefit based on cost, benefit, energy savings, and payback period.
- j. All beneficial alternatives will be listed for the landowner so that any future changes will be more energy efficient, energy wise.

**9. Deliverables for the Client – a hardcopy of the plan that includes:**

- Cover page – name, address, phone of client and TSP; Total Acres of the Plan, signature blocks for the TSP, producer, and a signature block for the NRCS acceptance.
- The completed energy audit report will include the following sections:
  - a. Summary of the facility's location, production level, any unusual factors that affect energy use, and any energy efficiency measures already in use.
  - b. Summary of the site's energy use over one year, broken down by type of usage and month.
  - c. Summary of how much money the producer would save if the recommended measures were included, and how much money the producer would lose if no action were taken. Include the effect of proposed energy price increases for that location and utility, demand charges, and any other factors that could affect the landowner's

decision adopting the recommendations.

- d. A list of recommended measures to reduce energy use including their annual energy (kWh, propane, fuel oil, BTU,...) savings and an estimated payback in years.
- e. A narrative summary of the recommendations made through the audit including description of technology, how the technology would affect the site, and how much energy would be saved annually by installing the equipment.
- f. For engineering/structural practices. The planned practice, when it will be applied and extent, and located on the conservation plan map.

## **2. Deliverables for NRCS Field Office:**

- Complete Hardcopy and Electronic copy of the producer's plan (MsWord copy).
- Electronic copy of all of the input and output sheets from the WSU tool.