

**Minor Modification to a Covered Source Permit
Review Summary**

Application No.: 0087-08

Permit No.: 0087-02-C

Applicant: Applied Energy Services (AES) Hawaii, Inc.

Facility: 203 MW Coal-Fired Cogeneration Plant
Located at 91-086 Kaomi Loop, Campbell Industrial Park,
Kapolei, Oahu

Mailing Address: AES Hawaii, Inc.
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Kapolei, Hawaii 96707

Responsible Official: Jeff Walsh
President and General Manager
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Point of Contact: Paul Karaffa
Environmental Coordinator
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Application Date: April 2, 2014

Proposed Project:

SICC: 4911 (Electric Services)

AES Hawaii, Inc. is proposing a minor modification to Covered Source Permit (CSP) No. 0087-02-C that revises the conditioned ash stockpile limitation in the facility's workyard to 186,800 tons from 10,000 tons in Attachment IIE, Special Condition No. B.3.

Background

AES Hawaii's coal-fired power plant produces Fluidized Bed Combustion Ash (FBCA) as a byproduct. The current covered source permit (CSP No. 0087-02-C) limits the amount of FBCA allowed to be stored onsite to 10,000 tons. Currently, only three (3) facilities on Oahu are permitted to accept AES Hawaii's ash: PVT (Construction & Demolition Landfill), Waimanalo Gulch (Mixed Solid Waste Landfill), and Hawaiian Cement. AES Hawaii generates up to 110,000 tons (fuel dependent plus capacity driven) of FBCA per year, 70% of which is fly ash and 30% bed ash. The specifics include:

- 95% of the total tonnage is beneficially reused at PVT for filling of void spaces, as a fire break between cells, and as a protective layer for the Gore-Tex liner of each cell. Ash is sent to PVT as conditioned ash, consisting of a mixture of fly ash, bed ash and water. Fly ash, bed ash and water are mixed onsite and transported to PVT by truck.

PROPOSED

- The remaining 5% of ash is sent to Hawaiian Cement for use in cement products. Ash sent to Hawaiian Cement is dry fly ash only and is transported by truck in enclosed containers (ash cans). No ash is currently being sent to Waimanalo Gulch landfill.

PVT's Solid Waste Management permit states that in any one permit year, July 1 to June 30, no more than 20% by volume of all material being impounded in the landfill can be AES Hawaii's conditioned ash. In the past 1 to 2 years, PVT has undertaken an aggressive recycling effort wherein previously impounded material is now being recycled. This recent reduction, below market construction waste intake and a reduction in permitted coal ash volume to PVT has reduced the amount of AES ash to PVT over the past few months. AES Hawaii has in the past received quarterly updates from PVT projecting what percentage of their total tonnage is conditioned ash. At the end of the third quarter of PVT's current permit year, ending March 31, 2014, conditioned ash is estimated to constitute 26% of total material, outside of the 20% allowed by their permit. Present PVT ash curtailments commence April 1 and reset June 30th.

AES Hawaii produces 250 tons of FBCA per day. If PVT ceases all conditioned ash deliveries from April 1 until their new permit year on July 1, AES Hawaii will generate up to an estimated 22,750 tons during this period. The AES covered source permit stipulates 10,000 tons of conditioned ash can be stored onsite. Using these projections, AES Hawaii is projected to be noncompliant with the covered source permit by May 10, 2014.

This modification is considered a minor modification since it:

- (1) Does not increase the emissions of any air pollutant above the permitted emission limits;
- (2) Does not result in or increase the emissions of any air pollutant not limited by permit to levels equal to or above:
 - (A) 500 pounds per year of a hazardous air pollutant;
 - (B) twenty-five (25) percent of significant amounts of emission as defined in section 11-60.1-1, paragraph (1) in the definition of "significant";
 - (C) five (5) tons per year of carbon monoxide; or
 - (D) two (2) tons per year of each regulated air pollutant other than carbon monoxide;
- (3) Does not violate any applicable requirement;
- (4) Does not involve significant changes to existing monitoring requirements or any relaxation or significant change to existing reporting or recordkeeping requirements in the permit. Any change to the existing monitoring, reporting, or recordkeeping requirements that reduces the enforceability of the permit is considered a significant change;
- (5) Does not require or change a case-by-case determination of an emission limitation or other standard, a source-specific determination for temporary sources of ambient impacts, or a visibility or increment analysis;
- (6) Does not seek to establish or change a permit term or condition for which there is no corresponding underlying applicable requirement, and that the source has assumed to avoid an applicable requirement to which the source would otherwise be subject. Such terms and conditions include:

- (A) A federally enforceable emissions cap assumed to avoid classification as a modification pursuant to any provision of Title I of the Act or subchapter 7; and
- (B) An alternative emissions limit approved pursuant to regulations promulgated pursuant to Section 112(i)(5) of the Act or subchapter 9; and

(7) Is not a modification pursuant to any provision of Title I of the Act.

An application fee of \$200.00 for a minor modification application was submitted and processed.

Equipment Description:

No change from Covered Source Permit No. 0087-02-C.

Air Pollution Controls:

No change from Covered Source Permit No. 0087-02-C.

Applicable Requirements:

No change from Covered Source Permit No. 0087-02-C.

Non-Applicable Requirements:

No change from Covered Source Permit No. 0087-02-C.

Prevention of Significant Deterioration (PSD):

A PSD major modification is defined as a project at an existing major stationary source that will result in a significant emissions increase and a significant net emissions increase of any pollutant subject to regulations approved pursuant to the Clean Air Act as defined in 40 Code of Federal Regulations (CFR) §52.21. Since there are no significant emission increases for the proposed modification, PSD is not triggered.

Best Available Control Technology (BACT):

As defined in HAR §11-60.1-1, a Best Available Control Technology (BACT) review is required for new or modified sources that trigger significant emission limits. No new or modified sources that trigger significant emission limits are proposed with this modification.

Compliance Assurance Monitoring (CAM):

No change from Covered Source Permit No. 0087-02-C.

Air Emissions Reporting Requirements (AERR):

No change from Covered Source Permit No. 0087-02-C.

Insignificant Activities:

No change from Covered Source Permit No. 0087-02-C.

Alternate Operating Scenarios:

No change from Covered Source Permit No. 0087-02-C.

Synthetic Minor Source:

No change from Covered Source Permit No. 0087-02-C.

Project Emissions:

Potential Emissions - Conditioned Ash Handling Under Alternative Operation

No.	Activity	TSP (tpy)	PM ₁₀ (tpy)	PM _{2.5} (tpy)
1	Conditioned ash is loaded into a loader	0.0054	0.0026	1.67E-07
2	Loader traveling on unpaved road from the silo to the yard ¹	0.6206	0.1601	0.0160
3	Loader unload to storage piles	0.0054	0.0026	1.67E-07
4	Wind erosion on the conditioned ash pile ²	0.0036	0.0017	0.0010
	Total	0.6351	0.1669	0.0170

¹ Calculations were based on maximum capacity of 186,800 tons/year, with one round trip distance from conditioned ash mixer to the yard of 500 feet.

² Assume conditioned ash's moisture content is 25% by weight.

Although there will be an increase in potential emissions for TSP, PM₁₀ and PM_{2.5} when increasing the conditioned ash stockpile's workyard limitation from 10,000 tons to 186,800 tons, this increase is less than 1 ton per year, i.e., insignificant.

Greenhouse Gas (GHG) Emissions:

No change from Covered Source Permit No. 0087-02-C.

Ambient Air Quality Impact Assessment (AAQIA):

An ambient air quality impact assessment is not required for minor modifications since there are no changes in emissions.

Significant Permit Conditions:

Proposed additions are underlined and proposed deletions are struck through.

Attachment IIE, Special Condition No. B.3 will be revised as follows:

Alternate Operating Scenario

The permittee may stockpile a maximum of 186,800~~10,000~~ tons of conditioned ash at any given time in the facility's workyard in the event the ash silos reach their maximum capacity.

Conclusion and Recommendations:

A minor modification to Covered Source Permit (CSP) No. 0087-02-C for AES Hawaii, Inc. is recommended based on the information provided in the air permit application, the significant permit conditions above, and subject to a 45-day EPA review period.

Reviewer: Darin Lum
Date: 5/2014