September 20, 2013

Andrew Stamp, Hearings Officer
c/o Jill Rolfe, Coos County Planning Director
Coos County Courthouse
250 N. Baxter
Coquille, OR 97423

Re: South Dunes Power Plant Appeals Hearing;
    Appeal File Nos. AP-13-01 & AP-13-02;
    Application File No. SP-12-02;
    Applicant's Evidentiary Submittal During Re-Open Record

Dear Hearings Officer Stamp:

This letter is submitted on behalf of Jordan Cove Energy Project, L.P., the "Applicant," in the above-captioned case, as its final evidentiary submittal during the re-opening of the record. Please make the letter a part of the hearing record.

Applicant hereby responds to the three new issues raised by appellant Jody McCaffree during the second open record:

1. With respect to the FAA file issue, please note that the FAA file is not before the County for review. The materials in the FAA file are subject to modification and change as the project continues to proceed through the design phase. The Applicant reiterates its prior position that airport and aviation issues are not relevant to the application. The site of the proposed power plant and gas conditioning facility are not within a Coos County airport operations (AO) zone, nor under a Coos County airport surfaces (AS) overlay zone. The site is also not within the North Bend Airport Surfaces overlay zoning district. Therefore, the County has no jurisdiction over airport and aviation issues related to the North Bend Airport. Rather, all related issues are subject to FAA jurisdiction and determination with respect to the proposed facilities. The County has no jurisdiction to determine whether the facilities meet or exceed FAA regulations for specific height limitations associated with the North Bend Airport, all of which are regulated...
by the FAA and the ODA. The Applicant will comply with the language of the condition of approval proposed by ODA, identified as a condition of approval in the Staff Report.

With respect to the further new evidence submitted by Ms. McCaffree regarding the height of various land forms on the north spit and the visual impacts of the project (page 7 and Exhibits 3 and 4 of Ms. McCaffree's submittal), please find a letter from Robert L. Braddock, Vice President/Project Manager, Jordan Cove Energy Project, L.P. attesting to the fact that the proposed South Dunes Power Plant will not produce a "steam plume" as otherwise depicted in Ms. McCaffree's Exhibit 4 stating that "columns of steam are not fully represented below." Mr. Braddock's letter is attached as Exhibit A. Additionally, regarding the accurate height of the Roseburg Crane, please find a letter from Walter White of SHN Consulting Engineers & Geologists, Inc. providing methodology assessing the accurate height of the Roseburg Crane to be 207 feet (NAD 88) ± 1 foot. Mr. White's letter regarding the Roseburg Crane is attached as Exhibit B.

2. With regard to Federal Regulations governing siting of LNG facilities, Ms. McCaffree has mischaracterized the letter from Chris Green at EFSC, dated December 17, 2012 (Exhibit 7 to Ms. McCaffree's submittal). The EFSC letter does not take issue with conflicts between EFSC and FERC jurisdiction. Instead, it merely recites the fact that prior EFSC applications have not elected to follow Path A for local land use approval. Under State law, a Path B election is still available to the Applicant prior to the filing of a preliminary application with EFSC. OAR 345-021-0010.

3. With regard to Ms. McCaffree's submittal of an exhibit which had been withdrawn from the record by the Applicant, the exhibit was rejected by the County and not made part of the record. See OAR 661-010-0025(1)(b); see also Exhibit 2 to Ms. McCaffree's letter, the email from the County stating, "... this is to be withdrawn and is not part of the record." Therefore, this exhibit should not be considered by the Hearings Officer in this appeal.

Thank you for the opportunity to provide additional rebuttal evidence in response to the new materials submitted during the second open record.

Very truly yours,

Mark D. Whitlow
MDW:plm

Enclosures
cc: Jordan Cove Energy Project, L.P. (w/encls.)
September 17, 2013

Andrew Stamp, Hearings Officer
c/o Jill Rolfe, Coos County Planning Director
Coos County Courthouse
250 N. Baxter
Coquille, OR 97423

Re: South Dunes Power Plant Appeals Hearing
   Appeal File Nos. AP-13-01 & AP-13-02
   Application File No. SP-12-02

Dear Hearings Officer Stamp:

This letter is written to you as rebuttal testimony in the above case. Please make this letter a part of the hearing record. A copy of my resume is attached.

I understand that you have received comments expressing concern that the proposed South Dunes Power Plant will produce a "steam plume" which could arguably interfere with airport operations at the North Bend Airport. That is not the case, as described below.

Unlike the majority of natural gas fired power plants operating in Oregon and elsewhere, the South Dunes Power Plant relies on a closed-loop water system ("Fin-Fan Coolers") to remove heat from the cooling water used to condense the steam that discharges from the steam turbine generator units. In most power plants, cooling water operates in an "open loop" system where cooling water is cooled by running it across a cooling tower. A cooling tower forces air to flow upward while cooling water flows downward so that heat from the water is transferred to the upward flowing air. In the process some of the cooling water is evaporated and exits the cooling tower as water saturated air, the visible steam plume. The evaporation of a portion of the cooling water lowers the water temperature of the downward flowing cooling water that remains in the liquid state but also results in the creation of water vapor, the "steam plume" visible from most cooling towers particularly on the days of high relative humidity.

The South Dunes Power Plant does not rely on this method to lower the temperature of the cooling water that has been used to condense the steam exhausted from the steam turbo generator. The cooling water is circulated in a closed loop where the cooling water is not allowed to come into direct contact with the air (as is the case with a cooling tower). The South Dunes Power Plant uses a number of radiator units (Fin-Fan coolers) similar to how water is cooled in a car engine. Cooling water enters one side of the Fin-Fan cooler at an elevated temperature, fans blow air across the heat exchange surfaces (the radiator like units) and the water exits the other side of the Fin-Fan cooler at a lower temperature. The air blowing across the radiator fins removes the heat but there is no direct contact between the cooling water and the
Andrew Stamp, Hearings Officer
September 17, 2013
Page 2

air, the cooling water is circulated in a closed loop, similar to how the car’s radiator circulates water to cool a car’s engine). For that reason the Fin-Fan cooler does not lose any of the cooling water via evaporation to the air and therefore does not create a steam plume. The disadvantage of the Fin-Fan approach as compared to using a cooling tower is that it has a higher cost to construct and operate as compared to a simple cooling tower. The advantage of the Fin-Fan cooling approach is the elimination of water loss (and the resultant steam plume) that all cooling towers rely upon to achieve cooling.

Thank you for the opportunity to provide comments to you on this important issue.

Very truly yours,

[Signature]
Robert L. Braddock
Vice President, Project Manager

Enclosures
ROBERT L. BRADDOCK
1274 Silvertip Lane
Evergreen, Colorado 80439
(303) 674-7917
bobbraddock@attglobal.net
111 Canada Street
Ojai, California 93023
(805) 640-3744

PROFESSIONAL EXPERIENCE

ENERGY PROJECT DEVELOPMENT L.L.C., EVERGREEN, COLORADO 2003- Present
1274 Silvertip Lane, Evergreen, CO 80439 (303)748-3746
Founder and Managing Member

Energy Projects Development L.L.C. (EPD) was founded for the primary purpose of developing the Jordan Cove Energy Project (JCEP), a liquefied natural gas importation terminal proposed to be constructed in Coos Bay, Oregon. EPD has partnered with Veresen, Inc. for the development of this $7 billion plus project. EPD provides the project management team that is responsible for execution of the JCEP. Mr. Braddock is the designated Project Manager and, with the assistance of another EPD member, is responsible for the siting, permitting, design, construction and operation of the JCEP.

OPERATIONS SERVICES CORPORATION, LAKEWOOD, COLORADO 2000 - 2003
Founder and Sole Owner

Operations Services Corporation (OSC) specializes in the design and operation of a proprietary dewatering systems for the recovery and value added processing of industrial and municipal biosolids. Recently completed jobs have included the processing of hydrocarbon-contaminated sediments from the Port of New York (NJ Maritime Administration), upper Mississippi River habitat reclamation (U.S. Corps of Engineers) and papermill sludge recovery, processing and utilization (Oregon, Washington and California). Mr. Braddock turned over operational control of OSC to a family member in 2003.

SILVERTIP PROJECT PARTNERS, INC., LAKEWOOD, COLORADO 1993 - 2000
President & Principal Shareholder

Silvertip Project Partners is engaged in the development of energy based industrial projects for its own account and major U.S. and foreign corporations. Most projects required the production and use of hydrogen as an intermediate product. Responsible for the licensing of technology, selection of construction contractor, development of markets for the product, securing of raw materials and utilities, arranging finance, obtaining permits, overseeing construction and startup, and organization of operations.
Robert L. Braddock

and staffing operations. Most projects involved the transfer of emerging technologies from academic or industrial laboratories into demonstration or beta commercial applications.

Responsible for development of projects in the following industries: methanol production (China), iron carbide manufacture (Kazakhstan, Alaska), waste sediments dewatering (various locations), petroleum wax recovery (Utah), electric steel manufacturing (Iceland) and coal agglomeration (West Virginia, Kentucky).

Mr. Braddock sold his interest in Silvertip Project Partners to the other principal shareholder in December 2000.

SAND CREEK CHEMICAL L.P., COMMERCE CITY, COLORADO 1990 - 1993
General Manager and Limited Partner

The Sand Creek Chemical Limited Partnership, comprised of Intermountain Chemical, Inc. as general partner and Public Service Company of Colorado and General Electric Capital Corporation as limited partners, owned and operated the 250-ton per day, $45 million methanol plant.

Responsible for the development, construction and operation of the project including: creation and execution of business, operation and marketing plans; securing all permits and governmental consents; negotiating natural gas supply and transportation agreements; contracting for the marketing of all methanol production; management of construction and Plant start-up; securing project financing and staffing. Additionally Mr. Braddock was a member of the California Fuel Methanol Reserve managed by the California Energy Commission for the purpose of establishing a methanol fuel distribution network for both automobiles (M-85) and buses (M-100).

UNICO, INC., FARMINGTON, NEW MEXICO 1988 - 1993
Vice President / Director

Unico was an independent natural resources company engaged in the production of natural gas, the refining of crude oil and the co-generation of electricity. Through its wholly owned subsidiary, Intermountain Chemical, was the managing general partner of the Sand Creek Chemical Limited Partnership methanol plant.

Assumed overall management responsibility for natural gas operations, provided technical support for refinery operations and formulated corporate strategy.

METHANOL PRODUCTION CORPORATION, LAKEWOOD, COLORADO 1983 - 1988
President (Methanol Production Corporation merged with Unico, Inc. in July, 1988)

Managed the acquisition, operation and marketing of natural gas production. Developed, financed, constructed and operated natural gas pipeline gathering systems in Kansas and Colorado. Managed the development of a grass roots helium recovery project in southeastern Colorado for a joint venture with Mitex Energy (Mitsui & Co.) and Air Products & Chemicals. Managed the initial development of a 250-ton per day, modular methanol plant.
TOSCO CORPORATION, LOS ANGELES, CALIFORNIA
Assistant to the Executive Vice President for Technology 1979 - 1983

Manager of Enhanced Oil Recovery Operations - Developed and implemented steam flooding programs for the tertiary recovery of heavy oil from over 200 wells in two projects located in Kern and Los Angeles Counties, California. Programs included the development and installation of a natural gas fired electric co-generation facility for tertiary oil recovery operations in Placerita Canyon, (Newhall), California.

Manager of Research - Administered a technical staff of over 200 professional and technical personnel engaged in research, development and technical support for four oil refineries, heavy oil production, and oil shale processing. Developed a decision methodology and management system to be used by senior corporate officers to rationally select projects for development and to allocate a $20 million annual development budget. Technologies involved GTL processes, petroleum coke gasification, hydrogen production, oil shale pyrolysis and solid hydrocarbon transport.

INTERMOUNTAIN TRADING COMPANY, LAKEWOOD, COLORADO
President – Principal Consultant 1971 - 1979

Consulted in the synthetic fuels industry on the development and design of processes for the low temperature pyrolysis of coal, the upgrading of coal tar liquids and the pyrolysis of scrap tires for the production of carbon black and liquid hydrocarbons. Conducted market development analysis for western sub-bituminous coal, tire pyrolysis products, low temperature coal tar and coal char.

TOSCO CORPORATION, GOLDEN, COLORADO
Chemical Process Engineer 1969 - 1971

Designed process equipment and conducted test programs for the conversion of oil shale, coal, petroleum coke and other low value carbon containing materials into liquid and gaseous hydrocarbon products.

U.S. ARMY RECONDO SCHOOL & CENTER, VARIOUS LOCATIONS
1st Lieutenant - Executive Officer 1967 - 1969
Officer in Charge – U.S.A. Mountain Operations Training

Administered a cadre of 80 commissioned and non-commissioned officers engaged in the training of officers and enlisted personnel for long range reconnaissance patrol (LRRP) duty in Southeast Asia. Conducted LRRP practical exercise operations in various hostile locations. While stationed in the United States trained officers and non-commissioned officers in mountain operations, evasion and survival. Additionally was Officer-in-Charge of mountain search and rescue operations for the continental United States. Conducted high-risk search, rescue and recovery operations for military and civilian agencies.
EDUCATION

Bachelors of Science - Metallurgical Engineering, Colorado School of Mines - 1967
Masters of Business Administration, University of Colorado – 1971
Doctoral Courses in Business Administration (no degree) – University of Colorado – 1971-1972

Special Courses
Stanford Research Institute (SRI) - Decision / Risk Analysis Program for Research Executives (1982)
Reference: 611048.131

September 16, 2013

Mr. Mark Whitlow
Perkins Coie, LLP
1120 NW Couch St #10
Portland, OR 97209

Subject: Roseburg Forest Products Crane Height Resolution

Dear Mr. Whitlow:

SHN has determined the height of the Roseburg Forest Products Crane located in Section 4, Township 25 South, Range 13 West, W.M. The technology and methods used to obtain the height are as follows.

SHN used Trimble Model R8-2 Receivers to develop a global positioning survey (GPS) static network for the Jordan Cove Energy Project. The network was based on six existing published national geodetic control monuments in the vicinity of the project site.

In addition to the existing published control, SHN occupied 11 additional control points to be used as project control. The static networks is a first order control survey with the horizontal control based on State Plane-Oregon South Zone (3601) NAD 83/91 (international feet) and vertical control datum is based on North American Vertical Datum of 1988 (NAVD88) (US feet).

Due to access and safety requirements, the height of the crane at Roseburg Forest Products was measured using a Trimble S6 Robotic Total Station with TSC3 Data Collector from static control points. Using the S6 Direct-Reflex Technology, horizontal and vertical angles, and slope distance were measured to the top of the light on the crane structure. Using an infrared beam of light reflected off of the plastic housing for the light, a slope distance was obtained. Based on the horizontal and vertical angles, and the slope distance to the light, coordinates for the top of the light were calculated by the TSC3 and the subsequent point was recorded as Northing(y), Easting(x), and Elevation(z).

The elevation of the crane light was determined to be 207 feet (NAVD88) ± 1 foot.

If you have any further questions, please call me at 541-266-9890.

Sincerely

SHN Consulting Engineers & Geologists, Inc.

[Handwritten signature]
Walter White, PLS
Senior Surveyor

[Signature Stamp]
REGISTRATION PROFESSIONAL LAND SURVEYOR
OREGON JULY 9, 2002
WALTER E. WHITE 55547
6/30/14

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EXHIBIT B