Exhibit G Materials Analysis

Boardman to Hemingway Transmission Line Project



Todd Adams, Project Leader (208) 388-2740 tadams@idahopower.com

Zach Funkhouser, Permitting (208) 388-5375 zfunkhouser@idahopower.com

Preliminary Application for Site Certificate

February 2013

TABLE OF CONTENTS

1.0	INTRODUCTION					
2.0	APPLICABLE RULES AND STATUTES					
3.0	ANA	ALYSIS	G-2			
	3.1	Analysis Area				
	3.2		G-3			
	3.3					
		3.3.1 Industrial Materials Inventory	G-3			
		3.3.2 Hazardous Substance Management	G-6			
		3.3.3 Non-Hazardous Solid Waste Management	G-10			
4.0	CON	NCLUSIONS	G-11			
5.0	SUB	BMITTAL AND APPROVAL COMPLIANCE MATRICES	G-11			
6.0		SPONSE TO COMMENTS FROM REVIEWING AGENCIES AND THE				
0.0		BLIC	G-11			
7.0		FERENCES				
		LIST O	F TABLES			
Table	G-1.	Construction Materials Inventory for Project Construction	G-4			
Table G-2.						
Table						
		Construction and Operations	G-7			
Table G-4.			G-11			
Table G-5.		•				

LIST OF ATTACMENTS

Attachment G-1. Telephone Communication with Concrete and Aggregate Suppliers

Attachment G-2. Letters to Concrete and Aggregate Suppliers

Attachment G-3. Letters from Concrete and Aggregate Suppliers

Boardman to Hemingway Transmission Line Project	Exhibit G
This page intentionally left blank	

ACRONYMS AND ABBREVIATIONS

Note: Not all acronyms and abbreviations listed will appear in this Exhibit.

°C degrees Celsius 4WD 4-wheel-drive A ampere

A/ph amperes/phase AC alternating current

ACDP Air Contaminant Discharge Permit
ACEC Area of Critical Environmental Concern
ACSR aluminum conductor steel reinforced
AIMP Agricultural Impact Mitigation Plan
AMS Analysis of the Management Situation

aMW average megawatt

ANSI American National Standards Institute

APE Area of Potential Effect

APLIC Avian Power Line Interaction Committee
ARPA Archaeological Resource Protection Act

ASC Application for Site Certificate

ASCE American Society of Civil Engineers

ASP Archaeological Survey Plan AST aboveground storage tank

ASTM American Society of Testing and Materials

ATC available transmission capacity

ATV all-terrain vehicle AUM animal unit month

B2H Boardman to Hemingway Transmission Line Project

BCCP Baker County Comprehensive Plan

BCZSO Baker County Zoning and Subdivision Ordinance

BLM Bureau of Land Management
BMP best management practice
BPA Bonneville Power Administration

BOR Bureau of Reclamation
C and D construction and demolition

CAA Clean Air Act

CadnaA Computer-Aided Noise Abatement

CAFE Corona and Field Effects
CAP Community Advisory Process
CBM capacity benefit margin
CFR Code of Federal Regulations

CH critical habitat

CIP critical infrastructure protection

CL centerline cm centimeter cmil circular mil

COA Conservation Opportunity Area CO₂e carbon dioxide equivalent

COM Plan Construction, Operations, and Maintenance Plan CPCN Certificate of Public Convenience and Necessity

cps cycle per second

CRP Conservation Reserve Program

CRT cathode-ray tube

CRUP Cultural Resource Use Permit CSZ Cascadia Subduction Zone

CTUIR Confederated Tribes of the Umatilla Indian Reservation

CWA Clean Water Act of 1972
CWR Critical Winter Range

dB decibel

dBA A-weighted decibel DC direct current

DoD Department of Defense
DOE U.S. Department of Energy

DOGAMI Oregon Department of Geology and Mineral Industries

DPS Distinct Population Segment

DSL Oregon Department of State Lands

EA environmental assessment

EDRR Early Detection and Rapid Response

EIS Environmental Impact Statement (DEIS for Draft and FEIS

for Final)

EFSC or Council Energy Facility Siting Council

EFU Exclusive Farm Use EHS extra high strength

EMF electric and magnetic fields
EPA Environmental Protection Agency
EPC Engineer, Procure, Construct
EPM environmental protection measure
EPRI Electric Power Research Institute
ERO Electric Reliability Organization

ERU Exclusive Range Use
ESA Endangered Species Act

ESCP Erosion and Sediment Control Plan ESU Evolutionarily Significant Unit

EU European Union

FAA Federal Aviation Administration
FCC Federal Communication Commission
FEMA Federal Emergency Management Agency
FERC Federal Energy Regulatory Commission

FFT find, fix, track, and report

FLPMA Federal Land Policy and Management Act
Forest Plan Land and Resource Management Plan

FPA Forest Practices Act
FSA Farm Services Agency

FWS U.S. Fish and Wildlife Service

G gauss

GeoBOB Geographic Biotic Observation

GF Grazing Farm Zone GHG greenhouse gas

GHz gigahertz

GIL gas insulated transmission line
GIS geographic information system
GPS Global Positioning System
GRMW Grande Ronde Model Watershed
GRP Grassland Reserve Program
HAC Historic Archaeological Cultural

HCNRA Hells Canyon National Recreation Area

HPFF high pressure fluid-filled

HPMP Historic Properties Management Plan

HUC Hydrologic Unit Code

Hz hertz

I-84 Interstate 84

ICC International Code Council

ICES International Committee on Electromagnetic Safety

ICNIRP International Commission on Non-Ionizing Radiation Protection

IDAPA Idaho Administrative Procedures Act

IDEQ Idaho Department of Environmental Quality

IDFG Idaho Department of Fish and Game
IDWR Idaho Department of Water Resources

ILS intensive-level survey
IM Instructional Memorandum
INHP Idaho Natural Heritage Program

INRMP Integrated Natural Resources Management Plan

IPC Idaho Power Company

IPUC Idaho Public Utilities Commission

IRP integrated resource plan IRPAC IRP Advisory Council

ISDA Idaho State Department of Agriculture

JPA Joint Permit Application KCM thousand circular mils

kHz kilohertz km kilometer

KOP Key Observation Point

kV kilovolt

kV/m kilovolt per meter kWh kilowatt-hour

 $\begin{array}{ll} L_{\text{dn}} & \text{day-night sound level} \\ L_{\text{eq}} & \text{equivalent sound level} \end{array}$

lb pound

LCDC Land Conservation and Development Commission

LDMA Lost Dutchman's Mining Association

LiDAR light detection and ranging LIT Local Implementation Team

LMP land management plan LOLE Loss of Load Expectation

LRMP land and resource management plan

LUBA Land Use Board of Appeals

LWD large woody debris

m meter mA milliampere

MA Management Area

MAIFI Momentary Average Interruption Frequency Index

MCC Malheur County Code

MCCP Morrow County Comprehensive Plan
MCE Maximum Credible Earthquake
MCZO Morrow County Zoning Ordinance

mG milligauss
MHz megahertz
mm millimeter

MMI Modified Mercalli Intensity

MP milepost

MPE maximum probable earthquake
MRI magnetic resonance imaging
MVAR megavolt ampere reactive

Mw mean magnitude

MW megawatt

μV/m microvolt per meter

N₂O nitrous oxide

NAIP National Agriculture Imagery Program

NED National Elevation Dataset

NEMS National Energy Modeling System

NEPA National Environmental Policy Act of 1969
NERC North American Electric Reliability Corporation

NESC National Electrical Safety Code

NF National Forest

NFPA National Fire Protection Association

NFS National Forest System

NGDC National Geophysical Data Center NHD National Hydrography Dataset

NHOTIC National Historic Oregon Trail Interpretive Center

NHT National Historic Trail

NIEHS National Institute of Environmental Health Sciences
NIST National Institute of Standards and Technology
NOAA National Oceanic and Atmospheric Administration

NOAA Fisheries National Oceanic and Atmospheric Administration Fisheries

Division

NOI Notice of Intent to File an Application for Site Certificate

NOV Notice of Violation

NPDES National Pollutant Discharge Elimination System

NRCS Natural Resources Conservation Service

NRHP National Register of Historic Places

NSR noise sensitive receptor

NTTG Northern Tier Transmission Group

NWGAP Northwest Regional Gap Analysis Landcover Data

NWI National Wetlands Inventory NWPP Northwest Power Pool NWR National Wildlife Refuge

NWSRS National Wild and Scenic Rivers System
NWSTF Naval Weapons Systems Training Facility

 O_3 ozone

O&M operation and maintenance

OAIN Oregon Agricultural Information Network

OAR Oregon Administrative Rules
OATT Open Access Transmission Tariff
ODA Oregon Department of Agriculture

ODEQ Oregon Department of Environmental Quality

ODF Oregon Department of Forestry

ODFW Oregon Department of Fish and Wildlife

ODOE Oregon Department of Energy

ODOT Oregon Department of Transportation

OHGW overhead ground wire
OHV off-highway vehicle
OPGW optical ground wire

OPRD Oregon Parks and Recreation Department

OPS U.S. Department of Transportation, Office of Pipeline Safety

OPUC Public Utility Commission of Oregon

OR Oregon (State) Highway

ORBIC Oregon Biodiversity Information Center

ORS Oregon Revised Statutes

ORWAP Oregon Rapid Wetland Assessment Protocol

OS Open Space

OSDAM Oregon Streamflow Duration Assessment Methodology

OSHA Occupational Safety and Health Administration

OSSC Oregon Structural Specialty Code

OSWB Oregon State Weed Board OWC Oregon Wetland Cover

P Preservation

PA Programmatic Agreement

pASC Preliminary Application for Site Certificate

PAT Project Advisory Team
PCE Primary Constituent Element

PEM palustrine emergent PFO palustrine forested

PGA peak ground acceleration
PGE Portland General Electric
PGH Preliminary General Habitats

Pike Pike Energy Solutions

PNSN Pacific Northwest Seismic Network

POD Plan of Development

POMU Permit to Operate, Maintain and Use a State Highway Approach

PPH Preliminary Priority Habitats

Project Boardman to Hemingway Transmission Line Project

PSD Prevention of Significant Deterioration

PSS palustrine scrub-shrub

R Retention R-F removal-fill

RCM Reliability Centered Maintenance

RCRA Resource Conservation and Recovery Act

ReGAP Regional Gap Analysis Project

RFP request for proposal

RLS reconnaissance-level survey RMP resource management plan

ROD Record of Decision

ROE right of entry

RNA research natural area

ROW right-of-way

SAIDI System Average Interruption Duration Index
SAIFI System Average Interruption Frequency Index

SC Sensitive Critical

SEORMP Southeastern Oregon Resource Management Plan

SF6 sulfur hexafluoride

Shaw Environmental and Infrastructure, Inc.

SHPO State Historic Preservation Office

SLIDO Statewide Landslide Inventory Database for Oregon

SMS Scenery Management System
SMU Species Management Unit

SPCC Spill Prevention, Containment, and Countermeasures

SRMA Special Recreation Management Area

SRSAM Salmon Resources and Sensitive Area Mapping

SSURGO Soil Survey Geographic Database STATSGO State Soil Geographic Database

SUP special-use permit SV Sensitive Vulnerable

SWPPP Stormwater Pollution Prevention Plan

T/A/Y tons/acre/year
TDG Total Dissolved Gas

TES threatened, endangered, and sensitive (species)

TG Timber Grazing

TMIP Transmission Maintenance and Inspection Plan

TNC The Nature Conservancy

tpy tons per year

TSD treatment, storage, and disposal

TV television

TVES Terrestrial Visual Encounter Surveys

TVMP Transmission Vegetation Management Program

UBAR Umatilla Basin Aquifer Restoration
UBWC Umatilla Basin Water Commission
UCDC Umatilla County Development Code

UCZPSO Union County Zoning, Partition and Subdivision Ordinance

UDP Unanticipated Discovery Plan

U.S. United States

USACE U.S. Army Corps of Engineers

U.S.C. United States Code

USDA U.S. Department of Agriculture

USFS U.S. Department of Agriculture, Forest Service

USGS U.S. Geological Survey
UWIN Utah Wildlife in Need
V/C volume to capacity

V volt

VAHP Visual Assessment of Historic Properties

VMS Visual Management System VQO Visual Quality Objective

VRM Visual Resource Management WAGS Washington ground squirrel WCU Wilderness Characteristic Unit

WECC Western Electricity Coordinating Council

WHO World Health Organization WMA Wildlife Management Area

WOS waters of the state

WOUS waters of the United States
WPCF Water Pollution Control Facility

WR winter range

WRCC Western Regional Climate Center WRD (Oregon) Water Resources Division

WRP Wetland Reserve Program

WWE West-wide Energy

XLPE cross-linked polyethylene

1 Exhibit G

14

16

17 18

19 20

21

22

23

24

25

26

27 28

29 30

31

32

33

34

35

36

37

38

39

40

41

2 Materials Analysis

3 1.0 INTRODUCTION

- 4 Exhibit G provides an analysis of materials for the Boardman to Hemingway Transmission Line
- 5 Project (Project). Exhibit G demonstrates that Idaho Power Company (IPC) will comply with
- 6 Oregon Administrative Rule (OAR) Chapter 345 Division 22 relating to materials, based on
- 7 information provided pursuant to OAR 345-021-0010(1)(g), paragraphs (A) through (C).
- 8 Specifically, Exhibit G demonstrates that materials used for construction and operations of the
- 9 Boardman to Hemingway Transmission Line Project (Project) will not result in adverse impacts
- 10 to resources. Exhibit G includes a listing of hazardous and non-hazardous materials to be used
- on the Project and a discussion of plans to manage them. Exhibit G also provides a brief
- summary of plans for handling solid and hazardous waste. Estimated waste quantities,
- handling, and waste minimization are fully described in Exhibit V.

2.0 APPLICABLE RULES AND STATUTES

- 15 Pursuant to OAR 345-021-0010(1)(g), Exhibit G must contain a materials analysis including:
 - (A) An inventory of substantial quantities of industrial materials flowing into and out of the proposed facility during construction and operation;
 - (B) The applicant's plans to manage hazardous substances during construction and operation, including measures to prevent and contain spills; and
 - (C) The applicant's plans to manage non-hazardous waste materials during construction and operation.

As emphasized in the Project Order, Exhibit G must provide evidence that the facility will appropriately use and store hazardous materials. Specifically, the Project Order provides the following additional direction:

See discussion in Section I(d) of this project order regarding ODEQ Land Quality Division's requirements for hazardous materials used and stored at the facility, or at temporary access and laydown areas. The Department also uses the materials analysis to identify any hazardous materials whose management and storage could affect the cost of site restoration because of the possibility of spills. The applicant should ensure that the application addresses any proposed fuel storage areas, vehicle maintenance areas, or other areas that will be utilized for activities that could result in a spill of a hazardous substance.

The ODEQ Hazardous Waste program implements requirements of the U.S. Environmental Protection Agency (EPA) and is a federally-delegated program. The applicant must comply with ODEQ regulations concerning the storage and management of hazardous materials and the clean up and disposal of hazardous waste.

In addition, the Oregon Department of Environmental Quality (ODEQ), Land Quality Division, under Statutes Oregon Revised Statutes (ORS) Chapter 465 and 466 and under OAR Chapter 340, Divisions 100 through 122, governs hazardous waste, hazardous materials, and hazardous waste management. This requirement is incorporated in the Council's general standard of review, OAR 345-022-0000. No permit is required for hazardous waste, but IPC will comply with

- 1 ODEQ regulations concerning Project storage and management of hazardous materials and the
- 2 cleanup and disposal of hazardous waste. OAR 345-022-0030 contains rules for soil protection
- 3 including impacts from material spills. Impacts to soils are further discussed in Exhibit I. OAR
- 4 345-022-0120 contains rules for waste minimization. Material waste minimization tasks are
- 5 discussed in Exhibit V. Where Portland cement concrete (concrete) is not locally available,
- 6 portable concrete batch plants will be placed at multi-use areas. Operation of concrete batch
- 7 plants at multi-use areas will require Water Pollution Control Facility (WPCF) permits (WPCF-
- 8 1200-A) in accordance with OAR 340-045-0033(10)(h). The portable batch plant permit
- 9 requirement for a 1200-A stormwater permit is also stated on the cover sheet of the stormwater
- 10 permit (ODEQ 2006). IPC will require its construction contractors to obtain a WPCF 1200-A
- permit and an Air Containment Discharge Permit (AGP-009) for portable batch plants from
- 12 ODEQ, and will demonstrate compliance with on-site wastewater treatment regulations (OAR
- 13 Chapter 340, Division 71) prior to and during construction. A 1200-A permit for gravel extraction
- will not be necessary as all gravel used on the Project will be obtained from commercial
- 15 sources.

17

23

24

2526

27 28

29

30 31

32

33 34

35

36

37 38

16 3.0 ANALYSIS

3.1 Analysis Area

- Pursuant to the Project Order, the analysis area for Exhibit G is the Site Boundary, which is
- defined in OAR 345-001-0010(55) as "the perimeter of the site of a proposed energy facility, its
- 20 related or supporting facilities, all temporary laydown and staging areas, and all corridors and
- 21 micrositing corridors proposed by the applicant." The Site Boundary for the Project includes the
- 22 following related and supporting facilities in Oregon:
 - Proposed Corridor: 277.2 miles of 500-kilovolt (kV) transmission line corridor, 5.0 miles of double circuit 138/69-kV transmission line corridor, and 0.3 mile of 138-kV transmission line corridor.
 - Alternate Corridor Segments: Seven alternate corridor segments consisting of approximately 134.1 miles that could replace certain segments of the Proposed Corridor. IPC has proposed these alternate corridor segments in order to allow flexibility for IPC and EFSC, as well as federal agencies, to reconcile competing resource constraints in several key locations.
 - One proposed substation expansion of 3 acres; two alternate substation sites (one 3-acre substation expansion and one new 20-acre substation). IPC ultimately needs to construct and operate only one substation expansion or substation in the Boardman area.
 - Eight communication station sites of less than one acre each in size; four alternate communication station sites along alternate corridor segments.
 - Temporary and permanent access roads.
 - Temporary multi-use areas, pulling and tensioning sites, and fly yards.
- 39 The features of the Project are fully described in Exhibit B and the Site Boundary for each
- 40 Project feature is described in Exhibit C, Table C-21. The location of the Project (Site Boundary)
- 41 is outlined in Exhibit C.

3.2 Methods

1

22

23

24

25

26

- 2 Estimated quantities of industrial and hazardous materials were provided by IPC's engineering
- 3 group and IPC's engineering contractor, Pike Energy Solutions (Pike). IPC and Pike have
- 4 experience that qualifies them to make these estimates as detailed in Exhibit D. Materials
- 5 expected to be used were determined by evaluating preliminary engineering design against the
- 6 length of the Proposed Corridor and alternate corridor segments. Preliminary engineering
- 7 evaluations estimated the number of multi-use areas, communication stations and number of
- 8 transmission towers. These estimates were used to evaluate the location and number of
- 9 transmission line towers, insulators, conductors, and substation equipment. Engineering
- evaluations have also reviewed the location of known roads that could be available for Project
- 11 construction and access, and the location and length of new roads have been estimated. The
- 12 planning of transmission tower and access road locations was used to estimate the quantities of
- 13 concrete, aggregates and fill materials, and blasting and reclamation supplies that will be
- required. Road and stream crossing types and locations are documented in Exhibits B and C,
- which allowed for an estimate of the number of culverts and road crossing materials.
- 16 Hazardous materials were determined using the known processes required for transmission line
- 17 construction. This includes herbicides necessary to control vegetation growth beneath the
- transmission lines. Most of the hazardous materials are associated with fuel and other liquid
- materials required to operate vehicles and construction equipment. They are either temporarily
- 20 stored at the multi-use areas during construction, or brought on-site during construction or
- 21 operations in service vehicles.

3.3 Information Required by OAR 345-021-0010(1)(g)

3.3.1 Industrial Materials Inventory

OAR 345-021-0010(1)(g)(A)

An inventory of substantial quantities of industrial materials flowing into and out of the proposed facility during construction and operation;

- 27 IPC has anticipated the materials needed to construct and operate the Project and plans to
- 28 establish multi-use areas and fly yards for temporary storage of industrial materials, supplies,
- 29 and equipment. Table G-1 provides a list of industrial materials to be used during Project
- 30 construction based on engineering estimates for the Project. The alternate Longhorn Substation
- or Horn Butte Substation, if constructed, would require similar materials to those listed for the
- 32 Grassland Substation. The materials list will be further developed when final design of the
- 33 Project is complete.
- 34 Concrete will be obtained from commercial sources where available or from Project-related
- portable batch plants. Portable batch plants, if needed, will be placed at selected multi-use
- areas. Multi-use areas are placed at intervals of approximately every 40 miles. These facilities
- 37 will require storage of cement, sand, gravel, and water for concrete mixing. Other construction
- materials (pit run, aggregate base, gravel, cobbles/stone) will also be distributed at multi-use
- 39 areas for use in road building or for stormwater best management practices.

 Table G-1.
 Construction Materials Inventory for Project Construction

Material	Ultimate Disposition	Units	Quantity	
Structures and Wire				
Concrete for Structure Foundations	Remains on site as structure footings	cubic yards	41,859	
500-kV lattice structures (Avg. weight = 20 tons each)	Used on-site for power transmission	number	1,173	
500-kV H-frame structures (Avg. weight = 29 tons each)	Used on-site for power transmission	number	43	
138/69-kV monopole structures (Avg. weight = 9 tons each)	Used on-site for power transmission	number	72	
Conductor (Avg. weight = 3.8 tons per mile)	Used on-site for power transmission	miles	2,621	
Insulator strings	Used on-site for power transmission	number	11,502	
Distribution Underbuild Insulator	Used on-site for power transmission	number	408	
Steel overhead ground wire (weighs 1.4 tons per mile)	Used on-site for power transmission	miles	292	
Optical ground wire (weight = 1.1 tons per mile)	Used for communications for system operations	miles	292	
Com	munication Stations			
Communication shelters	Used for communication signal regeneration	number	8	
Concrete for Communication Shelters Foundations	Remains on site as foundations	cubic yards	80	
External propane fuel storage tank	Used to provide backup power to communications	number	8	
	station	Tiullibei	0	
	assland Substation			
Concrete for Grassland Substation Foundation	Remains on site as foundation	cubic yards	928	
500-kV Breaker, Areva, 4000-A,63-k (535A and 536A)	Used on-site for power transmission	number	2	
500-kV Breaker, Areva, 2000-A,63-k (504W)	Used on-site for power transmission	number	1	
500-kV Breaker, Areva, 2000-A,40-k (511Z and 512Z)	Used on-site for power transmission	number	2	
500-kV, 2000-A switches with MO (511X and 512X)	Used on-site for power transmission	number	2	
500-kV, 4000-A switches with MO (504E, 535B, 535C, 536B	Used on-site for power transmission	number	5	
and 536C	·	Tidifibei	3	
500-kV, 4000-A/2000-A grounding disconnect switch (504M and	Used on-site for power transmission	number	2	
504N)	'			
500-kV CVT (1-Phase)	Used on-site for power transmission	number	5	
500-kV CVT with line tuner	Used on-site for power transmission	number	1	
500-kV 3000a-Wave trap with line tuner (1-Phase)	Used on-site for power transmission	number	1	
354-kV surge arrester (1-Phase)	Used on-site for power transmission	number	3	
550-kV surge arrester (1-Phase)	Used on-site for power transmission	number	3	
144-kV arrestor	Used on-site for power transmission	number	1	
(1) Single-phase neutral shunt reactor 29.418 Mvar (L510)	Used on-site for power transmission	number	1	
550/317.54-kV shunt inductor (L511)	Used on-site for power transmission	number	1	

Table G-1. Construction Materials Inventory for Project Construction (continued)

Material	Ultimate Disposition	Units	Quantity
550/317.54-kV shunt inductor (L512)	Used on-site for power transmission	number	1
500-kV 507.4 MVAR series capacitor (C504)	Used on-site for power transmission	number	1
500-kV dead-end assemblies for substation overhead strain bus	Used on-site for power transmission	lot	1
500-kV overhead conductor and static wire dead-end assembly	Used on-site for power transmission	lot	1
500-kV bus work and miscellaneous connectors	Used on-site for power transmission	lot	1
500-kV structure and equipment grounding material	Used on-site for power transmission	lot	1
New control building	Used on-site for power transmission	lot	1
Duplex panel with relays and controls	Used on-site for power transmission	lot	1
Access Roads, St	ream Crossings, and Restoration		
Pit run	Remains on-site as fill	cubic yards	13,700
Aggregate base	Remains on-site as foundation support or road surface	cubic yards	115,766
Pea gravel	Remains on-site as culvert bedding	cubic yards	18
Cobbles/stone	Remains on-site for erosion prevention or creek crossing road bed	cubic yards	150
Filter fabric/stabilization fabric	Used on-site for construction	square yards	95,200
Culverts (HDPE, Concrete and Corrugated Metal)	Remains on-site for drainage and stormwater control	number	131
Channel Spanning Structures (Temporary)	Removed and recycled or disposed	each	2
Silt fence or fiber roll	Used for sediment control	miles	174
Spill absorbent material	Used to contain liquid spills if needed	containers	250
Native grass seed	Used for erosion control, reseeding and restoration	pounds	50,400
Fo	encing and Gates		
Chain link fencing	Substation Fencing, Communication Station Fencing	feet	7,300
	Replace damaged fence or add per landowner		10
Barbed wire fence	request	miles	
Gates	Remains on site for access control	number	35
Multiuse area fencing (temporary)	Removed and recycled or disposed	feet	66,930
	Erosion Control		
Fiber roll wattles	Removed and recycled or disposed	miles	220
Erosion Control Matting	Remains on site for long term erosion control	rolls	666

- 1 To assess the availability of concrete and aggregates for the Project, providers were contacted
- 2 by telephone and letter. A total of 16 concrete and aggregate suppliers were identified. Of the
- 3 16 aggregate suppliers identified, phone conversations were conducted with 14 of them, 4 of
- 4 whom also responded with a letter.
- 5 Attachment G-1 contains a summary of the aggregate suppliers contacted by telephone.
- 6 Attachment G-2 contains copies of the letters sent to the concrete and aggregate suppliers.
- 7 Attachment G-3 contains copies of letters received from suppliers who responded to the IPC
- 8 availability letter. Results of the inquiries indicate there are suppliers distributed along the
- 9 corridor, and adequate supplies to provide for Project requirements.
- 10 Estimated volumes of water to be used for all purposes, including concrete batching and dust
- 11 abatement, are presented in Exhibit O.
- Table G-2 provides a list of materials estimated for use on the Project for a typical 5-year period
- during the operations phase. Operations phase materials are variable and dependent upon the
- maintenance or repair events that occur. It is possible that no materials would be required
- during a typical 5-year period. However, Table G-2 provides for minimal replacement of
- materials that are sometimes lost, damaged, or stolen, including insulators, copper wire, or
- 17 culverts. Operations phase materials will be delivered to the required location at the time
- 18 needed. There are no plans to regularly store materials or maintain inventories of materials on-
- 19 site during the operations phase.

20

21

22

23 24

25

Table G-2. Materials Inventory for Operations (Typical Five-Year Estimate)

	On-Site			
Material	Storage	Ultimate Disposition	Units	Quantity
	Trai	nsmission Line Components		
Insulator bells	No	Used to replace broken insulators	number	100
Copper Wire for	No	Used to replace damaged or stolen	feet	5,000
Tower Grounds	INO	copper wire grounding	1001	3,000
		Road Maintenance		
Aggregate base	No	Used for road repair/stabilization	cubic yards	225
Culvert	No	Used to repair washed out or failed	each	5
Culvert	INO	culverts	eacii	J

3.3.2 Hazardous Substance Management

OAR 345-021-0010(1)(g)(B)

The applicant's plans to manage hazardous substances during construction and operation, including measures to prevent and contain spills; and

- Table G-3 provides a summary of explosives and hazardous materials that will be used on the Project. Hazardous materials include motor vehicle fuel, lubricants, and automotive fluids used
- primarily in construction vehicles during the construction phase. During construction, motor fuel
- and vehicle lubricants would be stored on-site in the multi-use areas. To protect surface water
- from hazardous material impacts, the multi-use sites have been planned in upland areas at least
- 31 500 feet away from streams, 400 feet for public wells, and 200 feet from private wells. Any or all
- of the multi-use areas could be used as construction-stage material storage locations,
- depending on its location relative to current construction.

Table G-3. Explosives and Hazardous Materials Storage During Project Construction and Operations

Material	Project Need	Quantity/Units	Quantity	Storage Method		
Construction Phase						
Gasoline	On-site vehicle fueling	gallons	14,000	At multi-use areas, in aboveground tanks with secondary containment		
Diesel fuel	On-site vehicle fuel	gallons	14,000	At multi-use areas, in aboveground tanks with secondary containment		
Diesel fuel	Generators for concrete batch plants	gallons	2,800	At multi-use areas, in aboveground tanks with secondary containment		
Motor oil	Used on-site for construction vehicles	gallons	1,500	Stored in mechanic vehicles or multi-use areas		
Antifreeze	Used on-site for construction vehicles	gallons	2,000	Stored in mechanic vehicles or multi-use areas		
Transmission fluid	Used on-site for construction vehicles	gallons	1,000	Stored in mechanic vehicles or multi-use areas		
Hydraulic fluid	Used on-site for construction vehicles	gallons	1,000	Stored in mechanic vehicles or multi-use areas		
Detergents	Used on-site for construction vehicles	gallons	200	Stored in mechanic vehicles or multi-use areas		
Lubricants	Used on-site for construction vehicles	gallons	200	Stored in mechanic vehicles or multi-use areas		
Paint/solvent	Used on-site	gallons	200	Stored in mechanic vehicles or multi-use areas		
Herbicide (concentrate)	Used on-site for weed control	gallons	4,750	Stored in multi-use areas		
Shock tube (lead line)	Bedrock Removal	feet	36,640	All blasting materials will be stored in approved containers per NFPA 495 and OAR 837-012-1340		
Blasting caps	Bedrock Removal	number	85,680	All blasting materials will be stored in approved containers per NFPA 495 and OAR 837-012-1340		
Cast booster (ammonium nitrate based)	Bedrock Removal	pounds	207,121	All blasting materials will be stored in approved containers per NFPA 495 and OAR 837-012-1340		
Implosive conductor Deadend Assemblies	Used for conductor deadends	each	3,411	All blasting materials will be stored in approved containers per NFPA 495 and OAR 837-012-1340		

Table G-3. Explosives and Hazardous Materials Storage During Project Construction and Operations (continued)

Material	Project Need	Quantity/Units	Quantity	Storage Method
Implosive conductor Splices	Used to splice conductor sections	each	1,490	All blasting materials will be stored in approved containers per NFPA 495 and OAR 837-012-1340
Implosive Shield Wire Deadends	Used for shield wire deadends	each	399	All blasting materials will be stored in approved containers per NFPA 495 and OAR 837-012-1340
Implosive Shield Wire Splices	Used for shield wire sections	each	149	All blasting materials will be stored in approved containers per NFPA 495 and OAR 837-012-1340
	Operation	ons Phase (Typic	al Five-Year	Estimate)
Liquid or hazard	lous materials			
Liquid propane	Used at communication stations to fuel backup generators	gallons	20,000	At communications systems in underground tanks
Herbicide	Used on-site for weed control	gallons	400	Delivered to site when needed, then hand applied under manufacturer directions to control vegetation

Note: Quantities reflect the maximum expected volume on the Project at any one time, including fuel in on-site refueling trucks and construction vehicles.

NFPA – National Fire Protection Association; OAR – Oregon Administrative Rule

- 1 Hazardous materials will be segregated when stored within the multi-use areas. Hazardous
- 2 materials will be stored in approved containers and clearly labeled. The construction contractor
- 3 will maintain an inventory of all hazardous materials used and corresponding material safety
- 4 data sheets (MSDSs). The construction contractor will maintain copies of the required MSDSs
- for each hazardous chemical, and will ensure they are readily accessible during each work shift,
- 6 to all employees when they are in their work areas. MSDSs will also be kept in service and
- 7 refueling vehicles. The MSDSs will provide basic emergency response information for small and
- 8 large releases of each hazardous material. If bulk hazardous materials are used, the
- 9 Emergency Response Guidebook, produced by the U.S. Department of Transportation, also will
- 10 be used to prepare for emergencies.
- 11 Motor fuel will be stored in the segregated hazardous materials storage area of multi-use areas.
- Fuel will be stored in aboveground storage tanks (ASTs). Gasoline and diesel fuel ASTs for
- 13 construction vehicles and equipment will be approximately 1,000-gallon capacity and up to one
- of each may be stored at a multi-use area. Five-hundred-gallon ASTs containing diesel fuel may
- be located in select multi-use areas to fuel generators for portable concrete batch plants. The
- 16 Environmental Protection Agency regulates ASTs under provisions of 40 Code of Federal
- 17 Regulations (CFR), Part 112. Use and location of ASTs on Oregon sites are regulated by the
- 18 Uniform Fire Code and enforced by the Oregon State Fire Marshal. A State Fire Marshal permit
- will be required for any individual fuel tank exceeding 1,100 gallons in capacity. The ODEQ
- does not regulate ASTs in Oregon unless they are greater than 10,000 gallons in capacity and
- 21 no tanks of that size will be used for this Project. Fuel ASTs will be located within secondary
- 22 containment consisting of soil berms with capacity of at least 10 percent greater than the
- 23 volume of the AST.
- To comply with fuel storage requirements, IPC will require its construction contractor to prepare
- a Spill Prevention, Containment, and Countermeasures Plan (SPCC Plan). The SPCC Plan will
- comply with 40 CFR, Part 112, and will include site-specific implementation of cleanup
- 27 procedures in the event of soil contamination from spills or leaks of fuels, lubricants, coolants, or
- 28 solvents. The SPCC Plan will identify applicable legal and contractual requirements, Project-
- 29 specific spill prevention procedures, and other stipulations and methods to address Project spill
- 30 prevention, response, and cleanup procedures. Proposed fuel storage areas, vehicle
- 31 maintenance areas, and other areas that may be used for storage of materials that could result
- in a spill are discussed in Exhibit B. In general, such areas will be limited to multi-use areas or
- 33 fly yards.
- 34 Fuel ASTs and motor vehicle fluids will be removed from the multi-use areas as soon as
- 35 construction is complete in any particular area. No fuel or vehicle fluid storage will occur after
- 36 the construction phase.
- 37 Concentrated liquid herbicides will be stored in the hazardous materials portion of multi-use
- 38 areas during construction.
- 39 During construction, hazardous materials will be delivered to the Project as needed, unless
- 40 regular use requires storage at the multi-use areas. During operations, small amounts (less than
- 41 20 gallons per year) will be used to control vegetation. No herbicide will be stored on-site during
- 42 the operations phase. Herbicides will be brought to the site as needed. No hazardous materials
- of any type will be stored on-site during the operations phase.
- 44 IPC will fully comply with ODEQ requirements for storage of hazardous materials and cleanup
- 45 and disposal of hazardous waste on all lands associated with the Project. ODEQ Hazardous
- Waste and Materials Statutes are found in ORS Chapters 465 and 466.

- 1 Explosives (considered a class of hazardous material) will be used for blasting rock where
- 2 needed. Explosive line hardware will be used to terminate and splice the conductor. The use,
- 3 storage, and other details pertaining to the use of explosives will be conducted in accordance
- 4 with a Project Blasting Plan. The blasting plan will be developed following site-specific
- 5 geotechnical investigation. Regulated blasting materials will be stored in accordance with the
- 6 National Fire Protection Association 495: Explosive Materials Code and OAR 837-012-1340.
- 7 Each Project communications station will contain a buried liquefied petroleum gas (propane)
- 8 tank to be used for emergency power in the event of temporary loss of electrical power.
- 9 Propane tanks will be installed, maintained, and operated in accordance with State Fire Marshal
- rules OAR Chapter 837, Division 030. Propane fuel containers do not require secondary
- 11 containment structures.
- 12 IPC and construction contractors will minimize the amount of hazardous materials needed for
- the Project by using alternative nonhazardous substances when available, recycling usable
- material such as oils, paints, and batteries to the maximum extent feasible, and filtering and
- reusing solvents and thinners whenever possible. Pesticides and herbicides will be used
- according to labeling and in accordance with IPC's Vegetation Management Plan (attached to
- 17 Exhibit P) and applicable regulations.
- 18 Persons responsible for handling or transporting hazardous materials for the Project will be
- 19 familiar with State Fire Marshal and ODEQ laws, policies, procedures, and mitigation measures
- 20 related to handling and transportation.
- 21 The Project may generate small quantities of hazardous waste. Hazardous waste may include
- 22 small remnants of hazardous substances remaining in containers. Accidental spills or leaks of
- 23 motor fuel, vehicle fluids, or chemicals may also result in small quantities of hazardous waste.
- 24 Hazardous waste spills will be cleaned up promptly. Spill kits containing items such as
- absorbent pads will be located on equipment and in each multi-use area containing hazardous
- 26 materials to ensure a quick response to spills. If hazardous spills in excess of reportable
- 27 quantities, as identified in OAR 340-142-0050, contact the ground surface, ODEQ and ODOE
- will be notified, and excavation of contaminated soil initiated. Hazardous materials and cleanup
- 29 equipment will be stored in approved containers until they can be properly transported and
- 30 disposed of at an approved treatment, storage, and disposal (TSD) facility. Hazardous waste
- will be disposed of by a licensed contractor. Further information will be provided in the Project
- 32 SPCC Plan.

33

34

35

3.3.3 Non-Hazardous Solid Waste Management

OAR 345-021-0010(1)(g)(C)

The applicant's plans to manage non-hazardous waste materials during construction and operation;

36 IPC will fully comply with applicable non-hazardous waste handling and disposal regulations on

- 37 all lands associated with the Project during construction and operations. Solid waste will be
- 38 stored in a manner that does not constitute a fire, health, or safety hazard until it can be hauled
- 39 off for recycling or disposal, as appropriate. Exhibit V provides details on the types and amounts
- 40 of waste, and procedures and systems for handling and disposal of non-hazardous waste
- 41 materials.

1 4.0 CONCLUSIONS

9

- 2 Exhibit G fulfills the requirements of OAR 345-021-0010(1)(g), and establishes that the Project
- 3 complies with all provisions of Oregon laws related to hazardous materials identified in the
- 4 Project Order. Accordingly, IPC has demonstrated that it complies with the Council's general
- 5 standard of review found in OAR 345-022-0000(1)(b).

6 5.0 SUBMITTAL AND APPROVAL COMPLIANCE MATRICES

- 7 Table G-4 provides cross references between the Exhibit submittal requirements of OAR 345-
- 8 021-0010 and where discussion can be found in the Exhibit.

Table G-4. Submittal Requirements Matrix

Requirement	Location
	LUCALIUII
OAR 345-021-0010(1)(g)	
(g) Exhibit G. A materials analysis including:	
(A) An inventory of substantial quantities of industrial materials flowing into	Section 3.3.1
and out of the proposed facility during construction and operation;	
(B) The applicant's plans to manage hazardous substances during	Section 3.3.2
construction and operation, including measures to prevent and contain	
spills; and	
(C) The applicant's plans to manage non-hazardous waste materials during	Section 3.3.3
construction and operation;	
Project Order Section V (g) Comments	
See discussion in Section I(d) of this project order regarding ODEQ Land	Section 3.3.2
Quality Division's requirements for hazardous materials used and stored at	
the facility, or at temporary access and laydown areas. The Department also	
uses the materials analysis to identify any hazardous materials whose	
management and storage could affect the cost of site restoration because of	
the possibility of spills. The applicant should ensure that the application	
addresses any proposed fuel storage areas, vehicle maintenance areas, or	
other areas that will be utilized for activities that could result in a spill of a	
hazardous substance.	

10 6.0 RESPONSE TO COMMENTS FROM REVIEWING AGENCIES AND THE PUBLIC

- 12 Table G-5 cross references comments cited in the Project Order from reviewing agencies and
- the public and where discussion can be found in the Exhibit.

14 **Table G-5.** Reviewing Agency and Public Comments

Requirement	Location
Project Order Section VIII (g) Comments	
Comments Related to General Standard of Review (OAR 345-022-0000)	
If the applicant proposes gravel mining and concrete batch plants as related and supporting facilities under Council rule, a WPCF-1000 permit is required pursuant to OAR 340-045-0033(6).	Section 2.0
The applicant should ensure that the application addresses any proposed fuel storage areas, vehicle maintenance areas, or other areas that will be utilized for activities that could result in a spill of a hazardous substance.	Section 3.3.2

1 7.0 REFERENCES

- 2 ODEQ (Oregon Department of Environmental Quality). 2006. General Permit, National Pollutant
- 3 Discharge Elimination System Storm Water Discharge Permit (Permit No. 1200-A).
- 4 Available online at:
- 5 http://www.deq.state.or.us/wq/wqpermit/docs/general/npdes1200a/permit2012.pdf

Boardman to Hemingway Transmission Line Project	Exhibit G
ΔΤΤΔΟΙ	HMENT G-1
TELEPHONE COMMUNICATION WITH CONC	RETE AND
AGGREGATE S	UPPLIERS

Table G-1-1. Communication with Concrete and Aggregate Suppliers

County	Supplier	Material	Estimated Concrete (cu. yds.) ¹	Estimated Aggregate (cu. yds.) ¹	Adequate Supply?	Contact Person	Date Contacted by Phone
Morrow	Central Pre-mix of Oregon Boardman, OR	Concrete and aggregates (both)	12,000 to 12,500	17,500 to 18,000	yes	Pete Patrick (541) 922-3416	3/8/2012
Morrow	Rinker Materials Boardman, OR	Aggregate	Does not supply	17,500 to 18,000	yes	Tom Sayer (541) 481-9246	3/8/2012
Umatilla	Umatilla Ready Mix Pendleton, OR	Both	13,000	19,000 to 19,500	Yes	Dustin Scott (541) 276-2441	3/8/2012
Umatilla	Umatilla Ready Mix Hermiston, OR	Both	13,000	19,000 to 19,500	Yes	Dustin Scott (541) 276-2441	3/8/2012
Umatilla	Central Pre-mix of Oregon Hermiston, OR	Both	13,000	19,000 to 19,500	yes	Pete Patrick (541) 922-3416	3/8/2012
Umatilla	Hermiston Rock Products Hermiston, OR	Both	13,000	19,000 to 19,500	yes	Don Hampton (541) 567-7625	3/8/2012
Umatilla	Pendleton Ready Mix Pendleton, OR	Both	13,000	19,000 to 19,500	yes	Jayne Clarke (541) 276-6951	3/8/2012
Umatilla	Barnhart Rock Inc. Pendleton, OR	Aggregate	Does not Supply	19,000 to 19,500	yes	Carol Swanson (541) 276-4104	3/8/2012
Union	RD Mac Inc. La Grande, OR	Both	10,500 to 11,000	15,000 to 15,500	yes	Mike Good (541) 963-8601	3/9/2012
Baker	Britt Sand and Gravel Baker City, OR	Both	18,500 to 19,000	26,500 to 27,000	yes	Tony Britt (541) 523-4974	3/12/2012
Malheur	Clearwater Concrete Nyssa, OR	Both	19,500 to 20,000	28,000	yes	Ed Hattrup (541) 271-6067	3/8/2012
Malheur	Clearwater Concrete Ontario, OR	Both	19,500 to 20,000	28,000	yes	Ed Hattrup (541) 271-6067	3/8/2012
Malheur	Bellows Sand and Gravel Ontario, OR	Aggregate	Does not supply	28,000	yes	Duane Bellows (541) 889-5916	3/8/2012

¹ County concrete and aggregate estimates were made by noting the total engineer's estimate for these materials (see Table G-1) and assuming proportional amounts per county based on route length per county.

Boardman to Hemingway Transmission Line Project	Exhibit G
ATT LETTERS TO CONCRETE AND AGGREGA	TACHMENT G-2 TE SUPPLIERS



March 15, 2012

Mr. Pete Patrick Central Pre-Mix of Oregon 11919 Harris Rd Pasco WA 99301

Subject: Availability of Concrete and Aggregate

Dear Mr. Patrick:

On March 8, 2012 you were contacted by our environmental contractor, Paul Spillers at Tetra Tech to discuss that Idaho Power is in the permitting stage of a project to construct a transmission line in eastern Oregon, from approximately Boardman, Oregon into southwest Idaho. As a part of the permitting process, Idaho Power must demonstrate that construction materials are available within eastern Oregon in sufficient quantities to construct the project. In Morrow County, engineering estimates are for approximately 12,500 cubic yards (cu yds) of concrete for transmission tower foundations, and about 18,000 cu yards of aggregate, predominantly for facility pads or road surfacing. In Umatilla County, the quantities are estimated at 14,000 cu yards of concrete and 20,000 cu yards of aggregate.

You informed Tetra Tech that Central Pre-mix of Oregon has concrete and aggregate facilities in Boardman and Hermiston, Oregon. You stated that Central Pre-Mix would be willing to be placed in the permit as a potential supplier of concrete and aggregate products, and the quantities of materials discussed by telephone are within your capabilities, given that construction would be spread over a several year period.

We appreciate your interest in this project. IPC currently is seeking permits for the Project via Oregon's Department of Energy, Energy Facilities Siting Council (EFSC). Permitting requirements include providing evidence you are able to supply the required amounts of concrete and aggregate products. If this letter accurately summarizes the telephone conversation, it would be helpful to the permitting process to receive from you a written acknowledgement of your capabilities to provide the above mentioned materials and be placed in the permit as a potential provider.

We appreciate your attention to this matter. If you have questions or comments, please contact us at your convenience.

Respectfully submitted,

Keith Georgeson

Keith Georgeson

Project Leader

Boardman to Hemingway Project

208-388-2034

kgeorgeson@idahopower.com



March 15, 2012

Mr. Tom Sayer Rinker Materials P.O. Box 1030 Boardman, OR 97818

Subject: Availability of Aggregate

Dear Mr. Sayer:

On March 8, 2012 you were contacted by our environmental contractor, Paul Spillers at Tetra Tech to discuss that Idaho Power is in the permitting stage of a project to construct a transmission line in eastern Oregon, from approximately Boardman, Oregon into southwest Idaho. As a part of the permitting process, Idaho Power must demonstrate that construction materials are available within eastern Oregon in sufficient quantities to construct the project. In Morrow County, engineering estimates are for approximately 18,000 cubic yards (cu yds) of aggregate, predominantly for facility pads or road surfacing. In Umatilla County, the aggregate quantities are estimated at 20,000 cu yds.

You informed Tetra Tech that Rinker Materials in Boardman, Oregon would be willing to be placed on a list of potential suppliers of aggregate products, and the quantities of materials discussed by telephone are within your capabilities, given that construction would be spread over a several year period.

We appreciate your interest in this project. IPC currently is seeking permits for the Project via Oregon's Department of Energy, Energy Facilities Siting Council (EFSC). Permitting requirements include providing evidence you are able to supply the required amounts of aggregate products. If this letter accurately summarizes the telephone conversation, it would be helpful to the permitting process to receive from you a written acknowledgement of your capabilities to provide the above mentioned materials and be placed in the permit as a potential provider.

We appreciate your attention to this matter. If you have questions or comments, please contact us at your convenience.

Respectfully submitted,

Keith Georgeson

Keith Georgeson

Project Leader

Boardman to Hemingway Project

208-388-2034

kgeorgeson@idahopower.com



March 15, 2012

Mr. Dustin Scott Umatilla Ready Mix PO Box 775 Hermiston, OR 97838

Subject: Availability of Concrete and Aggregate

Dear Mr. Scott:

On March 8, 2012 you were contacted by our environmental contractor, Paul Spillers at Tetra Tech to discuss that Idaho Power is in the permitting stage of a project to construct a transmission line in eastern Oregon, from approximately Boardman, Oregon into southwest Idaho. As a part of the permitting process, Idaho Power must demonstrate that construction materials are available within eastern Oregon in sufficient quantities to construct the project. In Umatilla County, engineering estimates are for approximately 14,000 cubic yards (cu yds) of concrete for transmission tower foundations, and about 20,000 cu yds of aggregate, predominantly for facility pads or road surfacing. In Union County, the quantities are estimated at 11,000 cu yds of concrete and 16,000 cu yds of aggregate.

You informed Tetra Tech that Umatilla Ready Mix has concrete and aggregate facilities in Pendleton, Oregon and Hermiston, Oregon. You indicated that Umatilla Ready Mix would be willing to be placed on a list of potential suppliers of concrete and aggregate products, and the quantities of materials discussed by telephone are within your capabilities, given that construction would be spread over a several year period.

We appreciate your interest in this project. IPC currently is seeking permits for the Project via Oregon's Department of Energy, Energy Facilities Siting Council (EFSC). Permitting requirements include providing evidence you are able to supply the required amounts of concrete and aggregate products. If this letter accurately summarizes the telephone conversation, it would be helpful to the permitting process to receive from you a written acknowledgement of your capabilities to provide the above mentioned materials and be placed in the permit as a potential provider.

We appreciate your attention to this matter. If you have questions or comments, please contact us at your convenience.

Respectfully submitted,

Keith Georgeson

Keith Georgeson

Project Leader

Boardman to Hemingway Project

208-388-2034

kgeorgeson@idahopower.com



March 15, 2012

Mr. Don Hampton Hermiston Rock Products PO Box 218 Hermiston, OR 97838

Subject: Availability of Concrete and Aggregate

Dear Mr. Hampton:

On March 8, 2012 you were contacted by our environmental contractor, Paul Spillers at Tetra Tech to discuss that Idaho Power is in the permitting stage of a project to construct a transmission line in eastern Oregon, from approximately Boardman, Oregon into southwest Idaho. As a part of the permitting process, Idaho Power must demonstrate that construction materials are available within eastern Oregon in sufficient quantities to construct the project. In Umatilla County, engineering estimates are for approximately 14,000 cubic yards (cu yds) of concrete for transmission tower foundations, and about 20,000 cu yds of aggregate, predominantly for facility pads or road surfacing. In Union County, the quantities are estimated at 11,000 cu yds of concrete and 16,000 cu yds of aggregate.

You informed Tetra Tech that Hermiston Rock Products has concrete and aggregate facilities in Hermiston, Oregon and aggregate facilities in Pendleton. You indicated that Hermiston Rock Products would be willing to be placed in the permit as a potential supplier of concrete and aggregate products, and the quantities of materials discussed by telephone are within your capabilities, given that construction would be spread over a several year period.

We appreciate your interest in this project. IPC currently is seeking permits for the Project via Oregon's Department of Energy, Energy Facilities Siting Council (EFSC). Permitting requirements include providing evidence you are able to supply the required amounts of concrete and aggregate products. If this letter accurately summarizes the telephone conversation, it would be helpful to the permitting process to receive from you a written acknowledgement of your capabilities to provide the above mentioned materials and be placed in the permit as a potential provider.

We appreciate your attention to this matter. If you have questions or comments, please contact us at your convenience.

Respectfully submitted,

Keith Georgeson Project Leader

Boardman to Hemingway Project

Keith Georgeson

208-388-2034

kgeorgeson@idahopower.com



March 15, 2012

Ms. Jayne Clarke Pendleton Ready Mix PO Box 38 Hermiston, OR 97838

Subject: Availability of Concrete and Aggregate

Dear Ms. Clarke:

On March 8, 2012 you were contacted by our environmental contractor, Paul Spillers at Tetra Tech to discuss that Idaho Power is in the permitting stage of a project to construct a transmission line in eastern Oregon, from approximately Boardman, Oregon into southwest Idaho. As a part of the permitting process, Idaho Power must demonstrate that construction materials are available within eastern Oregon in sufficient quantities to construct the project. In Umatilla County, engineering estimates are for approximately 14,000 cubic yards (cu yds) of concrete for transmission tower foundations, and about 20,000 cu yds of aggregate, predominantly for facility pads or road surfacing. In Union County, the quantities are estimated at 11,000 cu yds of concrete and 16,000 cu yds of aggregate.

You informed Tetra Tech that Pendleton Ready Mix has concrete and aggregate facilities in Pendleton, Oregon. You indicated that Pendleton Ready Mix would be willing to be placed in the permit as a potential supplier of concrete and aggregate products, and the quantities of materials discussed by telephone are within your capabilities, given that construction would be spread over a several year period.

We appreciate your interest in this project. IPC currently is seeking permits for the Project via Oregon's Department of Energy, Energy Facilities Siting Council (EFSC). Permitting requirements include providing evidence you are able to supply the required amounts of concrete and aggregate products. If this letter accurately summarizes the telephone conversation, it would be helpful to the permitting process to receive from you a written acknowledgement of your capabilities to provide the above mentioned materials and be placed in the permit as a potential provider.

We appreciate your attention to this matter. If you have questions or comments, please contact us at your convenience.

Respectfully submitted,

Keith Georgeson

Keith Georgeson

Project Leader

Boardman to Hemingway Project

208-388-2034

kgeorgeson@idahopower.com



March 15, 2012

Ms. Carol Swanson Barnhart Rock Inc. 39929 Rieth Road Pendleton, OR 97811

Subject: Availability of Aggregate

Dear Ms. Swanson:

On March 8, 2012 you were contacted by our environmental contractor, Paul Spillers at Tetra Tech to discuss that Idaho Power is in the permitting stage of a project to construct a transmission line in eastern Oregon, from approximately Boardman, Oregon into southwest Idaho. As a part of the permitting process, Idaho Power must demonstrate that construction materials are available within eastern Oregon in sufficient quantities to construct the project. In Umatilla County, engineering estimates are for approximately 20,000 cubic yards (cu yds) of aggregate, predominantly for facility pads or road surfacing. In Union County, the quantities are estimated at 16,000 cu yds of aggregate.

You informed Tetra Tech that Barnhart Rock Products in Pendleton, Oregon would be willing to be placed on a list of potential suppliers of aggregate products, and the quantities of materials discussed by telephone are within your capabilities, given that construction would be spread over a several year period.

We appreciate your interest in this project. IPC currently is seeking permits for the Project via Oregon's Department of Energy, Energy Facilities Siting Council (EFSC). Permitting requirements include providing evidence you are able to supply the required amounts of aggregate products. If this letter accurately summarizes our telephone conversation, it would be helpful to the permitting process to receive from you a written acknowledgement of your capabilities to provide the above mentioned materials and be placed in the permit as a potential provider.

We appreciate your attention to this matter. If you have questions or comments, please contact us at your convenience.

Keith Georgeson Project Leader Boardman to Hemingway Project

Keith Georgeson

208-388-2034



Mr. Mike Good RD Mac Inc. PO Box 1086 La Grande, OR 97850

Subject: Availability of Concrete and Aggregate

Dear Mr. Good:

On March 8, 2012 you were contacted by our environmental contractor, Paul Spillers at Tetra Tech to discuss that Idaho Power is in the permitting stage of a project to construct a transmission line in eastern Oregon, from approximately Boardman, Oregon into southwest Idaho. As a part of the permitting process, Idaho Power must demonstrate that construction materials are available within eastern Oregon in sufficient quantities to construct the project. In Union County, engineering estimates are for approximately 11,000 cubic yards (cu yds) of concrete for transmission tower foundations, and about 16,000 cu yds of aggregate, predominantly for facility pads or road surfacing. In Baker County, the quantities are estimated at 19,000 cu yds of concrete and 27,000 cu yds of aggregate.

You informed Tetra Tech that RD Mac has concrete and aggregate facilities in La Grande, Oregon. You indicated that RD Mac would be willing to be placed in the permit as a potential supplier of concrete and aggregate products, and the quantities of materials discussed by telephone are within your capabilities, given that construction would be spread over a several year period.

We appreciate your interest in this project. IPC currently is seeking permits for the Project via Oregon's Department of Energy, Energy Facilities Siting Council (EFSC). Permitting requirements include providing evidence you are able to supply the required amounts of concrete and aggregate products. If this letter accurately summarizes the telephone conversation, it would be helpful to the permitting process to receive from you a written acknowledgement of your capabilities to provide the above mentioned materials and be placed in the permit as a potential provider.

Respectfully submitted,

Keith Georgeson

Keith Georgeson

Project Leader

Boardman to Hemingway Project

208-388-2034



Mr. Tony Britt Britt Sand and Gravel 20164 South Airport Lane Baker City, OR 97814

Subject: Availability of Concrete and Aggregate

Dear Mr. Britt:

On March 12, 2012 you were contacted by our environmental contractor, Paul Spillers at Tetra Tech to discuss that Idaho Power is in the permitting stage of a project to construct a transmission line in eastern Oregon, from approximately Boardman, Oregon into southwest Idaho. As a part of the permitting process, Idaho Power must demonstrate that construction materials are available within eastern Oregon in sufficient quantities to construct the project. In Baker County, engineering estimates are for approximately 19,000 cubic yards (cu yds) of concrete for transmission tower foundations, and about 27,000 cu yds of aggregate, predominantly for facility pads or road surfacing.

You informed Tetra Tech that Britt Sand and Gravel has concrete and aggregate facilities in Baker City, Oregon. You indicated that Britt Sand and Gravel would be willing to be placed in the permit as a potential supplier of concrete and aggregate products, and the quantities of materials discussed by telephone are within your capabilities, given that construction would be spread over a several year period.

We appreciate your interest in this project. IPC currently is seeking permits for the Project via Oregon's Department of Energy, Energy Facilities Siting Council (EFSC). Permitting requirements include providing evidence you are able to supply the required amounts of concrete and aggregate products. If this letter accurately summarizes the telephone conversation, it would be helpful to the permitting process to receive from you a written acknowledgement of your capabilities to provide the above mentioned materials and be placed in the permit as a potential provider.

Keith Georgeson Project Leader Boardman to Hemingway Project

Keith Georgeson

208-388-2034



Mr. Ed Hattrup Clearwater Concrete PO Box 2270 McCall, ID 83638

Subject: Availability of Concrete and Aggregate

Dear Mr. Hattrup:

On March 12, 2012 you were contacted by our environmental contractor, Paul Spillers at Tetra Tech to discuss that Idaho Power is in the permitting stage of a project to construct a transmission line in eastern Oregon, from approximately Boardman, Oregon into southwest Idaho. As a part of the permitting process, Idaho Power must demonstrate that construction materials are available within eastern Oregon in sufficient quantities to construct the project. In Malheur County, engineering estimates are for approximately 20,000 cubic yards (cu yds) of concrete for transmission tower foundations, and about 28,000 cu yds of aggregate, predominantly for facility pads or road surfacing.

You informed Tetra Tech that Clearwater Concrete has concrete and aggregate facilities in Ontario and Nyssa, Oregon. You indicated that Clearwater Concrete would be willing to be placed in the permit as a potential supplier of concrete and aggregate products, and the quantities of materials discussed by telephone are within your capabilities, given that construction would be spread over a several year period.

We appreciate your interest in this project. IPC currently is seeking permits for the Project via Oregon's Department of Energy, Energy Facilities Siting Council (EFSC). Permitting requirements include providing evidence you are able to supply the required amounts of concrete and aggregate products. If this letter accurately summarizes the telephone conversation, it would be helpful to the permitting process to receive from you a written acknowledgement of your capabilities to provide the above mentioned materials and be placed in the permit as a potential provider.

Keith Georgeson Project Leader Boardman to Hemingway Project

Keith Georgeson

208-388-2034



Mr. Duane Bellows Bellows Sand and Gravel 527 Sunset Drive Ontario, OR 97914

Subject: Availability of Aggregate

Dear Mr. Bellows:

On March 12, 2012 your business was contacted by our environmental contractor, Paul Spillers at Tetra Tech to discuss that Idaho Power is in the permitting stage of a project to construct a transmission line in eastern Oregon, from approximately Boardman, Oregon into southwest Idaho. As a part of the permitting process, Idaho Power must demonstrate that construction materials are available within eastern Oregon in sufficient quantities to construct the project. In Malheur County, engineering estimates are for approximately 20,000 cubic yards (cu yds) of concrete for transmission tower foundations, and about 28,000 cu yds of aggregate, predominantly for facility pads or road surfacing.

Your office indicated that Bellows Sand and Gravel in Ontario, Oregon would be willing to be placed on a list of potential suppliers of aggregate products, and the quantities of materials discussed by telephone are within your capabilities, given that construction would be spread over a several year interval.

We appreciate your interest in this project. IPC currently is seeking permits for the Project via Oregon's Department of Energy, Energy Facilities Siting Council (EFSC). Permitting requirements include providing evidence you are able to supply the required amounts of aggregate products. If this letter accurately summarizes the telephone conversation, it would be helpful to the permitting process to receive from you a written acknowledgement of your capabilities to provide the above mentioned materials and be placed in the permit as a potential provider.

Keith Georgeson Project Leader

Boardman to Hemingway Project

Keith Georgeson

208-388-2034



Mr. Jim Mendiola Mendiola Gravel Products 3997 Kochsmeier Road Vale, OR 97918

Subject: Availability of Aggregate

Dear Mr. Mendiola:

On March 8, 2012 our environmental contractor, Paul Spillers at Tetra Tech left a telephone message to inform you that Idaho Power is in the permitting stage of a project to construct a transmission line in eastern Oregon, from approximately Boardman, Oregon into southwest Idaho. As a part of the permitting process, Idaho Power must demonstrate that construction materials are available within eastern Oregon in sufficient quantities to construct the project. In Malheur County, engineering estimates are for approximately 28,000 cubic yards (cu yds) of aggregate, predominantly for facility pads or road surfacing.

If Mendiola Gravel Products is interested in being added to the permit as a potential aggregate supplier for this project, please provide a written response to this letter stating your interest and your capability of supplying predominantly road mix-type aggregates for a project of this size.

We appreciate your attention to this matter. If you have questions or comments, please contact us at your convenience.

Respectfully submitted,

Keith Georgeson Project Leader

Boardman to Hemingway Project

Keith Georgeson

208-388-2034



Mr. Wayne Irwin Irvco Asphalt and Gravel 5295 Highway 95 Fruitland, ID 83619

Subject: Availability of Aggregate

Dear Mr. Irwin:

On March 8, 2012 our environmental contractor, Paul Spillers at Tetra Tech left a telephone message to inform you that Idaho Power is in the permitting stage of a project to construct a transmission line in eastern Oregon, from approximately Boardman, Oregon into southwest Idaho. As a part of the permitting process, Idaho Power must demonstrate that construction materials are available within eastern Oregon in sufficient quantities to construct the project. In Malheur County, engineering estimates are for approximately 28,000 cubic yards (cu yds) of aggregate, predominantly for facility pads or road surfacing.

If Irvco Asphalt and Gravel is interested in being added to the permit as a potential aggregate supplier for this project, please provide a written response to this letter stating your interest and your capability of supplying predominantly road mix-type aggregates for a project of this size.

We appreciate your attention to this matter. If you have questions or comments, please contact us at your convenience.

Respectfully submitted,

Keith Georgeson Project Leader

Boardman to Hemingway Project

Keith Georgeson

208-388-2034



Mr. Troy Donoho Donoho Inc. PO Box 713 Payette, ID 83661

Subject: Availability of Aggregate

Dear Mr. Donoho:

On March 8, 2012 you were contacted by our environmental contractor, Paul Spillers at Tetra Tech to discuss that Idaho Power is in the permitting stage of a project to construct a transmission line in eastern Oregon, from approximately Boardman, Oregon into southwest Idaho. As a part of the permitting process, Idaho Power must demonstrate that construction materials are available within eastern Oregon in sufficient quantities to construct the project. In Malheur County, engineering estimates are for approximately 28,000 cubic yards (cu yds) of aggregate, predominantly for facility pads or road surfacing.

You informed Tetra Tech that Donoho Inc. has aggregate facilities for Malheur County sites via your facilities in Payette, Idaho. You indicated that Donoho Inc. would be willing to be placed in the permit as a potential supplier of aggregate products, and the quantities of materials discussed by telephone are within your capabilities, given that construction would be spread over a several year period.

We appreciate your interest in this project. IPC currently is seeking permits for the Project via Oregon's Department of Energy, Energy Facilities Siting Council (EFSC). Permitting requirements include providing evidence you are able to supply the required amounts of aggregate products. If this letter accurately summarizes the telephone conversation, it would be helpful to the permitting process to receive from you a written acknowledgement of your capabilities to provide the above mentioned materials and be placed in the permit as a potential provider.

We appreciate your attention to this matter. If you have questions or comments, please contact us at your convenience.

Respectfully submitted,

Keith Georgeson Project Leader

Boardman to Hemingway Project

with Georgeson

208-388-2034

Boardman to Hemingway Transmission Line Project	Exhibit G
25Graman to Fromingway Franchinocion Emo Froject	Extraction
LETTERS FROM CONCRETE AND AG	ATTACHMENT G-3 GREGATE SUPPLIERS



April 10, 2012

Idaho Power PO Box 70 Boise, ID 83707

Attention: Keith Georgeson

Re: Availability of Aggregate

Dear Keith:

This letter is in response to your letter written to Barnhart Rock Inc. dated March 26, 2012, regarding the availability of aggregate for the Boardman to Hemingway Project.

Barnhart Rock LLC a rock quarry located just outside of Pendleton Oregon is a subsidiary of Rod Anderson Construction, Inc. Barnhart Rock LLC is capable of supplying the approximate 20,000 cubic yards of aggregate needed for this project. Barnhart Rock LLC is willing to be placed on your list of potential suppliers for the aggregate material.

Rod Anderson Construction, Inc has other rock pits in the area of the new transmission line as well as a portable crusher. Rod Anderson Construction, Inc is also a full service excavation company and would be interested in any construction opportunities you may have regarding this project.

Sincerely,

Rodney L Anderson

President

P.O. BOX 966 BAKER CITY, OR 97814 (541) 523-4974 FAX: (541) 523-4204 CCB #91014

MAY 2, 2012

Idaho Power Attn: Keith Georgeson 1221 W. Idaho St. Boise, Idaho 83707

Dear Mr. Georgeson:

Regarding your letter of March 26, 2012 concerning the availability of Concrete and Aggregate for the permitting stages of the transmission line, I will give you a brief summary of the available resources that Britt Sand & Gravel, Farwest Concrete Company could provide.

Britt Sand & Gravel, Farwest Concrete Company appreciates the opportunity to provide an unsolicited proposal for the permitting process to Idaho Power for approximately 20,000 yards of concrete and 27,000 cu yards of aggregate for roads and facility pads.

COMPANY HISTORY

Britt Sand & Gravel, Farwest Concrete Company has been in business since 1980. Farwest Concrete Co began in 1982 and our company acquired it in 1998. Our company has approximately 400 acres of mining and mineral rights for extraction of aggregate products. Our office headquarters are located at 20164 S. Airport Lane, Baker City. This site has approximately 160 acres and our permanent concrete batch plant is located here. The Dept. of Geology (DOGAMI) and Mining ID for this site is 01-0063. Our other resource is known as The Grey Eagle Mine and the (DOGAMI) Mine ID for this site is 01-0085. It is located within three miles of our main resource. Britt Sand & Gravel was chosen Business of the Year in 2003 by the Baker City Chamber of Commerce. It is a family owned business and has generously donated back to the community in supporting youth programs, 4-H, FFA, and numerous community charities.

COMPANY RESOURCES

The concrete plant is equipped to provide 80-90 yards of concrete/hour. Our company has seven concrete mixers, six dump trucks and pup trailers, three heavy haul trucks with a Cozad Trailer capable of transporting 164,500#. Numerous off-road heavy haul trucks, excavators, dozers such as a Cat D7G, Cat D7H, John Deere 650H. Our company has a substantial amount of concrete ready mix designs that have been **certified** and **approved** on Oregon Dept. of Transportation (ODOT) highway projects. Our company can supply a plethora of fractured rock that meets these same ODOT specs, as well as city and county spec aggregate. There is an abundance of acreage at our office quarry if Idaho Power needs a staging yard for poles, transformers and/or other material.

PERSONNEL/COMMUNICATIONS

Dony Brutt

There are approximately eight full time employees; during the busy construction season 10-12 employees at our operation. All vehicles are supplied with a private two-way radio. Employees are scheduled from 7:00 am until 3:30pm. When needed our drivers are available at 5:00am or earlier to begin their concrete pours. Satisfaction to our customers and producing quality products are our number one priorities. All employees are certified with First-Aid, RT-130 Fire Suppression, and MSHA (Mining & Safety Health Administration) certification.

I have enclosed a brief summary of projects that our company has done over the last five years. If you are in the area and would like a show me trip of our facility, please give me a call.

Sincerely,

Tony Britt President

Cell-(541) 519-7282

BRITT SAND & GRAVEL FARWEST CONCRETE CO.

P.O. Box 966 Baker City, OR 97814 CCB #91014 Phone: (541) 523-4974 Phone: (541) 523-5116 Fax: (541) 523-4204

Prior Projects

2008	City of Baker City	Baker City, Or	5,000 ton Chip Rock
2008	Wildish Standard Paving-		
	Pleasant Valley Bridge	Baker County, Or	20,000 ton Rock
2008-2010	Knife River- I-84 Pleasant Valley	Baker County, Or	1,500 cy Concrete/18,000 ton Rock
	Knife River- "D" Street	Baker City, Or	500 cy Concrete/12,000 ton Rock
	Knife River- Birch Street	Baker City, Or	500 cy Concrete/10,000 to Rock
	Knife River- Dewey Ave.	Baker City, Or	1,000 cy Concrete/3,000 ton Rock
2009	Kirby Nagelhout-Grant Co. airport	John Day, Or	900 cy Concrete
2009	ML Houck- Bridge Crk fish passg	Grant County, Or	600 cy Concrete
2009	Phoenix Ind Ash Grove Cement	Durkee, Or	800 cy Concrete
2009	Mike Becker General Cont		
	Baker County Airport	Baker County, Or	4,000 ton 3/4" St. Spec Rock
2010	ODOT-U.S. Hwy 86	Baker County, Or	20,000 ton Rip Rap Rock
2010	ODOT-Baker Maint. Bldg.	Baker County, Or	2,000 cy Concrete/10,000 ton Rock
2011	Oregon Mainline Paving-		
	I-84 Baldock Slough	Baker County, Or	50,000 ton Rock
2011	Kerr Contractors-Baker City Airport	Baker County, Or	400 cy Concrete/20,000 ton Rock
2011	D.L. Edmundson-Chico Lane	Baker County, Or	300 cy Concrete/10,000 ton Rock
2011	Rick Franklin Corp		
	Union Pacific Derailment		5,000 ton Rock
2011	Rick Lane Const Maverick Station	Baker City, Or	1,500 cy Concrete/4750 ton Rock

HERMISTON ROCK PRODUCTS, LLC

Randall B. Hampton & Kevin A. Hampton, Members Construction Contractors Board #0109117 P.O. Box 218 – Phone (541) 567 ROCK (7625) Hermiston, Oregon 97838

April 3, 2012

Idaho Power 1221 W. Idaho Street (83702) PO Box 70 Boise, ID. 83707

Re: Availability of Aggregate and Concrete for Boardman to Hemingway Project.

Attn: Keith Georgeson Project Leader:

We received your letter dated March 26, 2012 regarding being contacted by Paul Spillers at Tetra Tech to discuss the availability of construction materials within Eastern Oregon.

I informed Tetra Tech that Hermiston Rock Products has aggregate and concrete materials in Hermiston, Oregon. In your letter it states that we also have aggregate facilities in Pendleton, OR, which is not the case. We do however have an aggregate and concrete facility located in La Grande, Oregon in Union County.

Rogers Asphalt and Paving/Redi-Mix Concrete is located at 10410 N. McAlister Road in La Grande, Oregon. We can be a potential supplier for aggregate and concrete products to your company in Union County. Rogers Asphalt Paving/Redi-Mix Concrete also has the capabilities to supply the materials and quantities discussed. In La Grande you may contact either Randall Hampton, or Kevin Hampton at 541-963-3633, P.O. Drawer K, La Grande, Oregon. rasphalt@oregonwireless.net

We appreciate your considering either one or both of our firms for your project.

Sincerely,

Don Hampton

Hermiston Rock Products, LLC

Don Humpton

541-567-7625 (rock)

IRVCO ASPHALT & GRAVEL, INC.

5295 HWY.95—P.O.BOX 931 FRUITLAND,IDAHO 83619 208-452-5835 PHONE 208-452-5987 FAX IDAHO REGISTRATION # RCE-14870 PUBLIC WORKS LICENSE # 13334-AAA-4 (02230,02720,02310,02740) STATE OF OREGON LICENSE # 0116471

IDAHO POWER 4-3-12

KEITH GEORGESON

E-MAIL: kgeorgeson@idahopower.com

RE: CONSTRUCTION MATERIAL SUPPLY FOR BOARDMAN TO HEMINGWAY PROJECT

KEITH.

I APOLOGIZE FOR NOT RETURNING YOUR CALL, BUT I NEVER GOT THE MESSAGE. YES, WE WOULD BE VERY INTERESTED IN SUPPLYING ROAD MIX FOR YOUR PROJECT. WE HAVE A PIT IN VALE THAT WE COULD SUPPLY FROM. WE WOULD NEED TO COORDINATE WITH YOU FAR ENOUGH IN ADVANCE TO GET THE MATERIAL CRUSHED.

PLEASE LET ME KNOW IF YOU NEED ANY MORE INFO.
THANKS,

GARY WALACE--MANAGER