Second Supplemental Response to CEC Data Requests: Nos. A155 and A156

Amended Application for Certification for HYDROGEN ENERGY CALIFORNIA (08-AFC-8A) Kern County, California

Prepared for:
Hydrogen Energy California LLC

hydrogen energy california

Submitted to:

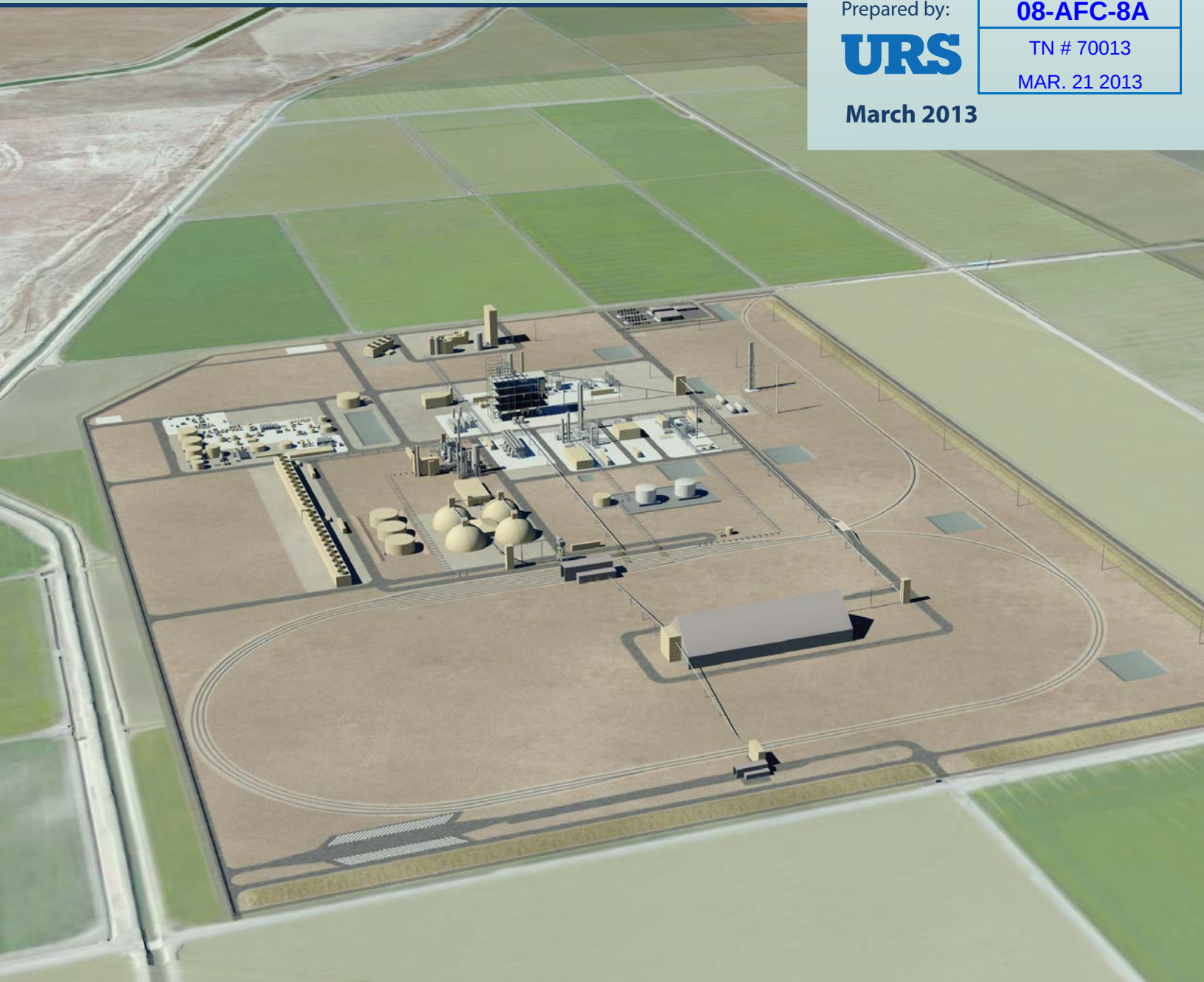
California Energy Commission

U.S Department of Energy

Prepared by:

URS

March 2013



SECOND SUPPLEMENTAL RESPONSE TO DATA REQUEST A155 and A156
FROM CALIFORNIA ENERGY COMMISSION (CEC)

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ATTACHMENTS

LIST OF ACRONYMS AND ABBREVIATIONS USED IN RESPONSES

AFC	Application for Certification
CEC	California Energy Commission
CPUC	California Public Utilities Commission
HECA	Hydrogen Energy California

Technical Area: Traffic and Transportation
Author: John Hope

BACKGROUND

As identified in Table 5.10-12 of the revised AFC, the California Public Utilities Commission (CPUC) administers numerous requirements for design and operation of a railroad. Table 5.10-12 also lists number "9" as the agency contact for these CPUC requirements and refers the reader to Table 5.10-13 which does not list a number "9" or the CPUC as an agency contact. *It is noted that the footnote at the end of Table 5.10-12 incorrectly refers the reader to Table 5.10-11.*

DATA REQUEST

A155. Please provide the name(s) of the individuals contacted at the CPUC

SECOND SUPPLEMENTAL RESPONSE

As indicated in the previous supplemental response to Data Request A155, the Applicant conducted a field diagnostic with the CPUC on February 7, 2013 to identify CPUC comments on the proposed HECA rail spur. Attachment A155-1 previously submitted to the CEC provided CPUC's comments made during the field diagnostic. During subsequent discussions with the CEC and CPUC regarding permitting authority, the Applicant agreed to submit material relevant to the CPUC permitting process, were it not for the CEC's exclusive jurisdiction over the HECA Project and related facilities.

Attachment A155-2 provides information relevant to the CPUC's permitting process, which was submitted to the CPUC for the field diagnostic. The following are the rail safety devices proposed at the two public at-grade crossings, as shown on the exhibits included in the attachment:

- Crossing materials will consist of precast concrete panels
- Automatic warning devices, including two CPUC Standard No. 9s, three advance warning signs (two W10-1s and one W10-4)
- Required Manual on Uniform Traffic Control Devices (MUTCD) pavement markings

ATTACHMENT A155-2

Industrial Rail Spur to Serve

HYDROGEN ENERGY CALIFORNIA PROJECT



Kern County, California

January 2013

INDUSTRIAL RAIL SPUR TO SERVE
HYDROGEN ENERGY CALIFORNIA PROJECT

TABLE OF CONTENTS

EXHIBITS

LIST OF ACRONYMS AND ABBREVIATIONS USED IN RESPONSES

ADT	Average Daily Traffic
CEC	California Energy Commission
CPUC	California Public Utilities Commission
HECA	Hydrogen Energy California
I-5	Interstate 5
petcoke	petroleum coke
SJVRR	San Joaquin Valley Railroad
syngas	synthesis gas

INTRODUCTION

Hydrogen Energy California (HECA) LLC is proposing an Integrated Gasification Combined-Cycle polygeneration project (hereafter referred to as the HECA Project). The HECA Project will gasify a 75 percent coal and 25 percent petroleum coke (petcoke) fuel blend to produce synthesis gas (syngas). Syngas produced via gasification will be purified to hydrogen-rich fuel, which will be used to generate low-carbon baseload electricity in a Combined-Cycle Power Block; low-carbon nitrogen-based fertilizers in an integrated Manufacturing Complex; and carbon dioxide for use in enhanced oil recovery.

The 453-acre HECA Project Site is approximately 7 miles west of the city of Bakersfield, and approximately 2 miles northwest of the unincorporated community of Tupman in western Kern County, California (see Exhibit A).

The California Energy Commission (CEC) has the statutory responsibility for licensing the Project and associated linears, and conducts a certified regulatory program under the California Environmental Quality Act. As part of that process, an Amended Application for Certification was submitted to the CEC in May 2012 (CEC Docket Number 08-AFC-8A).

COAL TRANSPORTATION ALTERNATIVES

Transportation of coal to the Project Site would occur via one of two alternatives. Alternative 1 (Rail Transportation) for the transportation of coal to the HECA Project Site includes construction of an approximately 5.3-mile new railroad spur that would connect the Project Site to the existing San Joaquin Valley Railroad (SJVRR) Buttonwillow railroad line, north of the HECA Project Site. Note that the California Public Utilities Commission (CPUC) provided comments on the industrial rail spur proposed for the HECA Project (particularly on proposed at-grade crossings) to Mr. John Hope of the CEC, in a letter dated December 13, 2012.

Alternative 2 (Truck Transportation) of the HECA Project proposes to transport coal by truck via existing roads from an existing coal transloading facility in Wasco, northeast of the Project Site. Because Alternative 2 does not involve construction of a new railroad spur, the focus of this submittal is Alternative 1.

OVERVIEW OF ALTERNATIVE 1 (RAIL TRANSPORTATION)

During construction, the new railroad spur would be used to deliver plant equipment. During operations, the new railroad spur would deliver coal unit trains, as well as export products by train. The Project Site would be equipped with a rail unloading and transfer system to unload coal from unit trains and convey it to the storage barn. Coal deliveries to the Project Site would be unloaded and stored at the Project Site in a barn designed to contain feedstock sufficient for 30 days of operation (approximately 172,000 tons of coal and petcoke).

Two public at-grade crossings would be required for the new railroad spur, discussed further below.

Operations

The following assumptions have been made regarding operations on the railroad spur:

- Average train trips: two unit trains per week (both directions)
- Number of cars per train: 111 cars
- Number of locomotives per train: five locomotives per train

- Maximum speed of trains: 25 miles per hour

Public At-Grade Crossings

The industrial rail spur would require public at-grade crossings at Stockdale Highway and Adohr Road (see Exhibits A, C, and D). A description of these roadways is presented below, including Average Daily Traffic (ADT) volumes. The crossing materials would consist of precast concrete panels, as shown in Exhibit E.

Stockdale Highway. Stockdale Highway is an east-west highway, 1 mile north of the Project Site. It starts near Wasco Way on the west, and continues to the east through metropolitan Bakersfield. An unsignalized freeway interchange provides connection to Interstate 5 (I-5). The segment of Stockdale Highway in the vicinity of the Project Site has two through lanes (one lane in each direction) with no shoulders. The roadway segment is relatively straight, and the terrain is flat with good sight distance in both directions. The speed limit on Stockdale Highway is currently 55 miles per hour in the vicinity of the Project Site. The baseline project opening year (2017) ADT along Stockdale Highway west of I-5 is 2,046 vehicles per day.

Proposed automatic warning devices for Stockdale Highway include two CPUC Standard No. 9s, three advance warning signs (two W10-1s and one W10-4), and required pavement markings.

Adohr Road. Adohr Road is a two-lane, east-west roadway that traverses the north side of the Project Site. The road begins at Freeborn Road on the west, and ends at Tupman Road on the east. The roadway segment is relatively straight, and the terrain is flat with good sight distance in both directions. The baseline project opening year ADT along Adohr Road just east of Dairy Road is 296 vehicles per day.

Proposed automatic warning devices for Adohr Road include two CPUC Standard No. 9s (see Exhibit F), three advance warning signs (two W10-1s and one W10-4), and required pavement markings.

Construction

Construction of the railroad spur would occur early in the Project construction timeline, so that the railroad spur may be used to deliver additional equipment. Construction of the railroad spur is expected to span approximately 5 months. Construction of the railroad spur would use earthwork and track construction equipment typically used on similar rail-heavy haul railroad projects throughout California and the United States.

There would be a laydown area for track construction materials near the proposed interconnection to the existing SJVRR track, totaling approximately 3 acres of temporary disturbance. Along the new rail spur, truck turnaround points would be required about every 0.25 mile. These truck turn around points would be typical hammerhead design of about 30 feet by 75 feet. All work would be performed within the proposed 75-foot railway construction right-of-way.

MCKITTRICK HWY

58

To Buttonwillow

Industry Rail Spur Connection to SJVR (Proposed)

SJVR Rail Line (Existing)

To Bakersfield

BRANDT RD

5

BUERKLE RD

BRITE RD

DUNFORD RD

East Side Canal

Stockdale Highway Public Crossing (#1)

STOCKDALE HWY

FREEBORN RD

DAIRY RD

Adohr Road Public Crossing (#2)

ADOHR RD

HECA Project Site

STATION RD

TUPMAN RD

California Aqueduct

West Side Canal

Kern River Flood Control Channel

Project Site

Controlled Area

Industry Rail Spur (Proposed) - 5.27 Miles

SJVR Rail Line (Existing)

Railroad Public Crossing

Note:
SJVR = San Joaquin Valley Railroad

N

0 1,000 2,000 4,000 FEET

1 inch = 2,000 ft.

PROPOSED RAILROAD AND ROAD CROSSINGS NEAR THE HECA PROJECT SITE

Hydrogen Energy California (HECA)
Kern County, California

January 2013

URS

EXHIBIT-A

Source: Esri World Imagery, 2013

vsa U:\GIS\HECA\Projects\HECA_2012\Data_Request_2012\ExhibitA_railroad_road_crossings_public.mxd 3/18/2013 4:50:41 PM

(# 630) SJVR, HECA TAKE-OFF LOCATION - LOOKING WEST

(# 632) SJVR, START OF HECA SPUR - LOOKING NORTH

(# 631) SJVR, HECA TAKE-OFF LOCATION - LOOKING EAST

(# 634) SJVR, START OF HECA SPUR - LOOKING SOUTH

PROPOSED INDUSTRY RAILROAD SPUR
SITE PHOTOS

Hydrogen Energy California (HECA)
Kern County, California

JANUARY 2013

HDR
HDR Engineering, Inc.

EXHIBIT-B
1 OF 4

C:\PWWORKING\SAC\D0442796\D002 EXHIBIT B 1.DWG

(# 635) WEST OF EAST SIDE CANAL - LOOKING WEST

(# 637) EAST SIDE CANAL - LOOKING SE

(# 636) WEST OF EAST SIDE CANAL CROSSING - LOOKING WEST

(# 638) EAST SIDE CANAL - LOOKING NW

C:\PW\WORKING\SAC\D0442796\00002 EXHIBIT B 2.DWG

PROPOSED INDUSTRY RAILROAD SPUR
SITE PHOTOS

Hydrogen Energy California (HECA)
Kern County, California

JANUARY 2013

HDR

HDR Engineering, Inc.

EXHIBIT-B
2 OF 4

(# 623) STOCKDALE CROSSING - LOOKING WEST

(# 625) STOCKDALE CROSSING - LOOKING EAST

(# 624) STOCKDALE CROSSING - LOOKING NORTH

(# 622) STOCKDALE CROSSING - LOOKING SOUTH

PROPOSED INDUSTRY RAILROAD SPUR
SITE PHOTOS

Hydrogen Energy California (HECA)
Kern County, California

JANUARY 2013

HDR

EXHIBIT-B
3 OF 4

C:\PW\WORKING\SAC\D0442796\I0002 EXHIBIT B 3.DWG

(# 626) ADOHR CROSSING - LOOKING SOUTH

(# 628) ADOHR CROSSING - LOOKING NORTH

(# 627) ADOHR CROSSING - LOOKING WEST

(# 629) ADOHR CROSSING - LOOKING EAST

C:\PW\WORKING\SAC\D0442796\0002 EXHIBIT B 4.DWG

PROPOSED INDUSTRY RAILROAD SPUR
SITE PHOTOS

Hydrogen Energy California (HECA)
Kern County, California

JANUARY 2013

HDR

HDR Engineering, Inc.

EXHIBIT-B
4 OF 4

℄ PROPOSED INDUSTRY SPUR

N

W10-1

STOCKDALE HWY

CPUC STD No 9
WARNING DEVICE
(TYP)

W10-1

DAIRY ROAD

W10-4

GRAPHIC SCALE
0 100 200 300
IN FEET
1 INCH = 50 FT.

PROPOSED INDUSTRY RAILROAD SPUR
PUBLIC AT GRADE CROSSING - STOCKDALE HWY

Hydrogen Energy California (HECA)
Kern County, California

JANUARY 2013

HDR engineering, inc.

EXHIBIT-C

C:\PWWORKING\SAC\D0442796\0003 EXHIBIT C.DWG

℄ PROPOSED INDUSTRY SPUR

DAIRY ROAD

W10-4

W10-1

ADOHR ROAD

CPUC STD No 9
WARNING DEVICE
(TYP)

W10-1

N

GRAPHIC SCALE
0 100 200 300
IN FEET
1 INCH = 50 FT.

C:\PWWORKING\SAC\D0442796\0004 EXHIBIT D.DWG

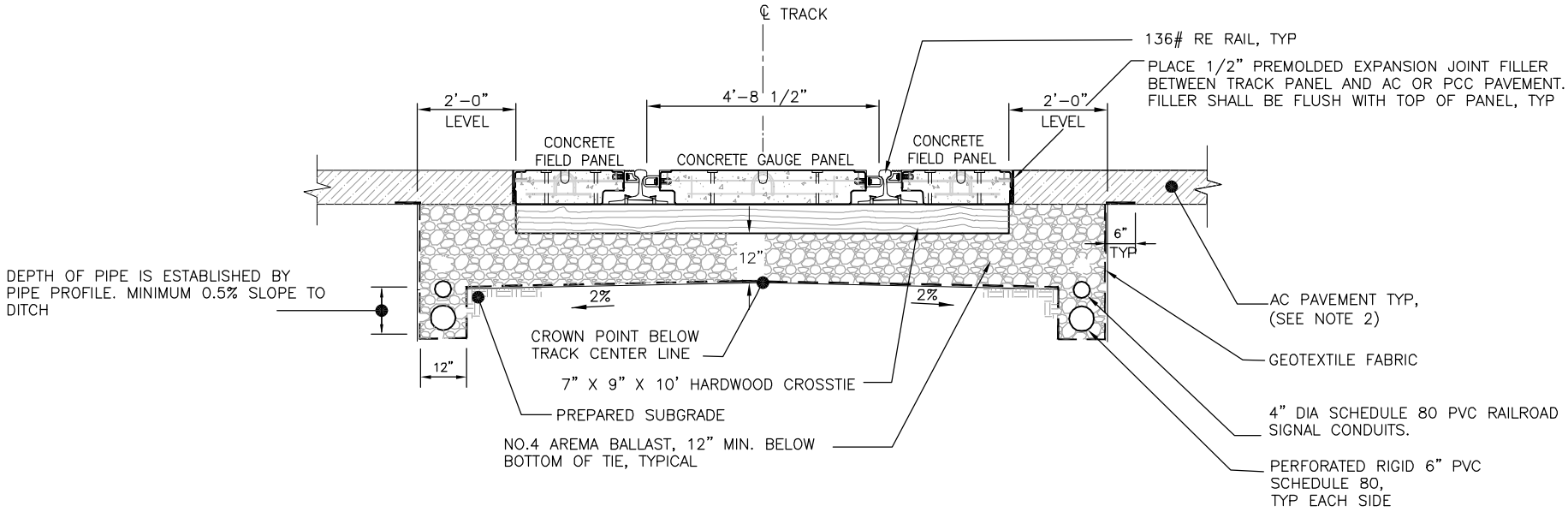
PROPOSED INDUSTRY RAILROAD SPUR
PUBLIC AT GRADE CROSSING - ADHOR ROAD

Hydrogen Energy California (HECA)
Kern County, California

JANUARY 2013

HDR

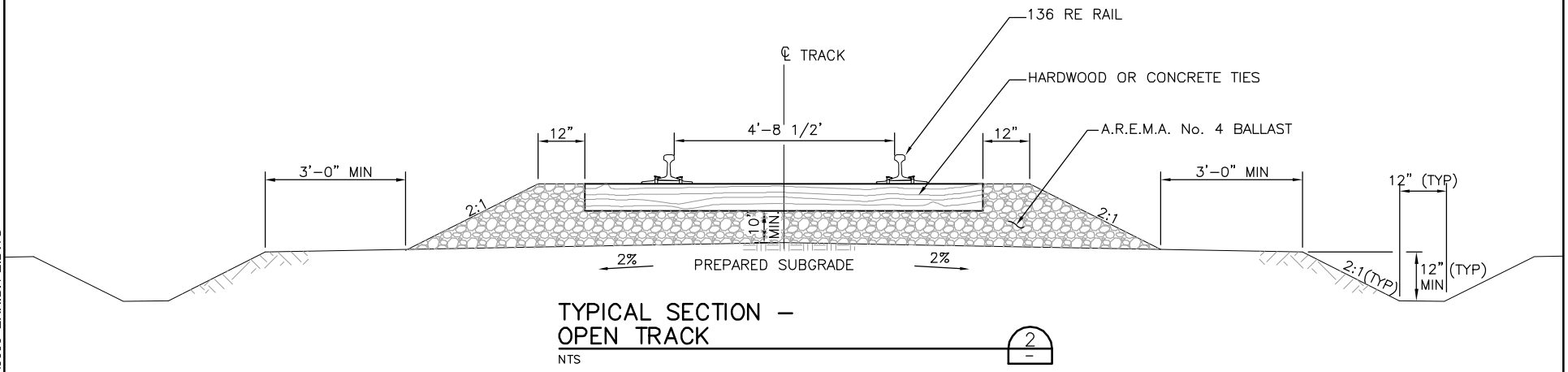
EXHIBIT-D



TYPICAL SECTION – IN CROSSING

NTS

1



TYPICAL SECTION – OPEN TRACK

NTS

2

PROPOSED INDUSTRY RAILROAD SPUR
TYPICAL TRACK SECTIONS

Hydrogen Energy California (HECA)
Kern County, California

JANUARY 2013

HDR Engineering, Inc.

EXHIBIT-E

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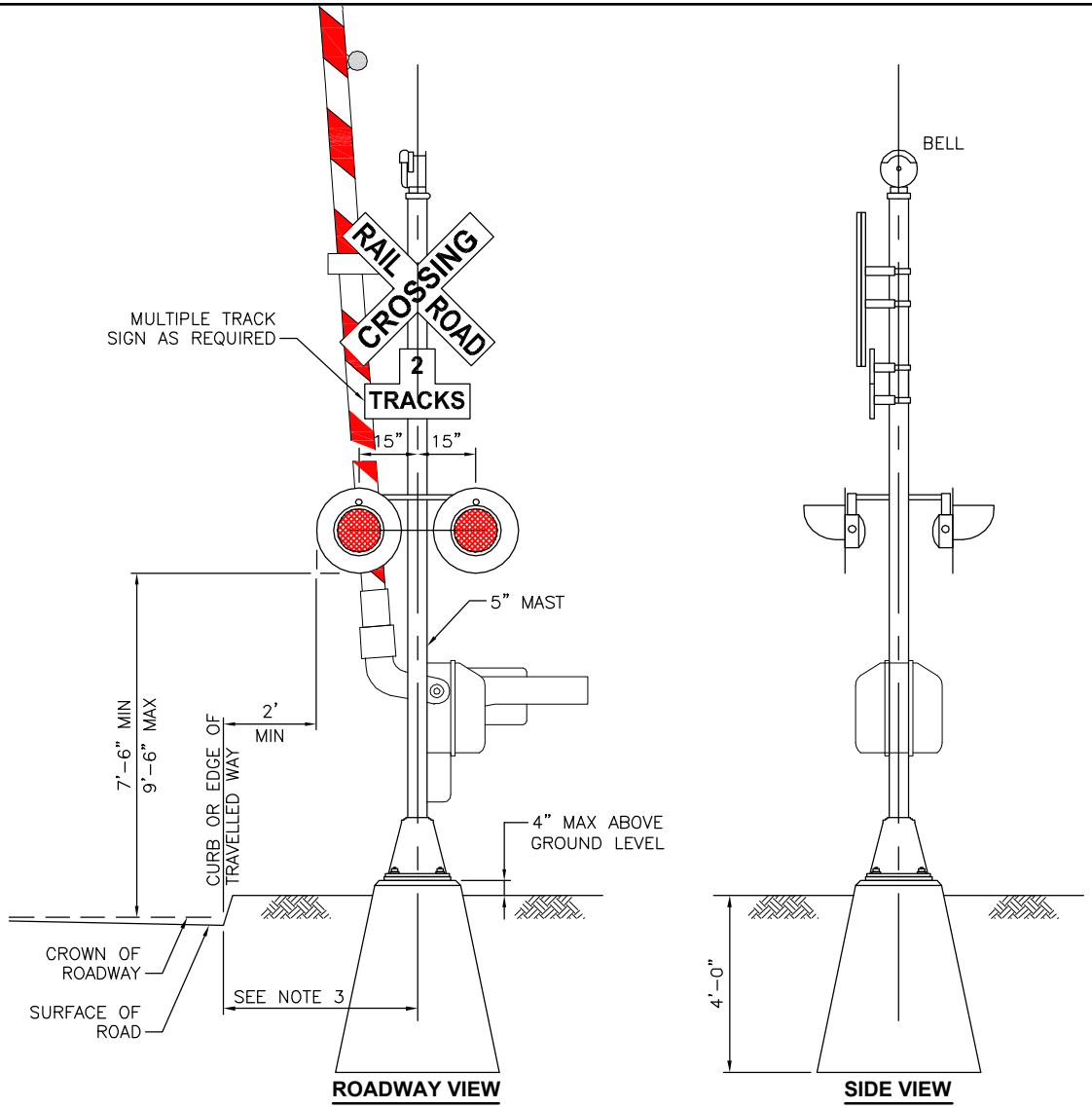

CPUC STANDARD 9
FLASHING LIGHT SIGNAL AND GATE ARM

PROPOSED INDUSTRY RAILROAD SPUR
CPUC STANDARDS

Hydrogen Energy California (HECA)
Kern County, California

January 2013

HDR Engineering, Inc.

EXHIBIT-F

3/18/13 vsa.T:\HECA-SCS 2012\Data Requests\RR Improvement\ExhibitF_spur_stds.ai

DATA REQUEST

A156. Please provide a record of conversation(s) with staff of the CPUC.

SECOND SUPPLEMENTAL RESPONSE

See response to Data Request A155.

BEFORE THE ENERGY RESOURCES CONSERVATION AND DEVELOPMENT
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AMENDED APPLICATION FOR CERTIFICATION FOR THE HYDROGEN ENERGY CALIFORNIA PROJECT

Docket No. 08-AFC-08A
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(Revised 3/4/13)

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After docketing, the Docket Unit will provide a copy to the persons listed below. Do not send copies of documents to these persons unless specifically directed to do so.

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Commissioner and Associate Member

Raoul Renaud
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Adviser for Facility Siting

DECLARATION OF SERVICE

I, Dale Shileikis, declare that on March 20, 2013, I served and filed copies of the attached Second Supplemental Response to CEC Data Request – Nos. A155 and A156, dated March, 2013. This document is accompanied by the most recent Proof of Service, which I copied from the web page for this project at: http://www.energy.ca.gov/sitingcases/hydrogen_energy/.

The document has been sent to the other persons on the Service List above in the following manner:

(*Check one*)

For service to all other parties and filing with the Docket Unit at the Energy Commission:

___ I e-mailed the document to all e-mail addresses on the Service List above and personally delivered it or deposited it in the US mail with first class postage to those persons noted above as "hard copy required"; OR

__x__ Instead of e-mailing the document, I personally delivered it or deposited it in the US mail with first class postage to all of the persons on the Service List for whom a mailing address is given.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, and that I am over the age of 18 years.

Dated: 3/20/13