



U.S. Department of Energy
OFFICE OF RIVER PROTECTION

P.O. Box 450, MSIN H6-60
Richland, Washington 99352

JAN 12 2006

05-WED-054

Mr. J. P. Betts, Project Manager
Bechtel National, Inc.
2435 Stevens Center
Richland, Washington 99352

Dear Mr. Betts:

CONTRACT NO. DE-AC27-01RV14136 – DESIGN OVERSIGHT REPORT FOR THE REVISED HYDROGEN GENERATION RATES (HGR) AND TIMES TO LOWER FLAMMABILITY LIMIT (LFL) CALCULATION (24590-WTP-M4C-V11T-00004)

- References:
1. 24590-WTP-M4C-V11T-00004, "Calculation of Hydrogen Generation Rates and Times to Lower Flammability Limit," Revision B, dated June 30, 2005.
 2. ORP letter from R. J. Schepens to J. P. Henschel, BNI, "Hydrogen Generation Rate Assumptions and Accumulation of Hydrogen in Pipes and Ancillary Vessels (HPAV)," 04-WED-082, dated January 13, 2005.
 3. BNI letter from J. P. Henschel to R. J. Schepens, ORP, "Hydrogen Generation Rate Calculation Basis," CCN: 108387, dated February 17, 2005.
 4. ORP letter from R. J. Schepens to J. P. Henschel, BNI, "Hydrogen Generation Rate Calculation Basis," 05-WTP-060, dated April 1, 2005.

This letter provides the U.S. Department of Energy, Office of River Protection (ORP) Design Oversight Report for the Revised HGRs and Times to LFL Calculation (24590-WTP-M4C-V11T-00004) to Bechtel National, Inc. (BNI) for review, tracking of open items, and submittal of appropriate documentation for open item closure. The oversight was performed in accordance with the Contract (Section C, Clause C.3 and Standard 3, and Section E, Clause E.1).

BNI revised the HGRs and Times to LFL calculation (Reference 1) to incorporate ORP direction on the waste feed design basis (Reference 2). As documented in the attached report, the ORP Design Oversight found the general approach used to complete the HGR and time to LFL calculation to be sound. However, the calculation is not adequate to support use as the Waste Treatment and Immobilization Plant (WTP) design basis, for treatment of the Hanford tank waste, due to incomplete supporting analyses and the 13 open items identified during the design oversight.

In Reference 3, BNI committed to confirm the HGR and Time to LFL calculation by January 30, 2006. Reference 4 and other ORP communications have emphasized the need to resolve important technical issues to finalize the WTP design prior to construction. As discussed in the attached report, cognizant BNI personnel informed ORP of their intention to issue a

Mr. J. P. Betts
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confirmed HGR/Time to LFL calculation by mid-February of 2006. Given the importance of this calculation to ongoing design, construction, and procurement activities, ORP expects timely notification and justification from BNI if issuance of the confirmed calculation will be significantly delayed.

BNI shall provide ORP with their plan of action and proposed completion dates for resolving the open items identified in the attached report within 30 working days of receipt of this letter. The plan of action should also address BNI's plans and schedule for the issuance of the confirmed HGR/Times to LFL calculation.

The technical direction herein is considered to be within the limitations of Contract Clause H.1 "Technical Direction" and does not meet any of the conditions described in paragraph (b)(1) through (4) of the clause. In the event the Contractor disagrees with this interpretation, it shall not proceed but shall notify the Contracting Officer immediately orally and in writing within five working days in accordance with the Contract (Section H, Clause H.1 "Technical Direction").

If you have any questions, please contact me, or your staff may call Bill Hamel, Director, Waste Treatment and Immobilization Plant Project, Engineering Division, (509) 373-1569.

Sincerely,


Roy J. Schepens, Manager
Office of River Protection

js

WED:RWG

Attachment

cc w/attach:
J. P. Henschel, BNI

Attachment
05-WED-054

Revised Hydrogen Generation Rate Calculation

24590-WTP-M4C-V11T-00004, Revision B

Design Oversight Report

D-05-DESIGN-015

October 2005

WED:RWG
December 5, 2005

Task# ORP-WTP-2005-0298

E-STARS™ Report
 Task Detail Report
 01/12/2006 1211

TASK INFORMATION

| | | | |
|-------------------------|---|-------------------------|--------|
| Task# | ORP-WTP-2005-0298 | Status | CLOSED |
| Subject | CONCUR: (05-WED-054) DESIGN OVERSIGHT REPORT FOR THE REVISED HYDROGEN GENERATION RATES (HGR) AND TIMES TO LOWER FLAMMABILITY LIMIT (LFL) CALCULATION (24590-WTP-M4C-V11T-00004) | | |
| Parent Task# | | Due | |
| Reference | 05-WED-054 | Priority | High |
| Originator | Almaraz, Angela | Category | None |
| Originator Phone | (509) 376-9025 | Generic1 | |
| Origination Date | 12/05/2005 1622 | Generic2 | |
| Remote Task# | | Generic3 | |
| Deliverable | None | View Permissions | Normal |
| Class | None | | |

Instructions Hard copy of the correspondence is being routed for concurrence. Once you have reviewed the correspondence, please approve or disapprove via E-STARS and route to the next person on the list. Thank you.

bcc:
 MGR RDG File
 WTP OFF File
 J. J. Short, OPA
 R. W. Griffith, WED
 W. F. Hamel, WED
 K. Chen, WTP
 J. R. Eschenberg, WTP
 L. F. Miller, WTP

RECORD NOTE:
 Per procedure number DP-03 dated 12/1/05, technical direction letters are to have a disclaimer that is tailored to the circumstances. Letter no. 05-WED-054 should include the following disclaimer:

The technical direction herein is considered to be within the limitations of Contract Clause H.1 "Technical Direction" and does not meet any of the conditions described in paragraph (b)(1) through (4) of the clause. In the event the Contractor disagrees with this interpretation, it shall not proceed but shall notify the Contracting Officer immediately orally and in writing within five working days in accordance with the Contract (Section H, Clause H.1 "Technical Direction").

ROUTING LISTS

1 Route List Inactive

- Griffith, Robert W - Review - Concur - 12/06/2005 0749
Instructions:
- Hamel, William F - Review - Concur - 12/20/2005 1243
Instructions:
- Short, Jeff J - Review - Concur - 01/12/2006 1211
Instructions:
- Eschenberg, John R - Review - Concur - 01/09/2006 0819

RECEIVED
JAN 12 2006
DOE-ORP/ORPCC

Task# ORP-WTP-2005-0298

Instructions:

- Schepens, Roy J - Approve - Approved with comments - 01/12/2006 1147

Instructions:

- Thomas, Michael J - Review - Concur - 12/21/2005 1319

Instructions:

- Miller, Lewis F - Review - Concur - 01/12/2006 1210

Instructions:

ATTACHMENTS

No Attachments

COLLABORATION

COMMENTS

Poster Schepens, Roy J (Brazil, Kelly) - 01/12/2006 1101

Approve

Shirley signed for Roy 1/12/06

TASK DUE DATE HISTORY

No Due Date History

SUB TASK HISTORY

No Subtasks

-- end of report --

Task# ORP-WTP-2005-0298

E-STARSM Report
Task Detail Report
12/19/2005 1254

TASK INFORMATION

Task# ORP-WTP-2005-0298

Subject CONCUR: (05-WED-054) DESIGN OVERSIGHT REPORT FOR THE REVISED HYDROGEN GENERATION RATES (HGR) AND TIMES TO LOWER FLAMMABILITY LIMIT (LFL) CALCULATION (24590-WTP-M4C-V11T-00004)

Parent Task# **Status** Open

Reference 05-WED-054 **Due**

Originator Almaraz, Angela **Priority** High

Originator Phone (509) 376-9025 **Category** None

Origination Date 12/05/2005 1622 **Generic1**

Remote Task# **Generic2**

Deliverable None **Generic3**

Class None **View Permissions** Normal

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MGR RDG File
WTP OFF File
J. J. Short, OPA
R. W. Griffith, WED
W. F. Hamel, WED
J. R. Eschenberg, WTP

Low Miller
Ko Chan

12-21-05
Low Miller

ROUTING LISTS

1 Route List Active

- Griffith, Robert W - Review - Concur - 12/06/2005 0749
Instructions:
- Hamel, William F - Review - Awaiting Response
Instructions:
- Short, Jeff J - Review - Awaiting Response
Instructions:
- Eschenberg, John R - Review - Awaiting Response
Instructions:
- Schepens, Roy J - Approve - Awaiting Response
Instructions:
- Thomas, Michael J - Review - Awaiting Response
Instructions:

12/20/2005

with COR title after John's name and the attached release statement

OR w/ changes

12/21/05

12/21/05

ATTACHMENTS

No Attachments

COLLABORATION

Task# ORP-WTP-2005-0298

E-STARS™ Report
Task Detail Report
12/05/2005 0420

TASK INFORMATION

Task# ORP-WTP-2005-0298

Subject CONCUR: (05-WED-054) DESIGN OVERSIGHT REPORT FOR THE REVISED HYDROGEN GENERATION RATES (HGR) AND TIMES TO LOWER FLAMMABILITY LIMIT (LFL) CALCULATION (24590-WTP-M4C-V11T-00004)

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Originator Phone (509) 376-9025 **Category** None

Origination Date 12/05/2005 1622 **Generic1**

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R. W. Griffith, WED
W. F. Hamel, WED
J. R. Eschenberg, WTP

ROUTING LISTS

1 Route List Active

- Griffith, Robert W - Review - ~~Awaiting Response~~ *RW 9/5 12/6/05*
Instructions:
- Hamel, William F - Review - Awaiting Response
Instructions:
- Short, Jeff J - Review - Awaiting Response
Instructions:
- Eschenberg, John R - Review - Awaiting Response
Instructions:
- Schepens, Roy J - Approve - Awaiting Response
Instructions:

ATTACHMENTS

No Attachments

COLLABORATION

COMMENTS