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Meeting Minutes Transmittal - Approved

Unit Managers' Meeting
183-H Solar Evaporation Basins
Federal Building, Room 784-B
Richland, Washington

Meeting Held August 18, 1994
From 3:30 to 4:30 p.m.

DEC 1994
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The undersigned indicate by their signatures that these meeting minutes reflect the actual occurrences of the above dated Unit Managers Meeting.

Nancy Werdel Date: 12/15/94
Nancy A. Werdel, Unit Manager, RL

NOT PRESENT

Date:
Daniel L. Duncan, RCRA Program Manager, EPA Region 10

Robert E Cordts Date: 14 Dec 94
Robert E. Cordts, Unit Manager, Washington State Department of Ecology

183-H Solar Evaporation Basins Closure, Contractor Concurrence:

Date: 12-15-94
Contractor Representative, ERC

Purpose: Discuss Permitting Process

Meeting Minutes are attached. The minutes are comprised of the following:
Attachment 1 - Agenda
Attachment 2 - Summary of Discussion and Commitments/Agreements
Attachment 3 - Attendance List
Attachment 4 - Action Items
Miscellaneous Attachments
- W-025 memo
- Soil Closure Evaluation: 183-H Solar Evaporation Basins
- Summary of 183-H Shallow Soil & Vadose Zone Analytical Results and Performance Standards (maximum data)
- Summary of 183-H Shallow Soil & Vadose Zone Analytical Results and Performance Standards (90th % ranked data)
- RCRA Closure of the 183-H Solar Evaporation Basins (Issues) and Performance Standards (90th % ranked data)

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Attachment 1

Unit Managers' Meeting
183-H Solar Evaporation Basins
Federal Building, Room 784-B
Richland, Washington

Meeting Held August 18, 1994
From 3:30 to 4:30 p.m.

Agenda

1. Approval of Past UMM Minutes
   -As of July 18, the June 8, 1994, Unit Manager Meeting minutes were reviewed and signed by the Unit Managers.
   -Approval of the July 6, 1994 Unit Manager Meeting minutes will be completed when Ecology is next available.

2. Status Action Items
   - 03-02-93:1 Closure Proposal
     -On July 18 the Unit Mgrs agreed to delay the August 1 submittal until September 1, pending Ecology's review of the Data Eval Rept.
     -September 1 date may be delayed until
     i. soil issues are resolved
     ii. comments on DER received
   - 07-18-94: Regulatory review of data evaluation report
     -7/29 projected completion date

3. Status Closure Activities
   - Technology Demonstration
   - Status letter regarding W-025
   - Vadose Zone Data Validation
   - Waste Designation
     -RL/CHI will be issuing a letter re: the listed waste constituents, refer to July minutes
   - Summary of discussion since last meeting
     -REC agrees with the RfD of 0.005 for silver
     -REC questions the MTCA formula nitrate cleanup level
     -REC expects use of cleanup levels based on groundwater protection (WAC 173-340)
     -REC tentatively agreed that Basin concrete would not designate as listed dangerous waste, pending a letter from RL.
     -REC indicates soil closure under RCRA is warranted, rather than deferral to Operable Unit cleanup
   - RCRA-CERCLA Integration
     -Refer to July minutes
     -Timing of soil cleanup under RCRA vs. CERCLA
     -Cleanup levels under RCRA vs. CERCLA
   - Cleanup Levels
     -Concrete: debris rule requires 6 mm removal; followed by further decontamination if necessary, based on a visual inspection
     -Soil: RL/CHI will pursue "demonstration that a higher soil concentration if protective of groundwater..." [WAC 173-340-740(3)]; and CERCLA-RCRA integrated closure.

4. New Business

5. Set Next Meeting Date

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Attachment 2

Unit Managers' Meeting
183-H Solar Evaporation Basins
Federal Building, Room 784-B
Richland, Washington

Meeting Held August 18, 1994
From 3:30 to 4:30 p.m.

Summary of Discussion and Commitments/Agreements

1. Approval of Past UMM Minutes
   -As of July 18, the June 8, 1994, Unit Manager Meeting minutes were reviewed and signed by the Unit Managers.
   -Approval of the July 6, 1994 Unit Manager Meeting minutes will be completed when Ecology is next available.
   [R. E. Cordts (Ecology) requested that the July 6 minutes be modified to clearly indicate that he had not given approval regarding the issues being proposed in the meeting. L. A. Mihalik (CHI) responded that the minutes would be modified.]

2. Status Action Items
   - 03-02-93:1 Closure Proposal
     -On July 18 the Unit Mgrs agreed to delay the August 1 submittal until September 1, pending Ecology's review of the Data Eval Rept.
     -September 1 date may be delayed until
     i. soil issues are resolved
     ii. comments on DER received
     [R. E. Cordts and L. A. Mihalik agreed that the proposal issuance will necessarily be delayed until cleanup levels and RCRA-CERCLA coordination are resolved and Ecology's review of the data evaluation report is completed. R. E. Cordts expects to have the data evaluation report reviewed by late next week.]

   - 07-18-94: Regulatory review of data evaluation report
     -7/29 projected completion date
     [Refer to previous agenda item]

3. Status Closure Activities
   - Technology Demonstration
     [L. A. Mihalik stated that the expected report date is unchanged]
   - Status letter regarding W-025
     [R. E. Cordts confirmed that he had received a FAX of the internal WHC memo (attached) stating that 183-H concrete should not be disposed of in the W-025 lined landfill. General discussion of the possible disposal fate of the concrete followed; it was acknowledged that final disposition of the concrete is currently under evaluation.]
     [A preferred decontamination proposal was also discussed. P. K. Jackson (BHI) said that the 6 mm of concrete would be removed from the basins' surface throughout (all areas that may have contacted waste), including 6 mm removal from the existing surface of the basins that have been sandblasted. Shot blasting is the preferred method of removal. In response to a question from R. E. Cordts, L. A. Mihalik said that we are not planning sampling to confirm the decontamination process; this is in accordance with the debris rule. R. E. Cordts stated concern that the effectiveness of decontamination may be uncertain. P. W. Griffin (CHI) pointed out

that chemical analytical results from the basin scabble test (addressed in the data evaluation report) support the 6 mm removal as a viable performance standard. R. E. Cordts responded that he would give this matter further consideration.]

- Vadose Zone Data Validation

  [D. P. Butcher (CHI) stated that this matter is being resolved by the contractors, and that there may be slight modifications to data qualification. R. E. Cordts noted that an Ecology reviewer opposes the use of the shallow soil data. General discussion clarified that the non-validated data is of preliminary nature; and that the vadose zone data QA/QC is complete, has been validated, and is subject to minor revisions. R. E. Cordts said that his concerns generally did not apply to the vadose zone.]

- Waste Designation

  -RL/CHI will be issuing a letter re: the listed waste constituents, refer to July minutes

  [L. A. Mihalik identified issuance of this letter as an action item (Action 08-18-94: 1). The letter will request that Ecology authorize that the concrete does not contain RCRA listed-waste constituents at concentrations that require the same listed-waste designation as the waste treated in the basins.]

- Summary of discussion since last meeting

  -REC agrees with the RfD of 0.005 for silver

  -REC questions the MTCA formula nitrate cleanup level

  -REC expects use of cleanup levels based on groundwater protection (WAC 173-340)

  -REC tentatively agreed that Basin concrete would not designate as listed dangerous waste, pending a letter from RL.

  -REC indicates soil closure under RCRA is warranted, rather than deferral to Operable Unit cleanup

  [L. A. Mihalik read this summary. General discussion took place, concerning a nitrate cleanup level and RCRA-CERCLA coordination. R. E. Cordts tentatively proposed a groundwater-protective soil cleanup level of 1000 ppm for nitrate. L. A. Mihalik responded that the WAC 173-340-740 direct-soil-contact based cleanup level seems viable, assuming that it can be demonstrated that groundwater impacts are negligible. R. E. Cordts said that he was sure that Ecology would not allow a nitrate soil cleanup level of 57 weight percent, and that he would research this issue. D. P. Butcher said that, based on his consultation with a Hanford toxicologist and an EPA IRIS technical representative, it is appropriate to convert the IRIS oral RfD of 1.6 (mg nitrate-nitrogen)/(kg*day) to 7.1 (mg nitrate)/(kg*day) when comparing with nitrate analyses. This addresses an earlier question from Ecology.]

  [N. A. Werdel (DOE-RL) described RL's reasons/information for preferring to conduct soil closure under CERCLA, as follows: (1) efficiency, (2) consistent cleanup levels, (3) groundwater will be addressed under CERCLA, (4) TPA milestone M-20 has been modified, (5) 183-H soil could be included in the feasibility study as one of the high priority sites, (6) soil removal may be the preferred action, and Hanford is lacking in RCRA storage capabilities, whereas CERCLA-regulated soil is slated to go to ERDF, as decided at the Hanford Advisory Board meeting, with Ecology and EPA, and (7) Ecology is the lead regulatory agency for the 100-HR-1 Operable Unit, so authority would not be divided. L. A. Mihalik added that next spring's interim ROD would enable an expedient

start of cleanup for the high priority sites, and that the general 100 Areas feasibility study includes MTCA as an ARAR and employs a model (Summers, EPA 1989) that gives allowable contaminant levels that are protective of groundwater. R. E. Cordts said that he would discuss this matter with Chuck Cline and Roger Stanley.]

- RCRA-CERCLA Integration
  - *-Refer to July minutes*
  - *-Timing of soil cleanup under RCRA vs. CERCLA*
  - *-Cleanup levels under RCRA vs. CERCLA*

  [Refer to previous agenda item]
- Cleanup Levels
  - *-Concrete: debris rule requires 6 mm removal; followed by further decontamination if necessary, based on a visual inspection*
  - *-Soil: RL/CHI will pursue "demonstration that a higher soil concentration if protective of groundwater..." [WAC 173-340-740(3)]; and CERCLA-RCRA integrated closure.*

  [Refer to previous agenda items]

  [R. E. Cordts asked that the project be sure to only combine methods for determining cleanup levels when appropriate, e.g., if employing method B of WAC 173-340 one should only use method A values if method B does not provide one. L. A. Mihalik clarified that background would be used with the WAC 173-340 formula method, and that method A may be used for constituents without toxicity values, such as lead, and R. E. Cordts agreed that this made sense.]

  [R. E. Cordts confirmed that he had received the tables of 183-H data and potential cleanup levels that CHI sent by FAX on 8-17-94 as well as a list of open and resolved issues for the 183-H closure (attached).]

4. New Business

   [No new business was discussed.]

5. Set Next Meeting Date

   [R. E. Cordts agreed to communicate his schedule by telephone the next day.]

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Attachment 3

Unit Managers' Meeting
183-H Solar Evaporation Basins
Federal Building, Room 784-B
Richland, Washington

Meeting Held August 18, 1994
From 3:30 to 4:30 a.m.

Attendance List

Name	Organization	Phone #
Paul Griffin	CH2M Hill Hanford Inc.	373-3916
Don Butcher	CH2M Hill Hanford Inc.	376-2606
Brian Mathis	CH2M Hill	373-7253
Linda Mihalik	CH2M Hill	375-9426
Nancy Wendel	DOE-RL	376-5500
Joan Bartz	GSSC	372-2008
Kathy Knox		
Ken Jackson	BHI	373-7252
Robert Cordts via videoteleconference, Ecology, 206-407-7142		

Attachment 4

Unit Managers' Meeting
183-H Solar Evaporation Basins
Federal Building, Room 784-B
Richland, Washington

Meeting Held August 18, 1994
From 3:30 to 4:30 p.m.

Action Items

Action Item #	Description
03-02-93:1	F. A. Ruck (WHC) will make a proposal for closure of the 183-H Basins that will include a new closure date. This action item remains open.
08-18-94: 1	L. A. Mihalik (CHI) will issue a letter requesting that the concrete be released from consideration as listed waste. Due September 1, 1994.

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DON'T SAY IT --- *Write It!*

DATE: July 6, 1994

TO: D.P. Butcher H6-23

FROM: Richard D. Pierce N3-13

Telephone: 6-5681

cc: M. J. Galbraith H6-04
P. L. Hapke T4-05
F. A. Ruck H6-23

SUBJECT: USE OF CONCRETE FROM 183-H BASINS AS FILL FOR W-025, LINED LANDFILL

As discussed at our meeting in early June, the use of concrete from the 183-H basins as fill for the W-025, lined landfill, is not appropriate. You have noted that this concrete is not a Dangerous or Mixed Waste per WAC 173-303, therefore it should not be disposed in a mixed waste permitted disposal unit. This waste should be placed in the Low Level Burial Ground (LLBG), and could be used as subsurface fill.

There are several reasons why the concrete rubble from the 183-H basins is not appropriate in the lined landfill:

o The rubble will not meet the specifications for the material used for the working surface over each layer of drums. The specified material is a course sand. Course enough so that it would not clog the drainage layer above the leachate collection system, yet fine enough to fill the voids between the drums and be compactable.

o The rubble is not containerized, so that contaminates may migrate to the leachate collection system. Once a contaminate makes its' way to the leachate system, it must be monitored and stored, treated or disposed in this harder to manage liquid phase. If the leachate is radioactive or mixed waste, it would be managed in the tank farms.

o Currently, because of limitations in the treatment, storage or disposal (TSD) units that manage liquids at Hanford (Double Shelled Tanks, Treated Effluent Disposal, and Evaporator) the lined landfill's F039 leachate must also be limited. Initially, the lined landfill will only accept F001 through F005 and characteristic waste. Any waste (or clean fill) that can not demonstrate that other contaminates are not present, can not be accepted.

It is appropriate that this waste be disposed in the LLBG trenches. The trenches have sloped side walls. The concrete rubble could be placed along side the containerized low level waste, making better use of the trench capacity.

Should there be any questions, please call myself at 372-0732 or Paul Hapke at 373-3921.

R. D. Pierce, Manager
Generator and Waste Acceptance Services

SOIL CLOSURE EVALUATION: 183-H SOLAR EVAPORATION BASINS

ANALYTES OF CONCERN:
Elements: As, Ba, Be, Cd, Cr, Cu, Pb, Hg, Ni, Se, Ag, V, Zn
Ions: Nitrite, Nitrate, Sulfate, Fluoride

BASIS FOR ELIMINATION	ANALYTES ELIMINATED FROM FURTHER CONSIDERATION
Site maximum data is less than Sitewide Bkgd 95/95; or 90th % ranked data are less than MTCA-720(3) and max data < 2*threshold	General: Hg, V, (Mn), Zn, Nitrite, Sulfate Shallow Soil: Ba, Ag, Se Vadose Zone Soil: Ni
Remaining Analytes of Concern- *Shallow Soil: As, Be, Cd, Cr, Cu, Pb, Ni, Nitrate, Fluoride* *Vadose Zone Soil: As, Ba, Be, Cd, Cr, Cu, Pb, Se, Ag, Nitrate, Fluoride*	
Site 90th % ranked data is less than MTCA-740 Meth. A and max data < 2*threshold	General: Cr, Pb Vadose Zone Soil: As
Site 90th % ranked data is less than MTCA-720(3)a)ii) and max data < 2*threshold	General: Ni, Se, Ag Vadose Zone Soil: Nitrate
Site 90th % ranked data is less than Sitewide Bkgd 95/95 and max data < 2* threshold	General: Ba, Be, Cr Shallow Soil: Ag Vadose Zone Soil: As
Remaining Analytes of Concern- *Shallow Soil: As, Cd, Cu, Nitrate, Fluoride* *Vadose Zone Soil: Cd, Cu, Fluoride*	
Site 90th % ranked data is less than MTCA-740(3)a)iii) and max data < 2* threshold	General: Cd, Cu, Nitrate*, Fluoride

****
*Ecology is questioning the validity of MTCA-740(3)a)iii) cleanup level.

Conclusion based on preliminary soil data: If cleanup thresholds are developed as above, (1) soil removal or treatment will be required to clean close shallow soil, based on arsenic data; and (2) clean closure of the vadose zone can be accomplished with no remedial action if resolution of a nitrate cleanup level of 22,000 ppm or greater is achieved (Note- MTCA direct soil exposure based cleanup levels must be invoked for Cd, Cu, F and nitrate).

The MTCA-720(3)a)ii) threshold-triggering vadose zone values for Cd (4.5 and 4.0 ppm, at 13 and 24 ft depths), Cu (815 and 164 ppm, 0-5 ft depth) and fluoride (223 and 195 ppm, 4-10 ft depth) are from samples at various depths.

Summary of 183-H Shallow Soil and Vadose Zone Analytical Results (maximum data) and Performance Standards (mg/kg, unless noted)

Chemical Name	1989 Sampling, (sub-concrete) Maximum Reported Concentration	1991 Sampling, (sub-concrete) Maximum Reported Concentration	1991 Sampling, (surface *) Maximum Reported Concentration	Vadose Zone Soil Maximum Reported Concentration	Sitewide Background Soil (95-95)	WAC 173-340-740 (3)(a)(iii) (Method B)	WAC 173-340-740 [2] (Method A)	100 Times WAC 173-340-720 (3)(a)(ii) (mg/L)	100 Times WAC 173-340-720 [3] (mg/L)
	[a]	[a]	[a]		[c]	[d]		[d]	[e]
Arsenic	16.5	5.7	49.8	12.7	9	1.4	20.0	0.005	0.005
Barium	118	119	150	288	175	5,600		112	112
Beryllium	2.5	0.45	0.44	2.1	1.8	0.2		0.002	0.002
Cadmium	6.9	3	1.7	4.5		40	2.0	2	0.5
Chromium	42.7	24.8	42.5	44.9	28		100.0		10
Chromium III						80,000		1,600	
Chromium VI						400		8	
Copper	1,140	95	51.5	815	30	2,960		59	59
Lead	128	30.2	234	32.4	14.9		250.0		-
Mercury	0.9	<0.11	0.79	0.7	1.3	24		0.5	0.2
Nickel	64.2	25.2	42	24.4	25	1,600		32	10
Selenium	-	<4.4	<0.44	2.5		400		8	1 [f]
Silver	1.1	<1.5	1.5	12.9	2.1	400		8	5
Vanadium	62.3	50.5	56.8	62.3	107	560		11	11
Zinc	56.1	61.5	299	81.8	79	24,000		480	480
Fluoride	249	940	26	223	13	4,800		96	96
Nitrite	11	<1,000	<20	15.6		8,000		160	100
Nitrate	28,300	40,352	1,850	6,200	208	568,000		11,000	1,000
Sulfate	2,540	2,561	3,560	7,564	931				40,000 [g]

* Combined set of berms, trench, and basin southern margin samples.
(a) The 1989 samples were analyzed by the U.S. Testing Laboratory (Appendix C); the 1991 samples were analyzed by the K-25 Laboratory (Appendix D)
(c) DOE-RL 1993.
(d) Toxicity value sources, equations and parameters are in 183-H Data Eval. Report, Appx. A.
(e) This column gives the more stringent value of WAC 173-340-720 (3)(a)(i) and (ii). Maximum Contaminant Level are from CLARC II, March 1994, unless noted.
(f) Soil Cleanup Policy, Ecology 1992.
(g) 400 to 500 mg/L is the proposed MCL and MCLG in Phase 5 National Primary Drinking Water Regulations, 40 CFR 141,142 (FR v. 57 no. 138, p. 31776-31849)

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Summary of 183-H Shallow Soil and Vadose Zone Analytical Results (90th % ranked data) and Performance Standards (mg/kg, unless noted)

Chemical Name	1989 Sampling, (sub-concrete) 90th % Rank Concentration [a]	1991 Sampling, (sub-concrete) 90th % Rank Concentration [a]	1991 Sampling, (surface *) 90th % Rank Concentration [a]	Vadose Zone Soil 90th % Rank Concentration	Sitewide Background Soil (95-95) [c]	WAC 173-340-740 (3)(a)(iii) (Method B) [d]	WAC 173-340-740 [2] (Method A)	100 Times WAC 173-340-720 (3)(a)(ii) (mg/L) [d]	100 Times WAC 173-340-720 [3] (mg/L) [e]
Arsenic	5.4	4.9	19	5.7	9	1.4	20.0	0.005	0.005
Barium	115	110	99.6	78	175	5,600		112	112
Beryllium	0.8	0.44	0.4	0.3	1.8	0.2		0.002	0.002
Cadmium	5.8	2	1.5	-		40	2.0	2	0.5
Chromium	26	21.6	16	19.2	28		100.0		10
Chromium III						80,000		1,600	
Chromium VI						400		8	
Copper	32.9	26	21.7	22.2	30	2,960		59	59
Lead	44.8	17.2	115	11	14.9		250.0		-
Mercury	-	0.1	0.06	-	1.3	24		0.5	0.2
Nickel	28.1	21.7	18.1	14.2	25	1,600		32	10
Selenium	-	0.49	0.42	-		400		8	1 [f]
Silver	-	1.4	1.3	-	2.1	400		8	5
Vanadium	44.5	41.6	54.1	51.4	107	560		11	11
Zinc	51.4	53.2	76.4	46.9	79	24,000		480	480
Fluoride	8.3	190	4.2	48.8	13	4,800		96	96
Nitrite	-	<1,000	<20	0.4		8,000		160	100
Nitrate	11,500	22,088	606	151	208	568,000		11,000	1,000
Sulfate	923	883	332	119	931				40,000 [g]

* Combined set of berms, trench, and basin southern margin samples.
(a) The 1989 samples were analyzed by the U.S. Testing Laboratory (Appendix C); the 1991 samples were analyzed by the K-25 Laboratory (Appendix D)
(c) DOE-RL 1993.
(d) Toxicity value sources, equations and parameters are given in the 183-H Data Evaluation Report, Appendix A.
(e) This column gives the more stringent value of WAC 173-340-720 (3)(a)(i) and (ii). Maximum Contaminant Level are from CLARC II, March 1994, unless noted.
(f) Soil Cleanup Policy, Ecology 1992.
(g) 400 to 500 mg/L is the proposed MCL and MCLG in Phase 5 National Primary Drinking Water Regulations, 40 CFR 141,142 (FR v. 57 no. 138, p. 31776-31849)

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RCRA CLOSURE OF THE 183-H SOLAR EVAPORATION BASINS

RESOLVED ISSUES

- -An appropriate oral RfD for silver is 0.005 mg/(kg*day).
- -The Debris Rule will be applied to 183-H Basin concrete.
- -Concrete and soil will not require management as listed wastes.
  (pending regulatory concurrence with a letter describing this issue, and possibly excluding the exposed concrete surface zone)

OPEN ISSUES

- -RCRA/CERCLA integration of soil closure activities.
- -Soil Closure
  - i. regulatory thresholds
    - -can demonstrate other than 100 * groundwater standard is protective of groundwater at the site
    - -cleanup level for nitrate
    - -cleanup level for sulfate, arsenic
  - ii. confirmatory sampling requirements
- -Use of existing data to support closure options
  - -concrete: remediation relies on Debris rule, not data
  - -vadose zone data: has been validated (some adjustments possible)
  - -shallow soil data: negotiate percent confirmation
- -Validation of vadose zone data
- -Use of typical soil levels threshold, if RfD/CPF unavailable?
- -Dangerous (listed) waste designation of concrete surface zone?

Distribution

J. K. Bartz	GSSC	R3-82
D. P. Butcher	CHI	H6-23
R. M. Carosino	RL	A4-52
R. E. Cordts	Ecology-Lacey	
L. D. Dillon	BHI	H6-29
D. L. Duncan	EPA-Seattle	HW-106
P. W. Griffin	CHI	X5-55
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R. G. Hollenbeck	KEH	G3-17
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B. W. Mathis	BHI	H4-79
M. A. Mihalic	BHI	X5-53
L. A. Mihalik	CHI	H4-79
N. A. Werdel	RL	A5-19
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ADMINISTRATIVE RECORD: 183-H Solar Evaporation Basins Closure, T-1-4 [Care of EPIC, WHC (H6-08)]

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Please send comments on distribution list to Don Butcher (H6-23), 373-2606.