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SOUTHERN COMPANY
Energy to Serve Your World℠

September 16, 2005

Docket Nos.: 50-321
50-366

NL-05-1362

U. S. Nuclear Regulatory Commission
ATTN: Document Control Desk
Washington, D. C. 20555-0001

Edwin I. Hatch Nuclear Plant
Supplement to Technical Specifications Revision Request to
Standby Liquid Control Figure 3.1.7-1

Ladies and Gentlemen:

This letter supplements Southern Nuclear Operating Company's (SNC) November 12, 2004 letter which requested a revision to the Units 1 and 2 Technical Specifications (TS) Figure 3.1.7-1, "Sodium Pentaborate Solution Volume Versus Concentration." This supplement further revises that figure and also revises Figure 3.1.7-2, "Sodium Pentaborate Solution Temperature versus Concentration Requirements."

In reviewing the response to a Request for Additional Information on SNC's November 12, 2004 submittal, a round off inconsistency in the translation of the equivalency determination calculation into the current TS Figure 3.1.7-1 was noted. To eliminate that inconsistency, SNC proposes to change the minimum concentration of sodium pentaborate as depicted in both Figures 3.1.7-1 and 3.1.7-2 from 6.9% to 7.0%.

Enclosure 1 provides a description and justification for the specific change noted above. This enclosure supplements Enclosure 1 of the November 12, 2004 letter. Enclosure 2 contains the 10 CFR 50.92 evaluation and is intended to completely supersede the evaluation provided in the November 12, 2004 letter. Enclosure 3 provides the Regulatory Safety Analysis, and Attachment 1 provides the marked up TS pages which supersede the TS changes provided in the previous letter. The TS Bases pages were provided in the November 12, 2004 letter and are still applicable.

(Affirmation and signature provided on the following page).

Mr. H. L. Sumner, Jr. states he is a Vice President of Southern Nuclear Operating Company, is authorized to execute this oath on behalf of Southern Nuclear Operating Company and to the best of his knowledge and belief, the facts set forth in this letter are true.

This letter contains no NRC commitments. If you have any questions, please advise.

Respectfully submitted,

SOUTHERN NUCLEAR OPERATING COMPANY

H. L. Sumner, Jr.

Sworn to and subscribed before me this 16 *day of* September, *2005.*

Notary Public

My commission expires: 4/28/07

HLS/ocv/sdl

Enclosures:
1. Description and Justification of Change
2. No Significant Hazards and Environmental Evaluation
3. Attachment 1 - Mark-Up and Published Technical Specifications Pages

cc: Southern Nuclear Operating Company
Mr. J. T. Gasser, Executive Vice President
Mr. G. R. Frederick, General Manager – Plant Hatch
RTYPE: CHA02.004

U. S. Nuclear Regulatory Commission
Dr. W. D. Travers, Regional Administrator
Mr. C. Gratton, NRR Project Manager – Hatch
Mr. D. S. Simpkins, Senior Resident Inspector – Hatch

State of Georgia
Mr. L. C. Barrett, Commissioner – Department of Natural Resources

Enclosure 1

Edwin I. Hatch Nuclear Plant
Supplement to Technical Specifications Revision
to Standby Liquid Control Figure 3.1.7-1

Description and Justification of Change

This enclosure supplements the Technical Specifications (TS) change request submitted on November 12, 2004 which revised Figure 3.1.7-1, "Sodium Pentaborate Solution Volume Versus Concentration Requirements." This supplement further revises that figure to increase the minimum concentration from 6.9% to 7.0%, for the reasons discussed below.

The equivalency determination to satisfy the ATWS Rule, per 10 CFR 50.62, is provided in NEDE-31096-P-A, "Anticipated Transients Without Scram, Response to NRC ATWS Rule, 10 CFR 50.62".

A round off inconsistency was discovered between the existing calculation of the Plant Hatch equivalency determination and the translation of that data into the current Figure 3.1.7-1. To avoid that inconsistency in the new figure, SNC is revising the proposed Figure 3.1.7-1 to increase the minimum concentration from 6.9% to 7.0%. This also represents the boundary between Region A and B. The boundary between these regions is also provided in Figure 3.1.7-2, "Sodium Pentaborate Solution Temperature versus Concentration Requirements". Consequently, Figure 3.1.7-2 is also being revised. The equivalency determination is met as follows:

$(Q/86) \times (M251/M) \times (C/13) \times (E/19.8) \geq 1$

Where

Q = the expected Standby Liquid Control (SLC) flow rate, 41.2 gpm.

M251 = mass of water in a BWR/4 reactor vessel, 628300 lbs.

M = mass of water in the reactor vessel and recirculation system at hot rated conditions, 485900 lbs.

C = Sodium Pentaborate solution concentration (weight percent), 7.0 %.

E = B-10 isotope enrichment, atom percent, 60 %.

With these numbers the equivalency determination for Hatch equals 1.01. Therefore, the change to 7.0% is acceptable.

Enclosure 2

Edwin I. Hatch Nuclear Plant
Supplement to Technical Specifications Revision
to Standby Liquid Control Figure 3.1.7-1

Description and Justification of Change

Proposed Change

Figure 3.1.7-1 of the Units 1 and 2 Technical Specifications (TS) is being changed to reflect the increased concentration requirements of Boron-10 that must be injected into the reactor vessel, following an ATWS event, and to increase the minimum concentration of Region A from 6.9% to 7.0%. Figure 3.1.7-2, is also being changed to reflect the increase in the minimum concentration.

No Significant Hazards Evaluation

In 10 CFR 50.92(c), the NRC provides the following standards to be used in determining the existence of a significant hazards consideration:

...a proposed amendment to an operating license for a facility licensed under 50.21(b) or 50.22 or for a testing facility involves no significant hazards consideration if operation of the facility in accordance with the proposed amendment would not: (1) involve a significant increase in the probability or consequences of an accident previously evaluated; or (2) create the possibility of a new or different kind of accident from any previously evaluated; or (3) involve a significant reduction in the margin of safety.

Southern Nuclear Operating Company (SNC) has reviewed the proposed Licensing amendment and concluded that the change does not involve a significant hazards consideration because (1) the proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated, and (2) does not create the possibility of a new or different kind of accident from any previously evaluated and, (3) does not involve a significant reduction in the margin of safety, as described below:

Basis for No Significant Hazards Consideration

1. *The proposed change does not involve a significant increase in the probability or consequences of an accident previously evaluated.*

This is a proposed change to Figures 3.1.7-1 and 3.1.7-2 of the Units 1 and 2 TS. Figure 3.1.7-1 is a plot of the weight percent of Sodium Pentaborate solution in the Standby Liquid Control (SLC) Tank, as a function of the gross volume of solution in the tank. Figure 3.1.7-2 is a plot of the Sodium Pentaborate temperature versus concentration requirements.

Figure 3.1.7-1 is proposed to be changed in order to accommodate an injection of Sodium Pentaborate solution into the reactor, following an ATWS event, such that the

Description and Justification of Change

concentration of Boron-10 atoms in the reactor will be 800 ppm natural Boron equivalent. This is necessary to accommodate increased cycle energy requirements for the Hatch Units 1 and 2 cores. Both Figures 3.1.7-1 and 3.1.7-2 are changed to reflect that the boundary between Region A and B is changing from 6.9% to 7.0%. The proposed change to the Figures will not increase the probability of an ATWS event because the curves have nothing to do with the prevention of an ATWS event. The new requirements will insure that, in the future, the core will have adequate shutdown margin to mitigate the consequences of an ATWS event.

The minimum concentration of Sodium Pentaborate which also represents the boundary between Region A and Region B, is changing from 6.9% to 7.0%. This increase in the concentration ensures a conservative margin to the ATWS equivalency determination required by 10 CFR 50.62.

Also, no systems or components designed to ensure the safe shutdown of the reactor are being physically changed as a result of this proposed TS change. In fact, no safety related systems or components designed for the prevention of previously evaluated events are being altered by the amendment.

2. *The proposed change does not create the possibility of a new or different type event from any previously evaluated.*

This proposed TS revision results in a change to SLC TS Figures 3.1.7-1 and 3.1.7-2 requirements. However, these changes do not result in physical changes to the SLC system. SLC pump operation, maintenance and testing remain the same. Accordingly, no changes to the operation, maintenance or surveillance procedures will result from this TS revision request. Therefore, no new modes of operation are introduced by this TS change.

Since no new modes of operation are introduced, the proposed change does not create the possibility of a new or different type event from any previously evaluated.

3. *The proposed change does not involve a significant change in the margin of safety.*

This proposed TS change is being made to increase the boron concentration requirements of the sodium pentaborate solution injected into the reactor vessel following an Anticipated Transient Without Scram (ATWS) event. The change is necessary due to new fuel designs and higher energy requirements for fuel cycles. Therefore, the change is being made to insure that shutdown requirements can be met for the ATWS event. This will insure the margin of safety with respect to ATWS will continue to be met.

Enclosure 2

Edwin I. Hatch Nuclear Plant
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to Standby Liquid Control Figure 3.1.7-1

Description and Justification of Change

The increase in the minimum concentration from 6.9% to 7.0% ensures a conservative margin with respect to the ATWS equivalency determination. Consequently, this proposed TS change will not result in a decrease in the margin of safety.

Environmental Evaluation

Southern Nuclear has evaluated the proposed changes and determined the changes do not involve (1) a significant hazards consideration, (2) a significant change in the types or significant increase in the amounts of any effluents that may be released off-site, or (3) a significant increase in the individual or cumulative occupational exposure. Accordingly, the proposed changes meet the criteria for categorical exclusion set forth in 10 CFR 51.22(c)(9), and an environmental assessment of the proposed change is not required.

Enclosure 3

Edwin I. Hatch Nuclear Plant
Supplement to Technical Specifications Revision
to Standby Liquid Control Figure 3.1.7-1

Regulatory Safety Analysis

The regulatory bases and guidance documents associated with the Standby Liquid Control System include the following:

GDC-26 requires that two independent reactivity control systems of different design principles be provided. One of the systems credited is the control rods. The second reactivity control system shall be capable of reliably controlling the rate of reactivity changes resulting from planned normal power changes to assure acceptable fuel design limits are not exceeded. The Standby Liquid Control (SBLC) system serves as the second system.

Qualification of Class 1E electrical equipment is in accordance with IEEE 323-1971 and seismic design of SBLC Class 1E electrical equipment is in accordance with IEEE 344-1971.

10 CFR 50.62 requires that each boiling water reactor have a SBLC system with the capability of injecting into the reactor pressure vessel a borated water solution, at such a flow rate, level of boron concentration, and boron-10 isotope enrichment, and accounting for reactor pressure vessel volume, that the resulting reactivity control is at least equivalent to that resulting from injection of 86 gallons per minute of 13 weight percent sodium pentaborate decahydrate solution at the natural boron-10 isotope abundance into a 251 inch inside diameter reactor pressure vessel for a given core design.

There are no changes to the Standby Liquid Control system as a result of this Technical Specification amendment submittal that would cause any of these regulatory requirements to come into question.

In conclusion, based on the considerations discussed above, (1) there is reasonable assurance that the health and safety of the public will not be endangered by operation in the proposed manner, (2) such activities will be conducted in compliance with the Commission's regulations, and (3) issuance of the amendment will not be inimical to the common defense and security or to the health and safety of the public.

Attachment 1

Edwin I. Hatch Nuclear Plant
Supplement to Technical Specifications Revision
to Standby Liquid Control Figure 3.1.7-1

Mark-Up and Published Technical Specifications Pages

Replace with attached figure

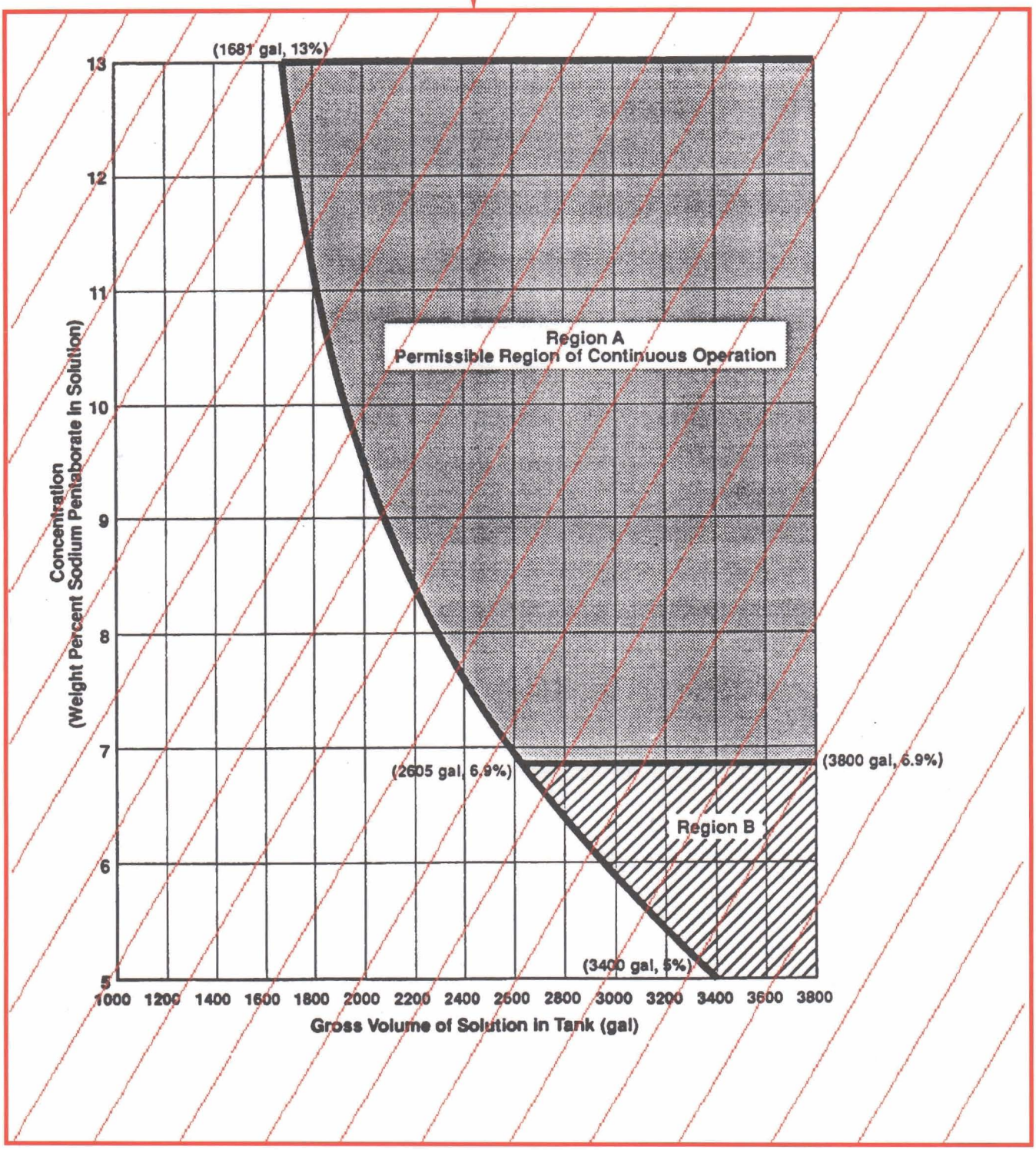

Figure 3.1.7-1 (page 1 of 1)
Sodium Pentaborate Solution Volume
Versus Concentration Requirements

SPB Solution Volume vs. Concentration Requirements

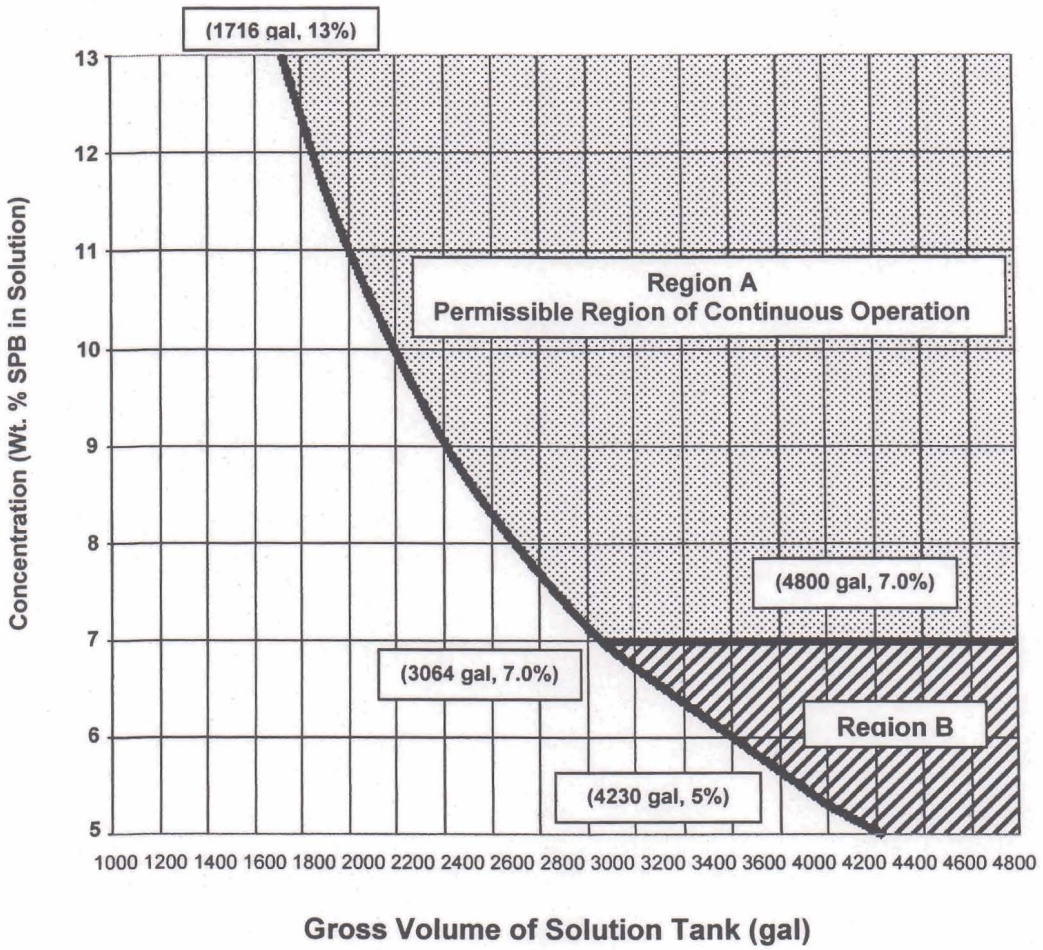

Figure 3.1.7-1 (page 1 of 1)
Sodium Pentaborate Solution Volume
Versus Concentration Requirements

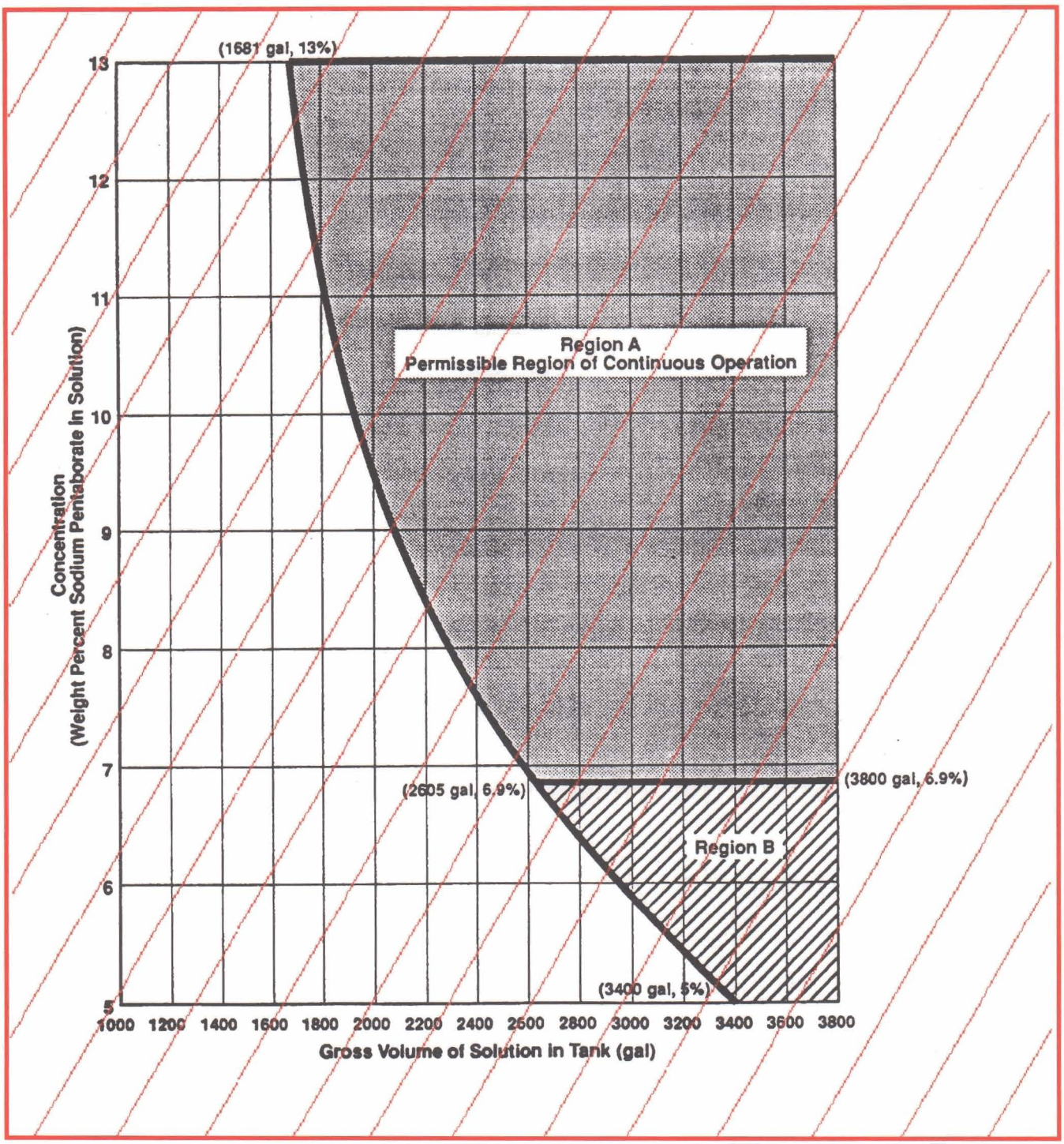

Figure 3.1.7-1 (page 1 of 1)
Sodium Pentaborate Solution Volume
Versus Concentration Requirements

SPB Solution Volume vs. Concentration Requirements

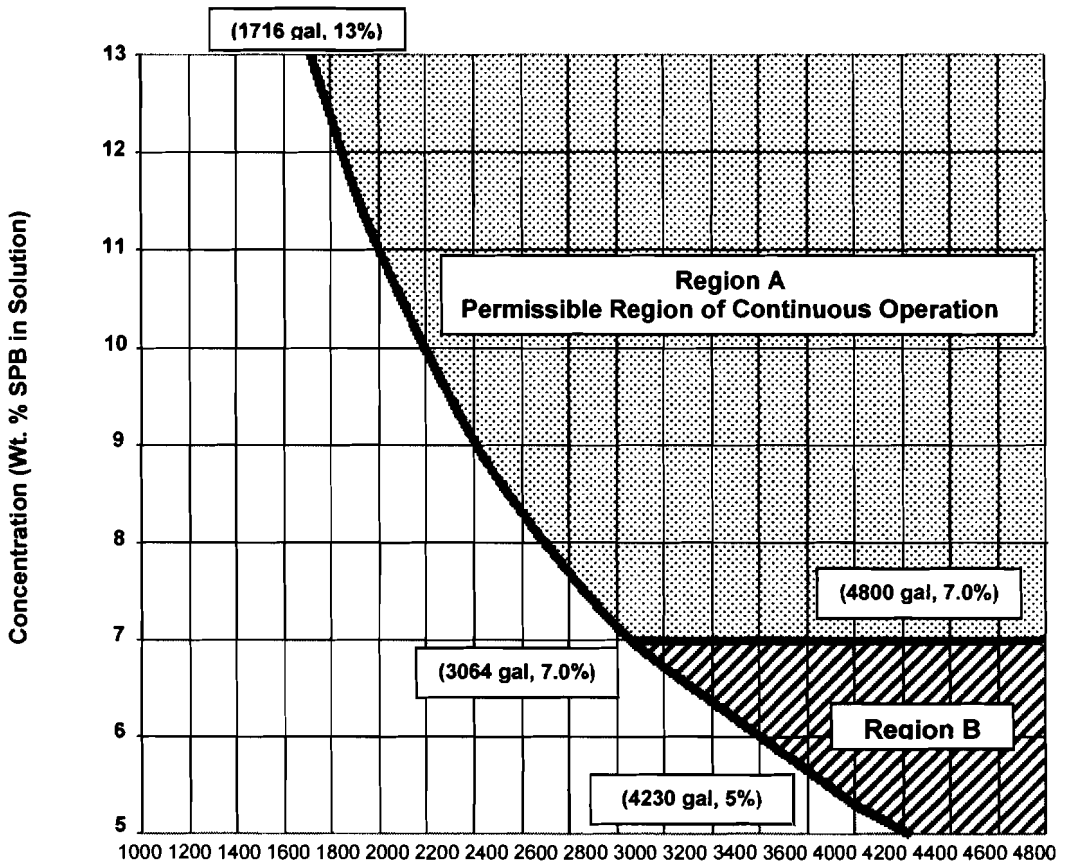

Figure 3.1.7-1 (page 1 of 1)
Sodium Pentaborate Solution Volume
Versus Concentration Requirements

Replace with attached figure

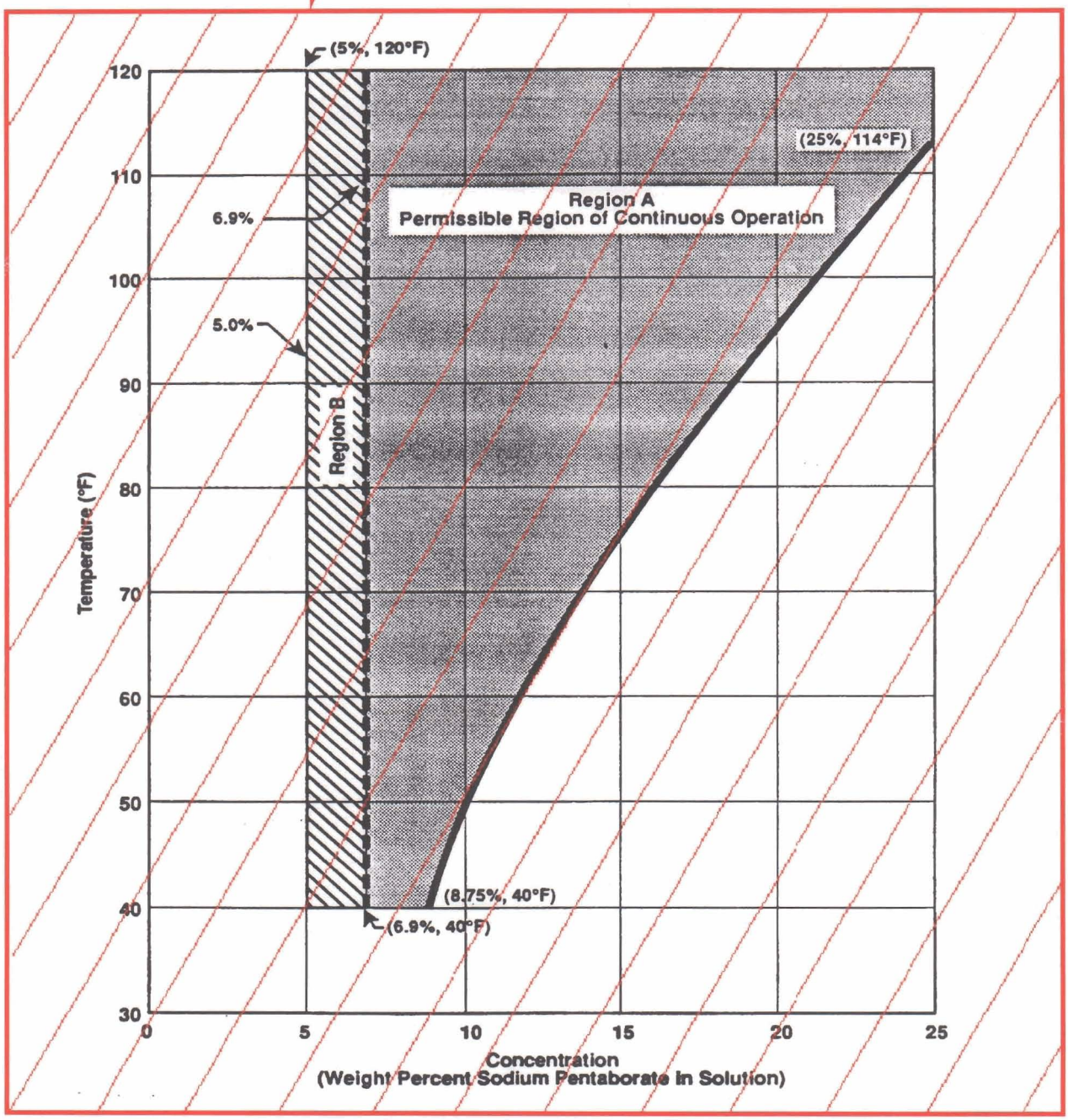

Figure 3.1.7-2 (page 1 of 1)
Sodium Pentaborate Solution Temperature
Versus Concentration Requirements

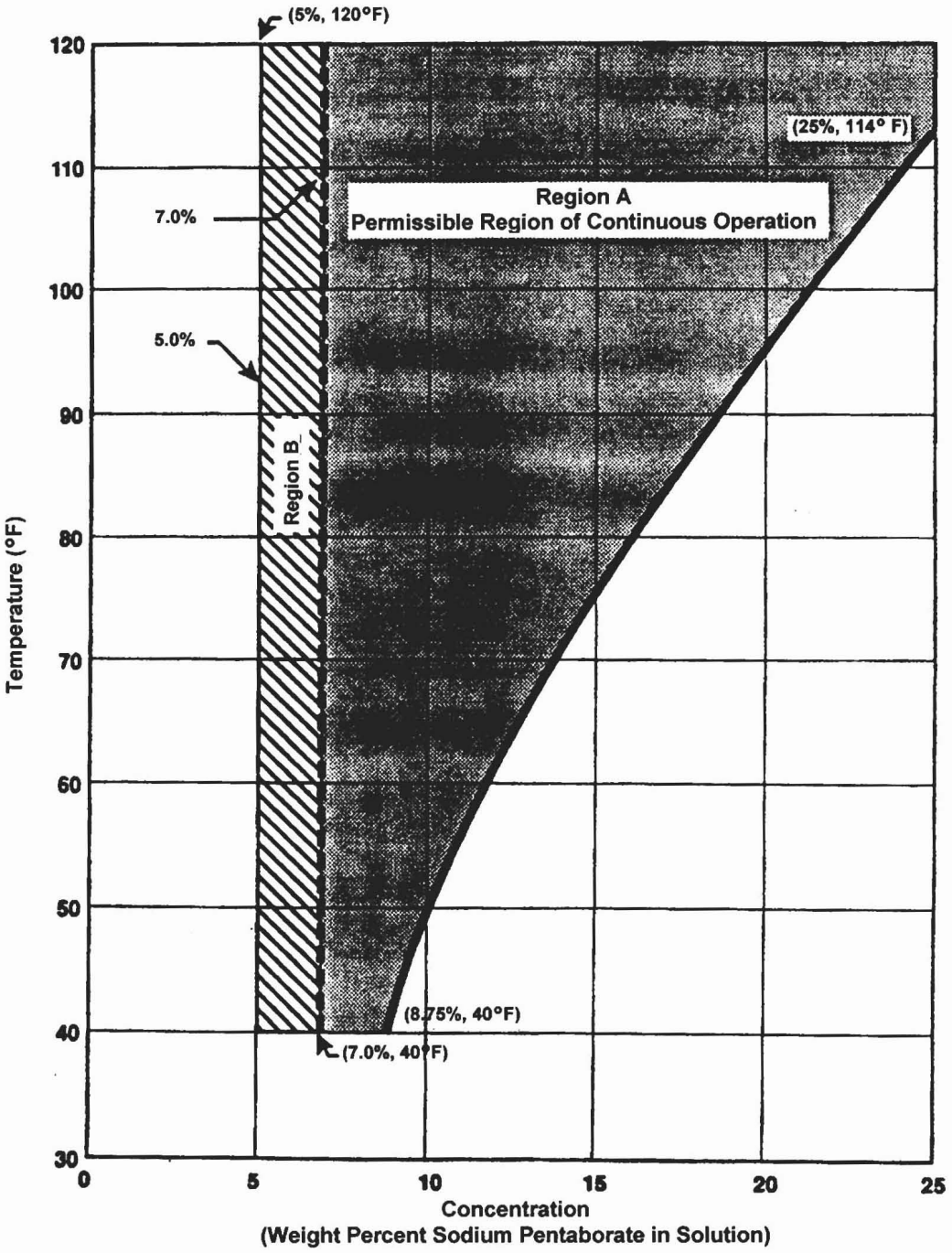

Figure 3.1.7-2 (page 1 of 1)
Sodium Pentaborate Solution Temperature
Versus Concentration Requirements

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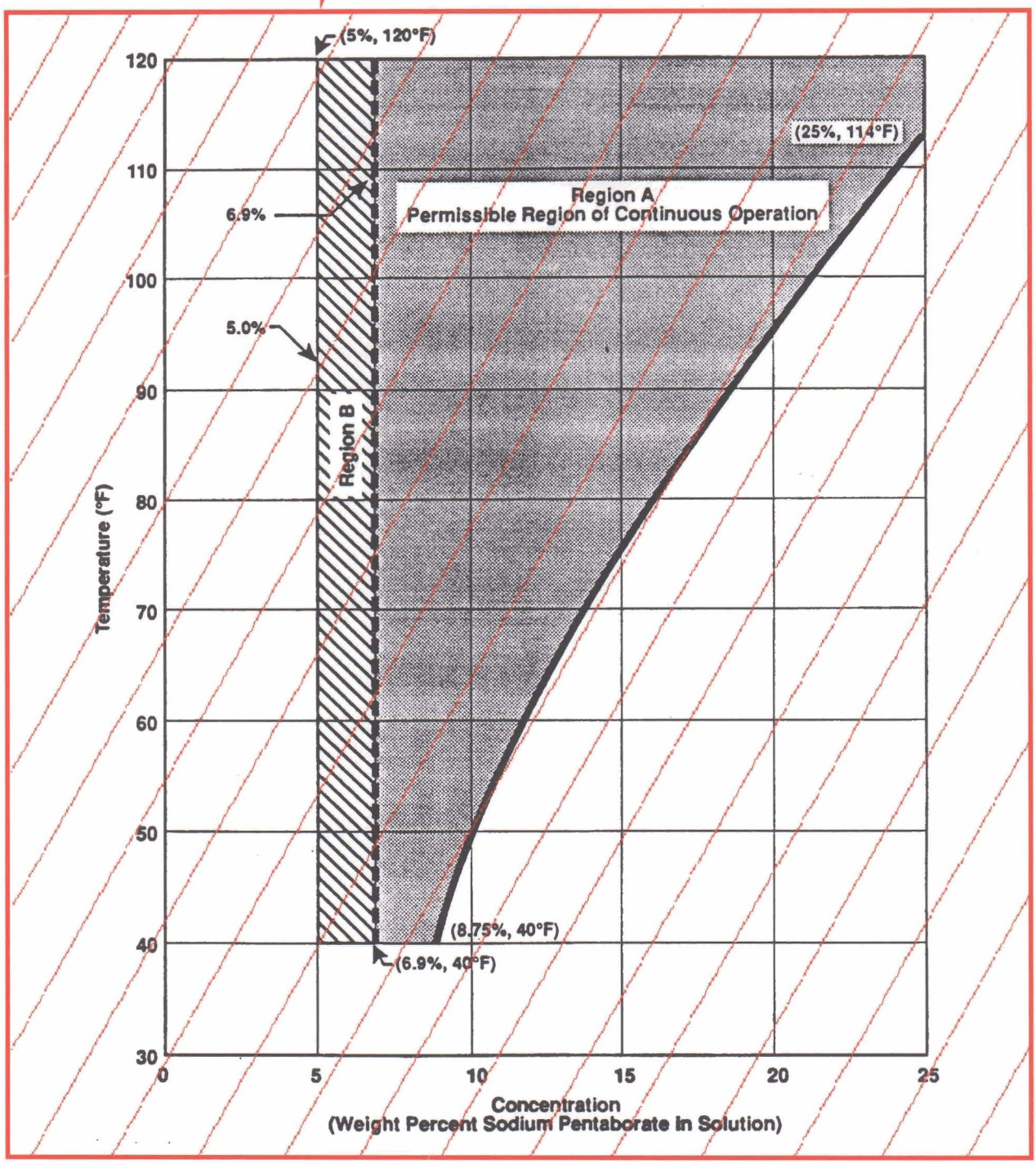

Figure 3.1.7-2 (page 1 of 1)
Sodium Pentaborate Solution Temperature
Versus Concentration Requirements

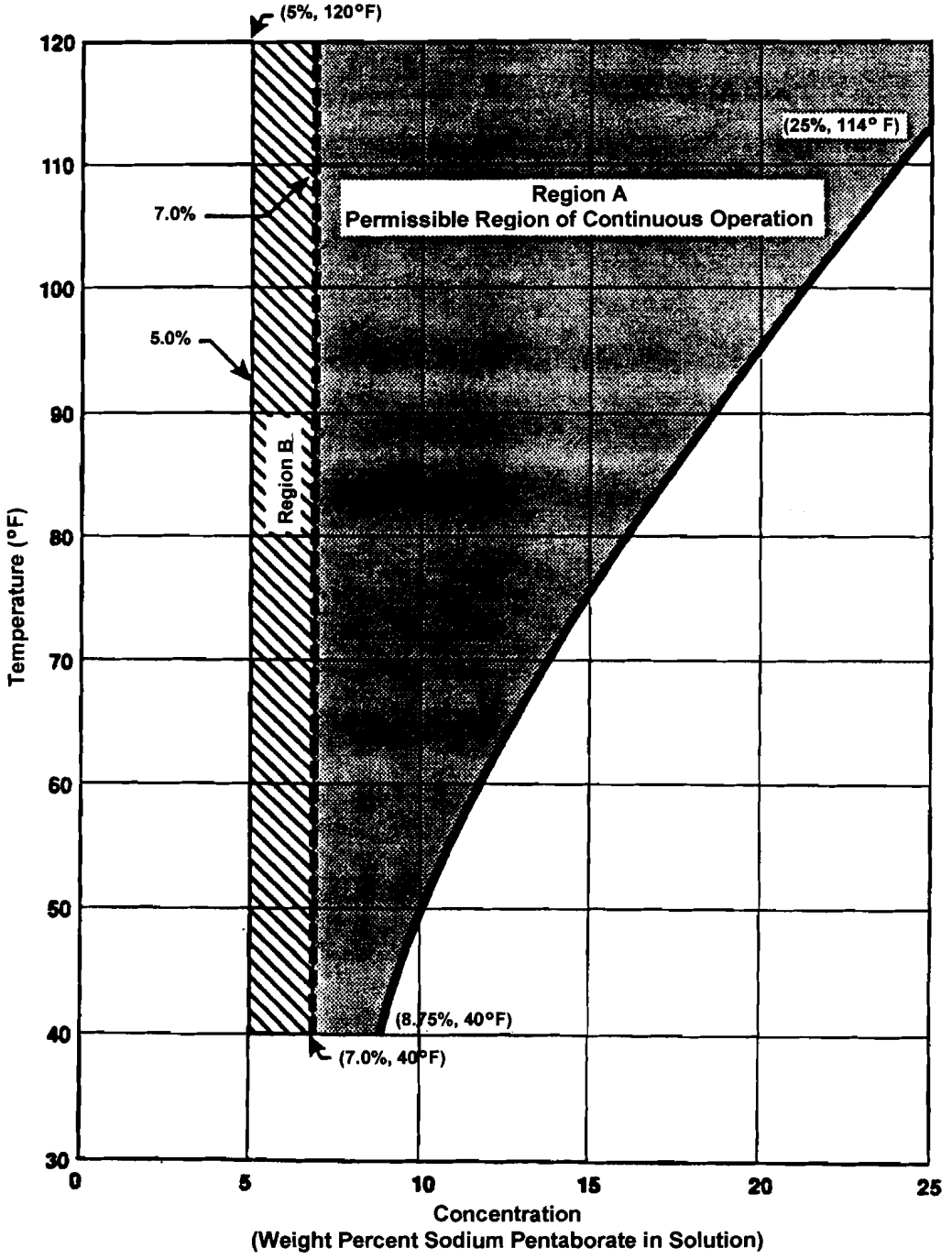

Figure 3.1.7-2 (page 1 of 1)
Sodium Pentaborate Solution Temperature
Versus Concentration Requirements