DEPARTMENT OF HEALTH & HUMAN SERVICES

Public Health Service

Indian Health Service
Rockville MD 20852

DATE: July 18, 2003

TO: For the Record

FROM: Director
Division of Facilities Planning and Construction

SUBJECT: Health Facilities Advisory Committee
4-1.3 Decision No. 42

4-1.3 Decision No. 42 – Determining the Need for Emergency/Alternative Power Sources

ISSUE:

Up-dated guidelines are needed for Indian Health Service (IHS) to assist in the determination of the need for Emergency/Alternative Power Sources at any of the Health Care or support facilities that are constructed or supported by IHS funding. This issue is essential because of the health care implications and the extreme isolation conditions that exist in Indian Country. Chapter 21-5, Electrical Design Standards, needs to be revised to allow the incorporation of Alternative Power Sources when the facility does not meet the Section 21-5.3.6 criteria but has circumstances such as isolation that would otherwise warrant inclusion of Alternative Power Sources. The revision of Chapter 21-5 will allow more flexibility for determining the need for Emergency/Alternative Power Sources within the IHS funded facilities program.

DECISION:

Chapter 21-5 will be revised to include revisions to paragraph 21-5.3.6 and new paragraphs 21-5.3.7, 21-5.3.8 and 21-5.3.9 per the attached recommendations. These revisions will be incorporated into the new chapter.

REFERENCE:

Copies of this manual can be obtained from the Division of Facilities Planning and Construction or form the IHS facilities web site.

José F. Cuzme

José F. Cuzme, P.E.
Chairman, HFAC Committee

Generator Workgroup Recommendations for Guideline 21-5 Modifications:

Recommendation Number 1:

Make the following changes to the Paragraph 21-5.3.6:

STANDBY SYSTEM **RISK CALCULATION FACTORS:**

(Note: standby power system is for 100% power backup of facility, unless approved as described below)

A = TYPE OF OCCUPANCY	INDEX
1 – Hospital	10
2 – Ambulatory Health Center	8
3 – Large Health Center greater than 920 GSM	8
4 – Alcohol / Substance Abuse Program Facility (ASAP)	5
5 – Health Clinic or Station 920 GSM or under	4
6 – Staff Residential Building	2
7 – Support or Other Facility	1

B = UTILITY VARIANCE HISTORY

(Variation at utility service transformer, typically 600 volt or less system)

1 - Greater than 10% voltage variation	10
2 – Between 6% to 9% voltage variation	6
3 – 0-5% voltage variation	0

C = PERSONS RESIDENT (OVERNIGHT) IN FACILITY

16 or greater	10
10 to 15	7
1 to 9	5

D = FULL TIME ON-SITE MAINTENANCE STAFF – (trained to maintain/ operate a generator)

Yes	5
No	0

E = UTILITY FEEDER TYPE

Single Radial Line Feed	10
Dual Line Feed	5
Grid Line Feed	1

F = DESIGNATED BY EMERGENCY MANAGEMENT PLAN FOR CONTINUOUS SERVICE (see NFPA 99, CHAPTER 12)

Yes	10
No	0

G = UTILITY POWER OUTAGE

(15 MINUTE OUTAGES PER YEAR – record of last 3-years from the Local Utility Co.)

None or 1	5
2 to 3	4
4 to 5	3
6 to 12	2
13 or Greater	1

Standby System Risk Calculation (SSRC)

SSRC Value = Risk Factors (A+B+C+D+E+F) / Risk Factor (G)

If the SSRC Value	On-Site Generator
Greater than 8	Standby Generators Justified
Between 5 to 8	Connection for Portable Generator Only
Less than 5	Generator NOT Justified

The SSRC value is only for a Standby Generator and not for an Emergency Generator selection. Note that criteria does not preclude a generator for peak shaving and other energy conservation reasons where the generator meets life cycle costing payback analysis of the federal energy policies using the NIST BLCC 5 calculation or latest edition thereof.

Recommendation Number 2:

Add the following:

21-5.3.7

Proposed health care facilities not meeting the Section 21-5.3.6 criteria for standby generator based on risk calculation may be authorized to include a standby generator in the facility Program of Requirements if supported by specific and compelling medical needs. In such cases, a detailed narrative report describing the medical issue(s) and the need for a standby generator prepared and endorsed by the Area Chief Medical Officer. The report shall be submitted to the Office of Public Health, HQE, for review. Final approval shall be made by the Director, OEHE, HQE.

Recommendation Number 3:

Add the following:

21.5.3.8

It is recognized that the business operating plans at existing IHS health care facilities may effectively require continuous electrical power. To address this need, standby generators may be permanently installed at these locations, subject to review and approval of the respective Area Facility Engineer. The Section 21-5.3.6 risk calculation/selection criteria are not applicable to generators installed at existing facilities to meet the requirements of the operating entity's business plan.

The generator and related equipment shall be sized, designed, and installed in accordance with the applicable Codes and Standards referenced in Section 21-5.1. The operating entity shall operate and maintain the generator in accordance with NFPA 110. In no case shall New Construction, Maintenance & Improvement, or Facility Support funding be used for the purchase or installation of the generator and related appurtenances.

Recommendation Number 4:

Revised paragraph: Standby Generator Risk Calculation Language

21.5.3.9

It shall be the policy of the Indian Health Service that the designer, in consultation with the Area Facility Engineer, shall determine the appropriate electrical loads, generator configuration and load growth for the standby power circuit. The entire building load may be used; however, not all building loads must necessarily be carried by the standby generator. Proper protection shall be provided by the use of transfer switches to insure the selected standby load matches the chosen generator. Examples of loads which could potentially be excluded include building chiller equipment (depending on climatic zone), elevators and parking lot lights. In all cases, the basis for the standby generator design shall be documented in the Operation and Maintenance Manuals for the facility.