Indian Programs Manual

Volume 1

Capital Facilities and Maintenance

Electric Power Supply and Distribution Systems

1.0 Purpose

1.1 This directive states the policy of the Department of Indian Affairs and Northern Development (DIAND) on the funding of electric power supply and distribution systems on reserves. The related levels of service standard (Appendix A), determined on a national basis, are the levels of service that DIAND is prepared to financially support to assist First Nations in providing community services comparable to the levels of service that would generally be available in non-native communities of similar size and circumstances.

1.2 This document supersedes DRM 10-7/43 Electrical Power Supply and Distribution, and PD 6.4 Level of Service Standards - Electrical Power Transmission and Distribution Systems.

2.0 Scope

2.1 This directive is applicable to DIAND staff involved in funding for electric power generation systems on reserves where electricity is not supplied by a provincial/ territorial or local regional/municipal electric power utility, and transmission lines, distribution systems, street lighting and user metering on reserves.

3.0 Authorities

3.1 Treasury Board Specific Authority considered through the 1990-91 Fall Multi-Year Operational Plan Review - Long Term Capital Plan and related Memorandum of Understanding and Annexes.

4.0 Issuing Authority

4.1 This directive is issued under the authority of the Assistant Deputy Minister, Socio-Economic Policy and Programming and Program Re-Design.

5.0 Definitions

5.1 Electric Power Supply and Distribution System: Includes electric power generating plants and associated infrastructure; transmission lines, distribution systems, street lighting and user metering.

6.0 Policy

6.1 Subject to the availability of funds and departmental priorities, DIAND provides funding assistance, through the capital and operation and maintenance programs, to First Nations for electric power supply and distribution systems in accordance with the levels of service outlined in Appendix A.

6.2 DIAND will maintain a national inventory of assets funded to provide electric power on reserves.

6.3 Construction, installation, operation and maintenance of on-reserve electric power supply and distribution systems will meet the requirements of the Canadian Electrical Code, relevant Canadian Standards Association (CSA) standards, and where applicable, the corresponding provincial/territorial/local electric power utility standards; as well as the relevant Canadian Fire Code standards and applicable Canadian environmental standards.

6.4 Where applicable, the provincial, territorial or local power utility may be requested to review drawings and specifications for a new on-site electric power supply and/or distribution system, and the newly constructed system itself, in order to ensure compliance with appropriate electric power utility standards.

6.5 The operation and maintenance of electric power supply and distribution systems will be in accordance with the *Operational and Funding Handbook for the Community Infrastructure and Education Facilities, Operations and Maintenance Program.*

6.6 On-site electric power supply systems will be staffed with qualified personnel, and have a system operation and maintenance plan. Where applicable, the provincial/ territorial/local power utility may be requested to carry out annual inspections to ensure that the system is being operated and maintained to the appropriate electric power utility standards.

6.7 Where appropriate, DIAND will assist First Nations to obtain necessary information for the installation, operation and maintenance of electric power supply systems.

7.0 Responsibilities

7.1 The DIAND Regional Director General or delegated representative will ensure that on-reserve electric power supply and distribution systems and the related funding agreements comply with this directive.

8.0 Enquiries

8.1 Matters related to interpretation of this directive are to be referred to the Director, Community Development Directorate, at DIAND headquarters.

8.2 Matters specifically related to the technical aspects of Appendix A may be referred to the Director General, Real Property Services for INAC, Public Works and Government Services, located at DIAND Headquarters.

8.3 Requests for additional copies should be addressed to the Corporate Information Management Directorate at Headquarters.

9.0 Appendices

A - Levels of Service Standard: Electric Power Supply and Distribution Systems

Appendix A

Levels of Service Standard: Electric Power Supply and Distribution Systems

1.0 Purpose

1.1 The levels of service standard, determined on a national basis, are the levels of service that the Department of Indian Affairs and Northern Development (DIAND) is prepared to financially support to assist First Nations in providing community services comparable to the levels of service that would generally be available in non-native communities of similar size and circumstances.

1.2 The levels of service standard provide a description of criteria which will be used to establish the level of funding.

2.0 Levels of Service Standard

2.1 Subject to the availability of funds and departmental priorities, DIAND will contribute funding to a First Nation for an electric power supply (generation) system on reserve, where electricity is not supplied by a provincial/territorial or local regional/ municipal electrical power utility; or for transmission and distribution systems delivering electric power to a reserve and on a reserve; and for user metering, and street lighting, on reserve.

2.2 On-reserve electric power supply (generation) systems are to be considered only when the respective provincial/territorial or local electric power utility will not provide the service, or when life-cycle cost comparisons indicate that service provided by the provincial/territorial/local electric power utility system would not be cost effective; and when the number of residences in the community is the higher of:

(a) 10 residences; or,

(b) the minimum number of residences required by the provincial/territorial/ local electric power utility for the installation of a community power system.

2.3 The electric power supply and distribution system will provide a level of service that will:

(a) meet 5-year projected community electrical demand needs (including provision of residential electrical service of 60 amps minimum at the service panel, calculated in accordance with the latest edition of the Canadian Electrical Code Part 1); and,

(b) be at least equivalent to the level of service provided by the provincial/ territorial/local electric power utility to neighbouring non-reserve communities which are of similar size.

3.0 General Criteria

3.1 Where applicable, the provincial/territorial or local electric power utility may be asked to recommend the level of service for on-reserve electric power supply (generation) and distribution systems, concerning the type of system, the size of service connections, and the limits* imposed on the use of power, which will be equivalent to the level of electrical services provided to non-reserve communities which are of similar size and in the same geographic area.

*For example, a maximum subsidized residential consumption limit (say, in the order of approximately 750 KWH per month per residence) would be appropriate to curtail use of electric space heating in homes, which is an inefficient use of energy when supplied by an on-site diesel electric power (generation) supply system. Residential users may be expected to pay the full cost, or a surcharge, for any electricity usage beyond this limit.

3.2 In general, user rates for electricity provided by a First Nation-owned or DIAND-owned on-reserve system or arrangement should be equivalent to the provincial/ territorial/local utility rates for a comparable level of service in non-native communities of similar size and circumstances, as follows:

(a) Residential users: a rate comparable to the rural grid rate charged by the applicable provincial/territorial/local electric power utility for an equivalent level of service in the same geographic area.

(b) Institutional, industrial and commercial users: a negotiated rate that is at least equal to the full cost of the electrical energy used, and may be higher to compensate for the lower rates paid by residential users.

(c) Infrastructure and band facilities: a rate based on the regional/local prevailing electric power utility rates.

The combination of rates in (a), (b) and (c) should ideally provide for cost recovery, that is, pay all life cycle operation and maintenance costs and eventual system replacement costs, of the on-reserve electric power supply and distribution system, notwithstanding that DIAND may subsidize annual O&M funding when justified.

Note: Where the provincial/territorial/local electric power utility owns and operates an off-reserve power (generation) supply and the First Nation or DIAND owns and operates the on-reserve distribution system, user rates should also factor in the life cycle

costs of operation, maintenance, and eventual replacement of the on-reserve distribution system.

3.3 An environmental assessment of the proposed project for an electric power supply and/or distribution system is required in accordance with the DIAND environmental guidelines based on the Canadian Environmental Assessment Act (CEAA). DIAND encourages the concept of sustainable development, and promotes compliance with all related environmental statutes, including the Canadian Environmental Protection Act (CEPA).

4.0 Financial and Technical Criteria

4.1 DIAND capital funding contributions for on-site electric power supply and distribution systems will be subject to life cycle cost benefit justification. Funding may be negotiated with the provincial/territorial/local electric power utility for cost shared projects. Institutional, industrial and commercial users on reserve are expected to contribute toward the capital cost of system capacity upgrades and expansions, in proportion to their individual additional capacity requirements.

4.2 Electric power supply and distribution systems will be designed for cost-efficient operation and maintenance.

4.3 Funding arrangement terms and conditions for DIAND capital and O&M funding for electric power supply and distribution systems will comply with DIAND funding policies.

4.4 DIAND O&M funding contributions are intended to make up the funding shortfall between the cost of electricity and the revenues collected from user rates described in Section 4.2. Such contributions will be based on annual audited records of actual electricity costs.

4.5 A “power agreement” with the provincial/territorial/local electric power utility should be used in funding agreements for joint cost-shared electric power supply projects. (A negotiated power agreement would establish specific agreement on matters such as: electricity rates; points of delivery for receiving electric power on reserve; transmission line easements on reserve; electric power quality and reliability factors, e.g. management of power outages or reduced voltage/current situations; cooperative arrangements for determining and updating the community’s 5-year peak electrical load projections, to forecast electricity rates and possible future system expansion and life cycle costs; and, arrangements for the electric power utility to conduct or assist with inspections, operation and maintenance of the on-reserve electric power supply and distribution systems.)

4.6 Community 5-year peak electrical load projections should be updated regularly as required for appropriate sizing of an electric power supply and distribution system, or as required for the negotiation or renewal of power agreements with the provincial/

territorial/local electric power utility. The 5-year projections require electrical load and consumption data from the electric power utility, and community growth and development data from the First Nation.

4.7 Quality and reliability of power should be adequate to meet the year-round electrical loads of the on-reserve community. (Dedicated standby power will be planned separately if required for community health and safety facilities, such as fire, police, medical, communications, or airfield systems).