

CLEAN ENVIRONMENT COMMISSION

REPORT ON

MCCAIN FOODS LIMITED

PORTAGE LA PRAIRIE, MANITOBA

SEPTEMBER 20, 1988

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REPORT ON HEARING  
MCCAIN FOODS LIMITED  
PORTAGE LA PRAIRIE, MANITOBA

BACKGROUND

McCain Foods Ltd., in May 1977, registered a proposal with the Environment Department for a potato processing plant to be located in an Industrial Park of the City of Portage la Prairie (figures 1 & 2). Construction of the plant started in 1977 and the plant commenced operation in January 1979. The plant is serviced by both road and rail facilities and frozen food products are received and shipped by both road and rail in refrigerated motor transports and railway cars. The original plant operation produced frozen french fried potatoes and dehydrated and frozen potato flakes. The plant also serves as a receiving, storage and distribution facility for the supply of McCain frozen food products to Western Canada.

The McCain plant site is located at the northern border of an industrial park in the City of Portage la Prairie. Directly across Lincoln Avenue is a subdivision of homes located in the Rural Municipality of Portage la Prairie known as the Peony Farm residential development. It is the close proximity of the McCain plant to the residents that has resulted in objections by some Peony Farm residents of to noise and odor emanating from the plant.

Peony Farm subdivision plans were registered by the Rural Municipality of Portage la Prairie in 1959 and again in 1964. Home construction is reported to have begun in 1960 with most of the homes completed during the next two decades prior to the construction of the McCain plant. The Portage la Prairie industrial park designation by-law was not passed until 1972.

In March 1979, a number of Peony Farm residents (approximately 60) signed a petition requesting that obnoxious odours from the McCain operation be reduced or eliminated. In response to the objections, the Clean Environment Commission scheduled a hearing in Portage la Prairie for May 28, 1979 before issuing a control order on the McCain operation.

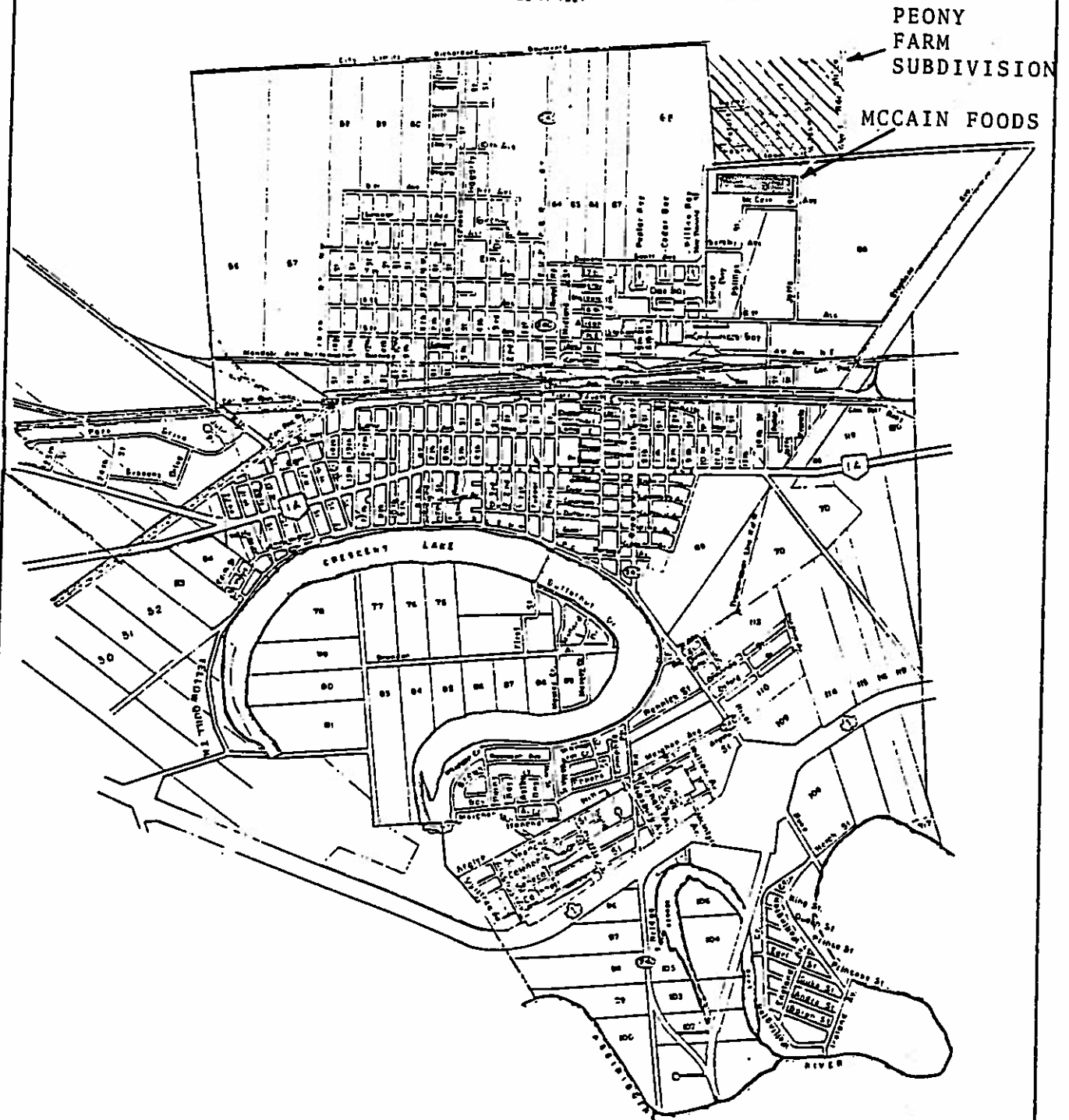
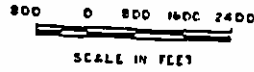
On May 14, 1979 the City of Portage la Prairie requested that the Commission postpone its scheduled hearing to allow more time for the monitoring of both noise and odor under various climatic and atmospheric conditions and during both daylight and nighttime periods. The Commission agreed to this request and the hearing was postponed. The Commission rescheduled the hearing for July 23, 1979.

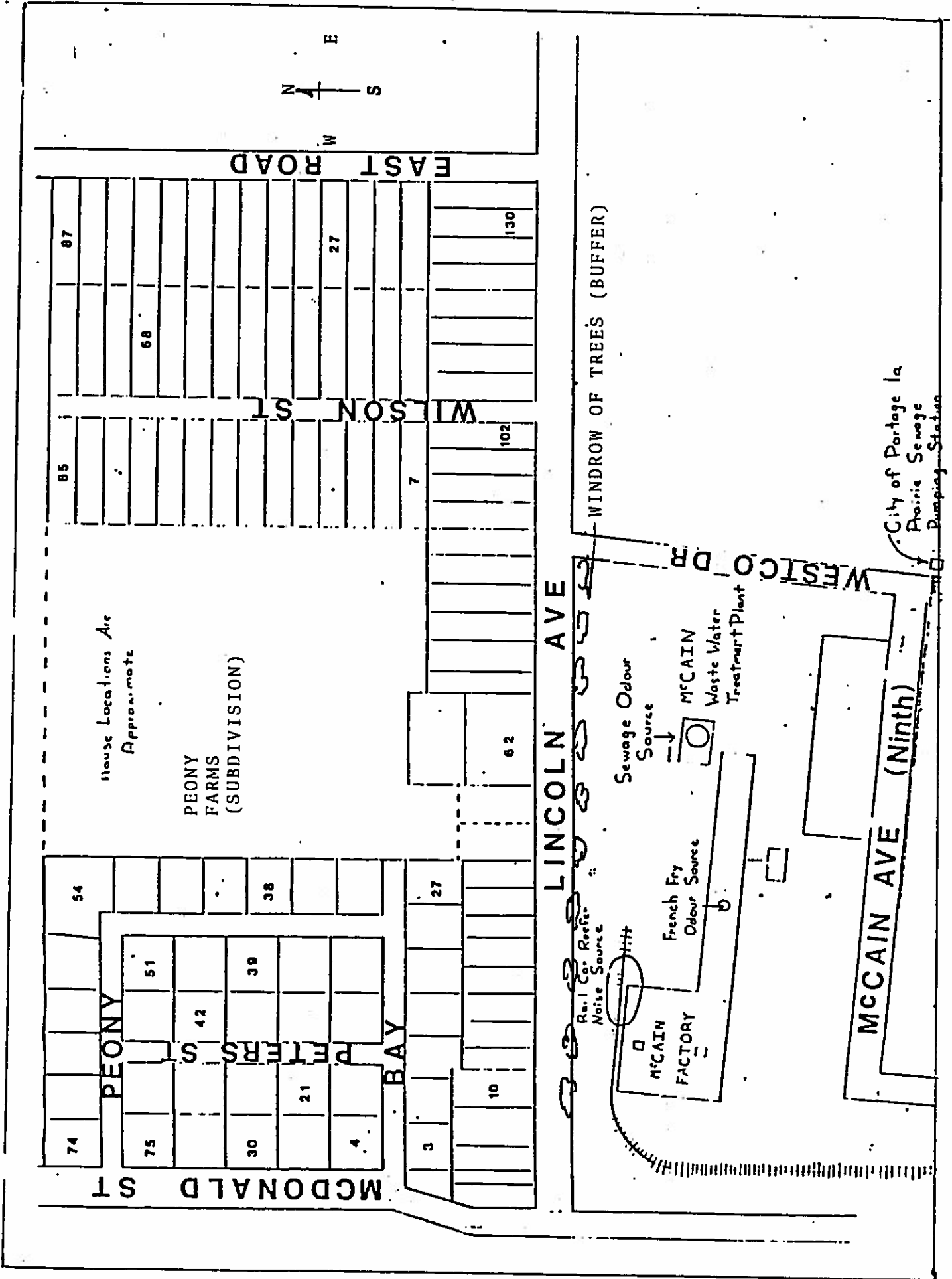
# CITY OF PORTAGE LA PRAIRIE

FIGURE 1

REVISED - JULY 1966

PROVINCE OF MANITOBA  
DEPARTMENT OF HIGHWAYS AND TRANSPORTATION  
DESIGN OFFICE  
WINNIPEG, JAN. 1979





Prior to this hearing, Mr. Dave Cameron, then Plant Engineer for McCain's, under date of July 10, 1979, had advised the Commission that the following steps were being taken to minimize the adverse impact of the plant on Peony Farm residents:

- "(a) A tree barrier has been transplanted along the north side of the rail and truck dock area." (along the road allowance as a buffer)
- "(b) Scrubbing equipment has been ordered and will be installed to remove the odor from oven fryer stack discharge. Based on promised equipment deliveries, we would hope to have the system operational by the mid of September, 1979".

The City had again requested the Commission to postpone the hearing — this time to allow the Company time to install the proposed odor control equipment and for the monitoring of results prior to a hearing. However, the Commission decided that a public airing of the problem and developments, without further delay, would be useful and appropriate and proceeded to hold the hearing on July 23, 1979. By this time persons from a total of 86 of the approximately 125 Peony Farm residences had signed a petition objecting to the odors from McCains. They pointed out that by 1977, prior to the establishment of the McCain plant, the Peony Farm population had reached a level of approximately 350 people.

#### Hearing, July 23, 1979

At the hearing, the report of the Environmental Management Division on the McCain operation, dated June 29, 1979, included the results of odor and noise monitoring. This monitoring identified two different and distinct odors produced by McCain operations: (a) odor from the french frying of potatoes and (b) odors from the industrial wastewater treatment operation. The monitoring report identified odors from McCain operations in the Peony Farm area above normal residential area objective levels and recommended that normal residential odor limits (2 units) be placed on the McCain operation. The report concluded that although sound levels in the Peony Farm area were significantly increased by the McCain operation, the measured sound levels were below the Department's normal sound level objectives for a residential area. However, the report recommended that refrigerated trucks with refrigeration units operating be parked further from Lincoln Avenue after loading (this was subsequently done). Subsequent to the writing of the environmental report, the Environmental Management Division did some additional monitoring of noise, which showed that the nighttime residential noise limits recommended for McCains would likely be exceeded by the plant operation.

At the hearing, the Mayor of Portage la Prairie took the position that the Peony Farm residents had previously been given an opportunity to object when the area was re-zoned by the City as an industrial park in 1972. At that time no objections had been received by the City. He also stated his belief that most of the current residents of Peony Farm had moved there after the industrial park had been designated.

The City stated that a 50 foot "Buffer Zone" had been established between the Industrial Park and Lincoln Avenue. This buffer zone had been reduced by the City to a width of 50 feet from an originally designated width of 100 feet. The City again requested that the Commission not prescribe odor limits in an order prior to installation of the proposed odor control equipment and subsequent monitoring of results.

The Commission adjourned the hearing and it was not reconvened until May 5, 1980.

In the meantime the City, through its solicitor, Mr. Graham Haig, had reported to the Commission in January, 1980, that the proposed odor control equipment had been installed by McCains but that monitoring results by the City's engineering consultants, M. M. Dillon Ltd., had indicated that the scrubber was "either improperly installed or, if properly installed, functioning unsatisfactorily." He also advised that subsequently the scrubber had been removed and that he understood that it would be replaced by a satisfactory unit.

#### Hearing, May 5, 1980

At this hearing evidence was given that the odor control equipment had not achieved appreciable reduction in odor emissions. A number of Peony Farm residents complained of odor, noise, and nighttime lighting levels coming from the McCain plant. McCain representatives advised that the parking of refrigerated truck units at a distance from Lincoln Avenue had been implemented which should result in noise reduction in the Peony Farm area.

The Environment Department report at this hearing again recommended the application of what might be termed "standard" or "normal" residential limits for both odor and noise in the order to regulate the McCain operation, i.e., 2 odor units in a residential area, 7 odor units in an industrial area, 60 dBA daytime and 50 dBA nighttime noise level limits in a residential area.

Following this hearing, the Commission issued its control order No. 886 on June 19, 1980 setting the normal day and night residential area limits for noise but stipulating only a normal industrial area limit for odor emissions, i.e., seven odor units at any point beyond the plant property line.

In 1985, McCain Foods Limited undertook an alteration of their plant operation to accommodate an additional product line of scalloped potatoes. Under the planned alterations, neither the capacity of the plant nor its emissions of odor and noise would be increased; however, in accordance with the terms of the Clean Environment Act the Environment Department required

McCain to register a new proposal for a new order of the Commission. On advertisement of the proposal, as required by the Act, the Commission received renewed expression of concern from citizens and accordingly called a hearing prior to consideration of a new order. This hearing was held on July 17, 1986.

Hearing, July 17, 1986

At this hearing monitoring by the Department (although only carried out in the daytime) in conjunction with other evidence of plant operation led to the conclusion that the McCain plant was in violation of the residential area noise limits and probably had been ever service the order was first issued. Peony Farm residents renewed their request for both odor and noise reduction. McCain representatives stated that, in their view, any substantial odor reduction would be difficult and prohibitively costly but that additional measures might be employed for noise reduction, the chief among these being the provision of electric power to refrigerate railway cars to substitute for the prevailing use of power generated by railway car diesel engines. The point was made that daytime and nighttime noise emissions from the plant operation are essentially identical. The Environment Department continued to recommend the application of "normal" residential limits for both odor and noise.

The Commission's new Order No. 1104, issued following the hearing on September 26, 1986, raised the nighttime noise level limit to the higher daytime limit for a period of approximately one year, following which the formerly imposed "residential area" nighttime limit would re-apply. This was done by the Commission to give the Company time to effect measures to reduce noise omissions to the standard residential area limits for day and night as recommended by the Environment Department. The Commission did not alter the single "industrial area" odor limit applied in the previous order.

The Commission also stipulated that the order be reviewed in December of 1987, approximately 14 months after the order was issued. The clause of the order requiring review stated the following purposes for the review:

- \*(a) reviewing the progress made by the applicant in the development of ways and means of controlling the emission of odors and noise from the said operation, including noise from parked and loading refrigerator trucks and refrigerator railway cars;
- (b) considering the possible variation of clause 4 of this order to prescribe limits, terms and conditions applicable to the control of odors when measured in a residential area, and such other variations as may be appropriate in the circumstances that prevail at that time."



## HEARING

### A. December 10, 1987

The current hearing under consideration was held to review Order No. 1104, issued September 26, 1986, which required that the Commission review the order during December, 1987.

At this hearing Mr. Dave Cameron, plant manager for McCain Foods, outlined plant improvements undertaken by the Company in the past year designed to reduce noise and odor emissions from the plant.

Equipment had been installed to provide electric power for the refrigeration compressers in railway cars to substitute for diesel generated power for refrigeration while loading, unloading, or standing on the rail line behind the McCain plant building and across Lincoln Avenue from the Peony Farm residential subdivision. The diesel generator units had been the source of significant noise.

Plant odor sources had been studied as follows: (a) the wastewater treatment plant, (b) the freezing tunnel area, and (c) the potato fryer. Work was underway to increase the efficiency of solids and sludge removal from the wastewater treatment operation which the Company expected would result in less odor. Improvement to the plant freezing operation within the previous year had eliminated approximately half the exhaust system thus reducing odors from that source. With regard to the fryer odor, it was reported that one McCain plant, located in France, had installed exhaust recovery equipment, for energy recovery purposes, which also resulted in the removal of odor emissions as a side benefit. This installation had been undertaken as a cost-efficient, energy saving measure. A similar installation at the Portage la Prairie plant was estimated to cost in the order of a half million dollars and could not be justified.

Mr. Cameron had not determined the results of the latest improvements, in terms of odor and noise reduction, and was awaiting disclosure of the results of monitoring undertaken by the Environment Department, which were to be included in the Environment Department's report. These results had not been made available before the hearing, mainly because monitoring had not been conducted until just prior to the hearing.

The Environment Department report, presented by Mr. Ken Wait, stated that a recent noise monitoring survey, although conducted only in the daytime, indicated that the recommended standard nighttime noise limits were not being met (day and night noise emissions from the plant are essentially the same). Also, the recommended standard residential odor limits were exceeded; however, the plant operation was in compliance with the "industrial" limits, as ordered. The recommended standard nighttime noise limits for a residential area could be met only with additional modifications to the plant processes or buildings and the recommended standard odor emissions for residential areas could be met only with the installation of additional odor emission control equipment on major emission sources (mainly the potato fryer).

The report recommended that standard departmental guidelines be imposed for residential odor and noise control limits in a varied order of the Commission.

The Commission chairperson pointed out that a professional consultant's opinion and advice regarding possible noise and odor reduction had been expected in response to the Commission's requirement in its current Order (Clause 10) for additional study of odor and noise reduction possibilities but this had not be provided.

Mr. Strachan, Chief of Environmental Control Programs for the Environment Department stated that he had discussed with McCain representatives the most logical areas for achieving additional reduction of noise and odour. He had agreed that the Company seemed to be addressing the most promising areas for noise and odor reduction and that the improvements undertaken were logical ones to achieve this; however, the decision to use only in-house resources for the study and not to engage a professional engineering consultant, for the report to the Environmental Management Division and the Commission, was the Company's own choice and had not been agreed to by the Environmental Management Division. Mr. Strachan explained that McCain should not expect more departmental input into studies required of the Company and that while the Division would do its best to respond to requests for monitoring support by industry, it had not received any such requests from the Company.

In response Mr. Cameron indicated that it had been his expectation that monitoring support would have been provided by the Department during the previous 12 month period to help the Company determine the effectiveness of the improvements that had been undertaken.

A representative of the Peony Farm residents stated that no appreciable change in either noise or odor levels had been detected since the last hearing.

Mr. Cameron stated that equipment had been received for the modification of sludge removal equipment in the wastewater treatment facilities and that its installation should result in some further odor reduction from this source.

Mr. Cameron requested that the hearing be adjourned in view of the fact that the results of monitoring by the Environment Department had become available only at the hearing with no time to consider their implications. The new equipment, now on site, to improve the sewage treatment operation would be installed in February. The hearing could be reconvened after sufficient time to monitor the results of this. The Company would also use this time to consider and report on any further feasible plant improvements in the light of the Environment Department monitoring report and their current recommendations for odor and noise limits.

The Commission adjourned the hearing with the intention of reconvening some time in March. During this month the Company indicated that it was prepared for re-convention; however, a planned re-convention late in March was postponed when the new Environment Act was scheduled for proclamation at month end. At the end of April the Commission received a request from the Deputy Minister of the Environment Department to hold a hearing under the new Act to review the existing order and to provide a report with recommendations on the matter under consideration in accordance with this Act.

After again checking with the Company and the Environment Department with regard to further study, monitoring, and the involvement of the Company's consultant, the Commission re-convened the adjourned hearing on June 23, 1988. The hearing was scheduled in the evening, to facilitate participation by Peony Farm residents at the request of a residents' spokesman who was contacted with regard to the holding of the hearing.

#### B. June 21, 1988

##### The McCain Foods Ltd. Position

The Company was represented by Mr. Dave Cameron, manager of the Portage la Prairie plant, and Mr. G.R. Bliss, vice-president of engineering for McCain Foods Ltd. The Company also had in attendance Mr. Gordon Guest, a professional engineer with Wardrop Engineering Consultants retained by the Company.

The consultant's report on the monitoring of both noise and odor, undertaken since the December 10th hearing date, made clear the fact that notwithstanding all noise reduction measures that had been implemented, noise emission levels from the plant exceed the Departmental recommended nighttime level of 50 dBA, even under conditions of minimal plant operations. However, improvements undertaken by the Company had successfully reduced the maximum noise emission level which was now below the Departmental recommended daytime limit of 60 dBA. The point was again made that daytime and nighttime operations at the plant, with regard to potential noise emissions, are essentially the same.

The previously undertaken plant improvements designed to reduce odor emissions in the exhaust from the pre-cooled tunnel operation and the wastewater treatment operation plus the additional improvements to the wastewater treatment operation, completed in February and March 1988, had reduced odor emissions, particularly with regard to the more objectionable odor emanating from the wastewater treatment operation. However, the recent monitoring by the consultant had confirmed that the residential odor limit recommended by the Department (2 odor units) could not be met.

Odor scrubbing equipment, similar to that originally installed in the new Portage la Prairie plant, had also been installed in another McCain plant located in Australia. Both of these systems had been removed as they proved to be ineffective for odor control. An estimated 2 million dollars expenditure would be required to make a further significant reduction in odor emissions (to a level in the order of 2 odor units). Consultant's fees to provide detailed estimates of the ultimate cost would also be substantial.

The Company's position was that it had appropriately located its new plant in a designated industrial park, with the approval of the City of Portage la Prairie. It was the Company's understanding and belief that under such circumstances it would logically be required to meet normal industrial limits for emissions. Despite this, since operation of the new plant commenced in 1979, the Company has made a number of improvements and spent significant time, effort, and money in attempting to rectify the problem and alleviate the effects of odor and noise emissions that have aggravated the municipally based residential neighbours located north of the plant. The Company now considers that additional major action, which would be necessary to further reduce odor and noise levels, is neither reasonable nor economically feasible.

#### The City of Portage la Prairie Position

Alderman Darlene Hamm represented the City.

With regard to questions raised about the possible construction of a berm or noise barrier along the south side of Lincoln Avenue between the McCain plant and the Peony Farm subdivision, Alderman Hamm stated that although referred to in some previous correspondence, the construction of a sound barrier had not been written into any agreement regarding the industrial park. There might have been discussions about a sound barrier as a part of Phase 2 of the general industrial park development but nothing specific was ever decided. However, the City had planted two rows of trees on the designated buffer strip between the McCain plant and Lincoln Avenue. Unfortunately, mowing practices had damaged the growth of the first row of trees but the second row was developing nicely. With changes to mowing practices now implemented, the first row of trees should recover.

Alderman Hamm also noted that the City's industrial wastewater lift station servicing the McCain plant had recently received improvement at substantial cost, which should reduce odor from that source.

Alderman Hamm stated that most industrial operations involve the emission of noise and odors. She supported the McCain position and requested that realistic limits for odor and noise be established by the Commission in consideration of both the McCain Foods Ltd. plant and the surrounding area.

In answer to a question, the Alderman stated that City Council has recently established a task force to look into the establishment of a joint planning district, which would include the surrounding rural municipalities. This should help to avoid inter-municipal land use conflicts that might otherwise develop in the future.

### The Environment Department Position

Mr. Larry Strachan, Chief of Environmental Control Programs represented the Environment Department. Mr. Strachan confirmed that the recent monitoring conducted by the Company's consultant was done according to acceptable standards and produced comparable results to previous Departmental monitoring work. Monitoring had confirmed that the present McCain plant, including recent and past improvements, is unable to comply with odor limits and nighttime noise limits recommended by the Department, although a change in the character of the odour had been observed, probably due to a reduction in the odor from the wastewater plant operation resulting from improvements made to that system. The recommendations of the Environment Department with regard to odor and noise limits remained unchanged from those given on December 10, 1987.

Mr. Strachan noted that no detailed description of possible further mitigation measures had been submitted by the Company. Mr. Strachan agreed that the cost of such measures would be substantial.

Mr. Strachan further noted, with regard to the discussion that had taken place during the hearing about a possible noise barrier between the McCain plant and Lincoln Avenue, that before any such undertaking might be implemented there should be serious consideration given to the possible effectiveness of such measures.

### Peony Farm Residents' Position

Prior to the setting of the hearing time and date, a representative of the Peony Farm residents, who had played an active part in previous hearings, was contacted by the Commission for the purpose of establishing a time for the hearing most favourable for the convenience of participation by the residents of the Peony Farm subdivision. At the suggestion of this spokesperson, the Commission called an evening hearing for 7:00 p.m., June 23rd, rather than its more usual morning commencement to facilitate the fullest participation of working citizens. A number of Peony Farm residents identified by record of attendance at previous hearings were individually notified by letter of the hearing time and date. The hearing was also advertised in the Portage la Prairie and Winnipeg newspapers. Despite this, there was no Peony Farm resident representation at the hearing and therefore no position can be reported.

## COMMISSION FINDINGS AND OBSERVATIONS

### 1. Citizen Concerns

- (a) Ever since the McCain Foods Limited plant commenced operations in an industrial park of the City of Portage la Prairie located immediately across Lincoln Avenue from the Peony Farm residential subdivision previously established in the Rural Municipality of Portage la Prairie, the residents of the sub-division have complained of odor and noise emissions from the plant.
- (b) McCain Foods Ltd. was made aware of the problem by citizen complaints and Commission hearings which have occurred on several occasions in the intervening time period. The Company recognized the problems created and, although located in an industrially zoned property, attempted to reduce the odor and noise emission by undertaking various plant improvements and modifications over the years. The Commission believes that some success has been achieved in this regard, that reasonable efforts at emission reduction have been undertaken, and that requirements to further reduce odour and noise would be an inappropriate imposition on the Company, at this time, in consideration of major cost expenditures, which would be required to achieve further significant reductions, and in view of an evident decline in interest and objection on the part of Peony Farm residents.
- (c) The interest of the citizens of the Peony Farm subdivision in the problems of noise and odor has declined since the plant operation commenced, as evidenced by the steady fall-off of participation in the series of Clean Environment Commission hearings that have occurred over the years from 1979 to the present time.

At the initial session of this hearing on December 10, 1987, there were only one or two representatives of the Peony Farm residents present, one of whom, in a brief presentation stated his perception that odor and noise levels had not appreciably declined following improvements to the plant operation recently undertaken by the Company.

At the final session on June 10, there was no participation by Peony Farm residents despite the fact that contact was made with a Peony Farm representative prior to setting the hearing time and date, that an evening hearing was held by the Commission as suggested to facilitate citizen participation, and that individual notification was sent to some Peony Farm residents and the Rural Municipality of Portage la Prairie. As well as advertisement of the hearing was placed in the Portage la Prairie and Winnipeg newspapers. It is possible that additional individual notification by the Commission to recorded attendees at prior hearings from the Peony Farm subdivision would have generated some additional interest and participation.

This decline in interest may be due in part to a reduction in noise and odor as a result of the improvements to the plant operation undertaken by the Company over the intervening years. It is possible that residents have become accustomed to the continuing nuisance of odor and noise over time and hence are less sensitive to and less aggravated by the problem. It is also possible that their confidence in the ability of the regulatory process to effect change on their behalf has declined with the series of hearings held over a number of years or that they do not wish to further speak out in opposition to a large Company whose presence is obviously of significant economic benefit to the general community.

In this regard the Commission can only conclude from the lack of representation at the latest hearing, that the problem is no longer an important concern; however, the Commission believes that there continue to be levels of noise and odor adversely impacting the Peony Farm subdivision, as evidenced by the recent monitoring data.

2. Enforcement

For a period of several years since the first Clean Environment Commission Order No. 886 was issued in 1980 until the second Order No. 1104 was issued in 1986 the regulated nighttime noise emission limit from the McCain operation was undoubtedly exceeded on a regular basis; however, no evidence was given that enforcement action was taken by the Environment Department.

3. City of Portage la Prairie

- (a) The City of Portage la Prairie had some preliminary discussion about the possible erection of a sound barrier between the McCain plant and Lincoln Avenue most likely as part of a possible Phase II of the industrial park development; however, no firm decisions in this regard were reached.

The City has planted two rows of trees in the established buffer zone and is actively looking after their development. The efficacy of this undertaking for any significant odor or noise reduction in the Peony Farm subdivision is considered by the Commission to be extremely doubtful. However, the trees will improve the general aesthetics of the area.

- (b) In retrospect, it is unfortunate that the Peony Farm municipal housing development should have been located adjacent to a City area that was later to become an industrial park and that an industry with potential for noise and odor emissions should then occupy the industrial site immediately across Lincoln Avenue from the residential development. A joint municipal planning scheme involving the City and the Rural Municipality of Portage la Prairie might well have prevented the present problem from occurring. In this regard, it was encouraging to learn at this hearing that the City of Portage la Prairie has recently appointed a task force to consider the establishment of a planning district which may include surrounding rural municipalities.



## RECOMMENDATIONS

### Odors

Odors arise from 3 sources in the plant — french fry odors from the friers, odors from the cooling tunnel and hydrogen sulphide from the wastewater treatment plant operation. Measures have been taken to reduce these odors; however, the most recent odor surveys have shown that residential odor guidelines of 2 odor units can not be consistently met.

The Commission recommends that the Company be required to limit the emission of odor from the plant operation to such an extent that the odor, when sampled at any point of impingement beyond the property line of the plant operation is not detectable when the odorous air is diluted with six equal volumes of odor-free air.

### Noise

Noise has been the other important issue as it relates to the plant and its location to the nearby Peony Farm development. Guidelines of 60 dBA for noise level measured in a residential area during the daytime hours can be met. There is little or no amelioration of this noise by plant operations during the nighttime hours.

The Commission recommends that the 60 dBA sound level limit contained in the present licence as a daytime limit be stipulated for both daytime and nighttime hours.

### Other

The Commission is concerned that neither the odor nor the noise objectives and guidelines for air pollutants in residential areas in Manitoba can currently be met by McCain Foods Limited and believes that the residents of the Peony Farm subdivision will continue to find the present level of emissions to be a source of irritation.

The guidelines prescribe an odor limit of 2 units for a residential zone and a sound limit in a residential area leased on an hourly equivalent sound level of 50 dBA during nighttime hours.

The Commission recommends that the Company should continue to review its equipment and operations and to research new technological developments which might enable the Company to achieve the objective levels of emission for odor and noise. The Company should be required to submit a report, in this regard, to the Environment Department when requested to do so by the Director.