

enough to call for Alert or Emergency action, corridors of the region shall be defined depending upon meteorological factors, emission inventory data, and mathematical simulation modeling. Alerts or Emergencies shall then be declared for one or more of these individual corridors."

Rule 406 requires that the Agency Director or his designated representative shall declare an Air Pollution Watch when:

- (1) An Air Stagnation Advisory is received for any area within the State, or
- (2) Any two-hour average of pollutant or product specified by Rule 406(b) of this Part at any monitoring station is equal to or greater than any Watch level and the official National Weather Service forecast for the next twenty-four hours does not indicate substantial improvement of conditions which cause atmospheric stagnation. (Emphasis supplied) The two hour Watch level for ozone is 0.07 ppm.

When conditions for initiating a Watch have been met, Rule 406(c) requires the Agency to advise and warn governmental agencies, industry and the public of the air quality conditions. Facilities which require significant lead time are to be notified by the Agency (or a local agency designated by the Agency) that they may soon be required to take action to reduce emissions. The public is also to be advised that certain actions may soon be required of them to reduce emissions and that those persons suffering from respiratory or heart conditions should take appropriate precautions.

When a Watch has been in effect for four hours, and any Yellow Alert level at any monitoring station is equaled or exceeded; and the National Weather Service forecast for the next twelve hours does not indicate substantial improvement of conditions which cause atmospheric stagnation, the Director or his designated representative is required to declare a Yellow Alert pursuant to Rule 407. The one hour Yellow Alert level for ozone is 0.10 ppm. Rule 407(c) defines what actions the Agency and certain emission sources must take during a Yellow Alert. The public would be requested to avoid unnecessary use of automobiles and electricity; power generating stations and large facilities would reduce emissions and some manufacturing facilities would curtail production.

The parties stipulated that the Joliet monitoring station and the Kenwood and Lindblom stations (Chicago) detected the following ozone levels at the times specified:

Time	July 24, 1974			July 26, 1974	
	Ozone, ppm			Ozone, ppm	
	Joliet	Kenwood	Lindblom	Kenwood	Lindblom
0100	0.021	0.024	0.002	0.011	0.001
0200	0.018	0.055	0.021	0.009	0.002
0300	0.017			0.012	0.002
0400	0.016			0.020	0.003
0500	0.016			0.023	0.003
0600	0.020			0.022	0.003
0700	0.023	0.004	0.001	0.007	0.002
0800	0.028	0.004	0.002	0.010	0.003
0900	0.036	0.035	0.044	0.015	0.012
1000	0.053	0.068	0.116	0.045	0.033
1100	0.077	0.052	0.123	0.083	--
1200	0.094	0.030	0.164	0.130	0.125
1300	0.093	0.080	0.095	0.187	0.139
1400	0.102	0.071	0.071	0.208	0.165
1500	0.107			0.135	0.168
1600		0.071	0.086	0.143	0.162
1700		0.059	0.083	0.139	0.148
1800		0.072	0.075	0.122	0.138
1900		0.077	0.068	0.152	0.126
2000		0.062	0.054	0.123	0.095
2100		0.061	0.037	0.073	0.035
2200				0.043	0.009
2300				0.028	0.003
2400				0.015	0.002

Time	August 8, 1974			August 9, 1974		
	Ozone, ppm			Ozone, ppm		
	Kenwood	Lindblom	Joliet	Kenwood	Lindblom	Joliet
0100	0.045	0.002	0.044	0.099	0.082	0.055
0200	0.021	0.001	0.042	0.109	0.060	0.041
0300	0.048	0.000	0.046	0.105	0.040	0.039
0400	0.072	0.000	0.029	0.121	0.027	0.030
0500	0.069	0.010	0.025	0.119	0.061	0.033
0600	0.077	0.001	0.027	0.108	0.075	0.028
0700	0.049	0.000	0.028	0.088	0.041	0.028
0800	0.047	0.001	0.029	0.064	0.051	0.031
0900	0.025	0.008	0.023	0.064	0.065	0.046
1000	0.036	0.022	0.033	0.057	0.078	0.058
1100	0.047	0.053	0.046	0.065	0.093	0.070
1200	0.056	0.099	0.059	0.081	0.103	0.083
1300	0.108	0.075	0.079	0.092	0.107	0.098
1400	0.147	0.111	0.101	0.095	0.105	0.126
1500	0.123	0.133	0.098	0.103	0.102	0.136
1600	0.101	0.112	0.107	0.099	0.097	0.131
1700	0.088	0.089	0.102	0.100	0.095	0.114
1800	0.096	0.070	0.110	0.099	0.092	0.116

Time	August 8, 1974 (cont.)			August 9, 1974 (cont.)		
	Kenwood	Lindblom	Joliet	Kenwood	Lindblom	Joliet
1900	0.096	0.057	0.159	0.108	0.097	0.090
2000	0.097	0.069	0.116	0.118	0.096	0.048
2100	0.098	0.068	0.058	0.117	0.098	0.033
2200	0.091	0.078		0.115	0.095	0.033
2300	0.092	0.086		0.109	0.085	0.031
2400	0.095	0.077		0.080	0.064	0.033

It is apparent from the stipulated data that ozone levels did exceed .07 within the time frame for Watch and did exceed .10 within the time frame for declaration of a Yellow Alert. The issue is whether during those time frames, the official weather forecast did indicate substantial improvement of conditions.

Weather reports are interpreted according to the following rating chart (CACC Exhibit #4):

- + 3 Poor Dispersion, Air Stagnation
- + 2 Moderate to poor dispersion
- + 1 Marginal - Moderate dispersion
- 0 Moderate to good dispersion
- 1 Good Dispersion Conditions
- 2
- 3
- 4

Weather forecasts for the four days in question were as follows:

Date: July 24, 1974

Time Issued: 11 a.m.

Forecast:

This Afternoon...Mostly sunny. Poor dispersion conditions.
Winds easterly 5 to 10 knots

Tonight...Partly cloudy. Poor dispersion conditions. Winds southeasterly 3 to 8 knots.

Thursday...Partly sunny with chance of thunderstorms late. Moderate dispersion conditions. Winds variable 5 to 10 knots.

Stagnation Index: Plus 2 North and Central and Plus 1 South this afternoon. Plus 3 over the State tonight. 0 North and Central and Plus 1 South Thursday afternoon.

Date: July 26, 1974

Time Issued: Noon

Forecast:

This Afternoon...Partly sunny with chance of showers and thunderstorms late. Poor dispersion conditions. Winds variable 6 to 12 knots.

Tonight...Partly cloudy with chance of showers and thunderstorms. Poor dispersion conditions. Winds variable 6 to 12 knots.

Saturday...Mostly sunny. Moderate dispersion conditions. Winds Northerly 6 to 12 knots.

Stagnation Index: Plus 2 this afternoon...Plus 3 tonight...and 0 Saturday afternoon.

Date: August 8, 1974

Time Issued: 11 a.m.

Forecast:

This Afternoon...Partly sunny and hazy with chance of a thunderstorm. Moderate to poor dispersion conditions. Winds Easterly 5 to 8 knots.

Tonight...Partly cloudy with chance of some showers or thunderstorms. Poor dispersion conditions. Winds light and variable.

Friday...Partly cloudy with chance of thunderstorms. Moderate dispersion conditions. Winds East-Southeasterly 5 to 9 knots.

Stagnation Index: Plus 1 North and Plus 2 Central and South this afternoon...Plus 2 North and Plus 3 Central and South tonight...and 0 over the State Friday.

Date: August 9, 1974

Time Issued: 11 a.m.

Forecast:

This Afternoon...Partly sunny. Moderate to poor dispersion conditions. Winds Easterly 5 to 10 knots.

Tonight...Mostly cloudy with showers and thunderstorms developing late. Poor dispersion conditions. Winds Southeasterly 5 to 10 knots.

Saturday...Variable cloudiness with showers and thunderstorms likely. Moderate to good dispersion conditions. Winds Southeasterly 5 to 11 knots.

Stagnation Index: Plus 1 North and South and Minus 1 Central this afternoon. Plus 2 North and Plus 1 Central and South tonight. Minus 1 North and Minus 2 Central and South Saturday afternoon.

The only testimony received during the hearing was from Jack Coblenz, Manager of Technical Services in the Agency's Division of Air Pollution Control. Coblenz, a graduate meteorologist with over 20 years experience, testified that he is responsible for the Agency's air pollution monitoring, data and analysis, emission inventory, air pollution episode, air pollution emergency and meteorology programs. He is the person within the Agency responsible for implementation of Rules 403, 406 and 407.

Coblenz testified that, in his opinion, the forecasted change from "poor dispersion conditions" on July 24 to "moderate dispersion conditions" on July 25 indicated substantial improvement of conditions (R. 13). Similar opinions were expressed for July 26, August 8 and August 9. Coblenz stated that there were two reasons for his opinion on the July 24 forecast. First was the fact that there was a chance of thunderstorms on July 25 which would cause unstable conditions. Secondly, he thought that the weather service forecasters were "swaying between moderate conditions for dispersion and good conditions for dispersion". Coblenz stated that "if there were no thunderstorms, it would be moderate...if the thunderstorms occurred, it would be unstable or good dispersion conditions, and I feel that they must have been halfway in between those two places" (R. 16). The word moderate, according to Coblenz, means "reasonably good, fair dispersion conditions, halfway between good or poor and good" (R. 17).

For the July 26 date Coblenz testified that two factors influenced his opinion. First were the words "moderate dispersion conditions" on the forecast. The second factor involved a shift in wind direction which, according to Coblenz, indicates the passage of a frontal system which is normally followed by unstable conditions. Prior to the frontal system passage the area experiences a "pre-frontal inversion" or lid which causes poor dispersion. Following the frontal system passage the lid is gone, winds shift around, colder air is over warmer ground and air becomes unstable. For these reasons, the weather forecasters predict moderate dispersion conditions (R. 21, 22).

Weather conditions and the change from poor to moderate dispersion for August 8 and 9 were reasons cited by Coblenz for deciding that the forecast indicated substantial improvement in conditions.

Coblenz testified that ozone acts differently than other pollutants. Ozone is usually concentrated at elevations that require mixing and dispersion in order to bring it to ground level. When the air gets very stable ground level ozone reacts with leaves, buildings and other pollutants causing the ozone concentration to be reduced. According to Coblenz, a degree of instability is required to have higher than normal levels of ozone.

An important element of the Coblenz testimony relates to the Agency policy on Watches and Alerts. His testimony reveals that a policy decision was made during his absence on vacation to handle the situation where ozone exceeds 0.07 ppm during the afternoon hours and then falls below that level later in the day. When the ozone excursions first began the Agency investigated literature sources to determine what concentration would affect the public during such periods of time. The resulting policy decision was that the Agency would issue advisories when ozone reached 0.15 for a "short period" (R. 58).

To issue an advisory or press release each day when ozone levels "just barely" exceeded what the Agency was "beginning to feel were the normal levels" would mean that Agency advisories would soon be ignored, according to Coblenz (R. 57).

Coblenz admitted that he was on vacation when the "problem originally arose" (R. 48, 49). He was not a part to "the original discussions of the Rule pertaining to the twenty-four hours of continued stagnation". However, Coblenz returned to work on July 15 and apparently was on the job during the four days in question (R. 49).

Evidence shows that the weather forecasts are usually issued at 11 a.m. This was the case for three of the four days in question. The Agency receives the forecast by telephone and reviews the forecast in light of other relevant factors.

Reviewing the data and forecast for July 24, we note that the ozone concentration exceeded the Watch level in Joliet at 11 a.m. and remained above that level until at least 3 p.m. Kenwood exceeded the Watch level from 1 p.m. until at least 4 p.m. and again from 6 p.m. until 7 p.m. The Lindblom monitor indicated an excessive ozone concentration from 10 a.m. until at least 6 p.m. except for 3 p.m. when no reading was recorded.

If the Agency, having received the July 24 forecast by telephone, had reviewed the contaminant data it would have been apparent that ozone levels had started to climb at all three stations around 9 a.m. and the Joliet and Lindblom monitors had already exceeded the Watch level. By 1 p.m. the ozone levels at Joliet and Lindblom had exceeded the ozone Watch level for two hours and the Agency should have reviewed the weather forecast to determine the outlook for the next 24 hours.

Weather for July 24, and 25 was forecasted to have poor dispersion characteristics the remainder of the afternoon and through the night and moderate dispersion for the next day. The Stagnation Index rated dispersion for the areas in question as 2 for the afternoon, 3 at night and 0 the next day.

The determination that the forecast was for substantial improvement is questionable. Possibility of thunderstorms was reportedly an influential element in the Agency's decision. However, the thunderstorms were not expected until late the next day and, according to Coblenz's testimony, would be preceded by a prefrontal inversion that would act like a lid to seal in pollutants. The slight drop in ozone levels early in the afternoon probably led to some uncertainty at the Agency. After a slight drop the ozone levels again rose late in the afternoon. The situation could be termed marginal, but we believe it would have been better to inform the public by calling a Watch on July 24.

On July 26 the Kenwood monitor exceeded the ozone level at 11 a.m. and continued with high readings until 10 p.m. A peak reading of 0.208 ppm was recorded at 2 p.m. Lindblom data exceeded the ozone Watch level at 12:00 with high readings continuing until 9 p.m. The weather forecast showed poor dispersion conditions for the afternoon and night and moderate dispersion conditions for the next day. The Stagnation Index rated dispersion conditions at + 2 in the afternoon, + 3 at night and 0 for the following afternoon, more than 24 hours after the forecast was issued. There was a chance of thunderstorms predicted for the nighttime hours.

July 26 was much like July 24, except that peak levels of ozone were higher. At 2:00 p.m. the ozone level was nearly three times the standard. Again, we believe the public should have been informed.

August 8 was another borderline situation. In many ways it was similar to July 24, but the ozone readings remained high during the night. On August 8 and 9 the Kenwood monitor for ozone exceeded 0.07 ppm from 1 p.m. until 8 a.m., a total of 19 consecutive hours. During all of this time the Agency had available to it a forecast that dispersion conditions would improve from "poor" to "moderate" on August 9. When the August 9 weather advisory was received it became apparent that this improvement had not occurred (except in the Central part of the State) and that improvement would be delayed more than 24 hours. The August 9 Stagnation Index, issued at 11:00 a.m., indicated that the conditions which had already caused such extended high readings would not improve until the following afternoon. On August 9 the .07 standard was exceeded at Kenwood from noon until midnight, at Lindblom from 10:00 a.m. until 11:00 p.m. and at Joliet from 11:00 a.m. until after 7:00 p.m.

We can understand the doubts which must have existed in the Agency on July 24 and 26 and on August 8. In these borderline cases we think a Watch should be declared, especially when one considers that the only impact of that decision is to give a warning to the public. Declaration of a Watch does not cause any adverse impact upon industry.

However, the record in this case does not allow us to find that the Agency violated the Regulations on July 24 and 26 and August 8. The only expert testimony in the record with regard to a proper interpretation of the weather reports is the testimony of Jack Coblenz. Coblenz said the forecasts were for substantial improvement of conditions and such expert testimony is controlling in these marginal situations. On those three dates the Agency acted within its area of interpretation and judgment.

However, the decision to call a Watch should have seemed obvious on August 9. At that time it was learned that the August 8 weather report had been in error, that the anticipated improved dispersion had not occurred and that conditions which had already caused extended high readings would not abate for more than 24 hours. Failure to call a Watch at noon on August 9 was a violation of the Regulation.

The episode regulations were carefully drawn up to provide the Agency with a precise format for protecting the public from unusually high levels of injurious contaminants. This planned format is intended to provide a maximum of protection for the public with minimal disruption to industry and utilities. It is a public disservice to ignore public health regulations. We are surprised that the Agency which originally sought these regulations and contributed significantly to their adoption would arbitrarily change the ozone Watch levels from 0.07 to 0.15 ppm. There is a proper procedure for amending regulations. That procedure does not include a backroom policy session.

It is important to recognize in these proceedings the efforts of the Complainant. Because of the watchfulness of Complainant, the Agency was discovered to be arbitrarily ignoring regulations it is bound by law to uphold. The public is indebted to CACC for its diligence.

One final matter remains to be handled. When the CACC called Coblenz as an adverse witness the Agency objected at that point and continued to object throughout the remainder of the record. The Assistant Attorney General argued that Coblenz was not eligible to be called as an adverse witness under Section 60 of the Civil Practice Act because he was "a mere employee of an agency employing approximately 600 individuals" (R. 37). The Hearing Officer allowed the cross examination to take place.

In its closing argument the Agency claims Coblenz testified in the capacity of "an interested citizen". To allow this "interested citizen" to be called as an adverse witness was improper and the entire record from page 41 on should be disregarded and stricken, according to the Agency.

The Board finds that Coblenz had a status in this case different from that of other interested citizens. He is the Manager of the Technical Services Section in the Air Pollution Control Division and the person responsible for implementing provisions of the episode regulations. Section 60 of the Civil Practice Act provides that any party or any person or officers, directors, managing agents or foreman of any party to an action may be called and examined as if under cross examination.

Having reviewed the record thoroughly it is our opinion that no improper questions were allowed by the Hearing Officer during questioning of Coblenz as an adverse witness. The ruling of the Hearing Officer shall stand and the record shall not be stricken or disregarded.

The Board finds that Respondent did violate Rules 403 and 406 of the Air Pollution Control Regulations on August 9, 1974. Respondent shall be required to cease and desist from these violations. We do not find a violation on July 24 or 26, 1974 or August 8, 1974.

This Opinion constitutes the findings of fact and conclusions of law of the Pollution Control Board.

ORDER

It is the Order of the Pollution Control Board that the Illinois Environmental Protection Agency shall immediately cease and desist from violations of Rules 403 and 406 of the Air Pollution Control Regulations.

I, Christan L. Moffett, Clerk of the Illinois Pollution Control Board, hereby certify the above Opinion and Order was adopted this 9th day of January, 1975 by a vote of 5 to 0.

Christan L. Moffett