ANL/EES-TM-228

INDIAN POINT NUCLEAR POWER STATION: VERIFICATION ANALYSIS OF COUNTY RADIOLOGICAL EMERGENCY RESPONSE PLANS

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by

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Energy and Environmental Systems Division
Integrated Assessments and Policy Evaluation Group

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FEDERAL EMERGENCY MANAGEMENT AGENCY
Region II

CONTENTS

TABLES

TABLES (Cont'd)

FIGURES

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Deficiencies or errors that remain in spite of the assistance of these individuals are the responsibility of the authors.

1 INTRODUCTION

1.1 PURPOSE AND SCOPE OF THE ANALYSIS

This report was developed as a management tool for use by the Federal Emergency Management Agency (FEMA) Region II staff. The analysis summarized in this report was undertaken to verify the extent to which procedures, training programs, and resources set forth in the County Radiological Emergency Response Plans (CRERPs) for Orange, Putnam, and Westchester counties in New York had been realized prior to the March 9, 1983, exercise of the Indian Point Nuclear Power Station near Buchanan, New York. To this end, a telephone survey of county emergency response organizations was conducted between January 19 and February 22, 1983. Nine categories of emergency response organizations were contacted:

- Bus companies,
- Reception centers,
- Congregate care centers,
- Public schools within the 10-mile plume exposure emergency planning zone (EPZ) to be evacuated,
- Nonpublic schools, nursery schools, and day care centers within the EPZ to be evacuated,
- School districts within the EPZ to be evacuated,
- Hospitals and nursing homes within the EPZ to be evacuated,
- Hospitals capable of treating radiologically contaminated patients, and
- Ambulance companies.

This report presents the results of responses obtained from this survey of county emergency response organizations.

Time, manpower, and financial constraints prohibited a comprehensive survey of all the emergency response organizations with responsibilities assigned in the CRERPs. Therefore emergency response organizations within the nine categories listed above were sampled randomly instead. Emergency response organizations designated in CRERPs that were available on January 19, 1983, were inventoried and lists of organizations to be contacted by telephone were then randomly sampled from these inventories.

At the time of the verification analysis, Rockland County had not adopted a radiological emergency preparedness plan. For this reason, Rockland County was not included in this study.

1.2 SELECTION OF SAMPLES

The following guidelines were used to determine the size of the sample taken for each category of emergency response organization within each county*:

No. of Organizations	Sample size
1	1
2-4	2
5-6	3
7-20	4
21-54	5
55 and up	10% of organizations (rounded to nearest integer)

These guidelines were constructed with the help of FEMA Region II staff. The guidelines were influenced by the time, manpower, and financial constraints mentioned above. As the number of organizations in a category decreases, a larger percentage of the total must be included in the sample to adequately estimate the parameters (variables) under study. Accordingly, the proportion of organizations sampled ranges from 100% (where the organizations of interest number two or less) to 10% (where the organizations of interest number 50 or greater). To avoid introducing undue bias into the sample, a simple randomizing technique was used to select the emergency response organizations to be sampled.

1.3 SURVEYING PROCEDURES

The questionnaires used in the verification analysis were developed by FEMA Region II staff with the assistance of personnel from Argonne National Laboratory. These questionnaires can be found in Appendix A. Argonne National Laboratory personnel telephoned each sampled emergency response organization and queried the person in charge of the organization or that person's representative.

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*All bus companies and hospitals capable of treating radiologically contaminated patients were surveyed.

Of the 98 emergency response organizations randomly selected to be sampled, 88 responded to the survey. The other emergency response organizations either declined to answer any questions, were not available for comment, or did not respond for other reasons.

1.4 SIGNIFICANCE OF THE RESULTS

Table 1 summarizes the population (number of organizations in a category) and sample sizes for the study. The statistical significance of the responses to selected questions is included in Sec. 2. Confidence intervals and confidence levels are calculated for responses that were considered to be the most important, including responses on the training of emergency response personnel, the level of involvement with state and county authorities, and other particularly relevant topics. For example, where one out of five schools sampled from a population of 36 schools (see Table 1 and Table 6, question 4 for Westchester County) had been trained in evacuation procedures, the confidence interval is the range 0.03 to 0.56 for the proportion trained, and the confidence level is 89%. A more detailed description of the confidence intervals and their selection is included in Appendix B.

Table 1 Population and Sample Sizes

Facility Type	Westchester Co.			Putnam Co.			Orange Co.			All Counties		
	Population Size	Sample Size	Completed Surveys[a]	Population Size	Sample Size	Completed Surveys[a]	Population Size	Sample Size	Completed Surveys[a]	Population Size	Sample Size	Completed Surveys[a]
Bus companies	7	7	5	5	5	3	3	3	1	15	15	9
Reception centers	39	5	4	6	3	3	8	4	4	53	12	11
Congregate care relocation centers	77	8	8	30	5	5	12	4	4	119	17	17
Public schools within the EPZ	41	5	4	4	2	2	5	3	3	50	10	9
Nonpublic schools, nursery schools, and day care centers within the EPZ	36	5	5	3	2	2	2	2	2	41	9	9
School districts within the EPZ	8	4	4	3	2	2	2	2	2	13	8	8
Hospitals and nursing homes within the EPZ	20	4	4	2	2	2	1	1	1	23	7	7
Hospitals treating radiologically contaminated patients	3	3	3	1	1	1	2	2	2	6	6	6
Ambulance companies	51	5	4	11	4	4	27	5	4	89	14	12

[a]The number of surveys actually completed is smaller than the number in the sample because some organizations elected not to respond to questions over the telephone or could not be contacted despite repeated attempts.

2 RESULTS OF THE SURVEY

Of the total 409 emergency response organizations with responsibilities assigned in the CRERPs, 98 were included in the sample. However, the number of surveys actually completed is smaller than the number of emergency organizations selected for the sample because some organizations elected not to respond to questions over the telephone or could not be contacted despite repeated attempts. The analysis that follows is based on the 88 completed interviews.

The following results are organized by type of emergency response organization. For each type of organization, a narrative summary presents results for the three counties combined and then for each county separately. Following this narrative is a table that contains the numerical results of each question asked.

2.1 BUS COMPANIES

Nine bus companies -- 60% of the companies listed in the CRERPS -- responded to the survey. Of these nine companies,

- Seven (78%) had been contacted by the state or county concerning the CRERP,
- Five (55%) had garages located within the EPZ,
- One (11%) had at least one driver who had been trained in radiological emergency response preparedness, and
- Two (22%) had such training scheduled.

Table 2 lists the numerical results of the bus company survey.

Orange County

Three bus companies in Orange County are designated to assist in an evacuation, and all three were included in the sample. The CRERP, however, is organized so that one company is responsible for contacting the other two companies. The survey respondent at the company responsible for contacting the other two companies was not aware of this system. Argonne personnel were unable to contact the other two companies. The one company that was questioned had been contacted by the county concerning the CRERP. Personnel at this company had not received any training for radiological emergency response preparedness, but such training was scheduled. The company did not have information on evacuee pick-up locations or dosimeters available for drivers.

Table 2 Results of the Survey of Bus Companies

2a. How many buses do you have in your garage?

	Orange	Putnam	Westchester	All Counties
Range	65	17-163	10-250	10-250
Mean	65	78	84	80

2b. How many vans do you have in your garage?

	Orange	Putnam	Westchester	All Counties
Range	2	8-20	0-23	0-23
Mean	2	16	12	12

3a. On an average day, how many buses do you have in working condition?

	Orange	Putnam	Westchester	All Counties
Range	63	15-147	10-225	10-225
Mean	63	70	80	75

3b. On an average day, how many vans do you have in working condition?

	Orange	Putnam	Westchester	All Counties
Range	2	8-18	0-18	0-18
Mean	2	14	11	11

4a. What is the average capacity of the buses that you have in working condition on an average day?

	Orange	Putnam	Westchester	All Counties
Range	43	60-77	42-66	42-77
Mean	43	67	58	59

4b. What is the average capacity of the vans that you have in working condition on an average day?

	Orange	Putnam	Westchester	All Counties
Range	8	7-15	12-16	7-16
Mean	8	11	15	12

5. How many of your vehicles are equipped to transport handicapped, non-ambulatory individuals?

	Orange	Putnam	Westchester	All Counties
Range	0	2-9	0-86	0-86
Mean	0	5	---	---

Table 2 (Cont'd)

6. How many licensed bus and van drivers do you employ?

	Orange	Putnam	Westchester	All Counties
Range	80	25-225	30-316	25-316
Mean	80	107	115	108

7. How many vehicles do you use on an ordinary daily basis when schools are in session?

	Orange	Putnam	Westchester	All Counties
Range	61	23-180	22-220	22-220
Mean	61	92	80	82

8. How many vehicles do you use on an ordinary daily basis when schools are not in session? (weekends, vacation, summer, etc.)

	Orange	Putnam	Westchester	All Counties
Range	13	0-13	0-196	0-196
Mean	13	5	---	---

9. Approximately how many vehicles are equipped with mobile communications equipment?

	Orange	Putnam	Westchester	All Counties
Range	67	8-183	0-118	0-183
Mean	67	79	44	58

10. Have you or someone in your organization been contacted by state or county representatives to discuss your role in the Indian Point Radiological Emergency Response Plan?

	Orange	Putnam	Westchester	All Counties
Yes	1[a]	2[b]	4[c]	7[d]
No	0	0	1	1
Don't know	0	1	0	1

10a. If yes, when was the company contacted regarding the plan?

	Orange	Putnam	Westchester	All Counties
1983	0	1	0	1
1982	1	1	2	4
1981	0	0	1	1
Don't know	0	0	2	2

Table 2 (Cont'd)

12. Who would contact you and tell you to deploy your vehicles in the event an evacuation became necessary?

	Orange	Putnam	Westchester	All Counties
County	0	0	3	3
Superintendent of schools	1	2	2	5
Civil defense	0	1	0	1

13. How would you be contacted? (e.g., telephone, radio, etc.)

	Orange	Putnam	Westchester	All Counties
Telephone	0	2	5	7
Don't know	1	1	0	2

14. How would you notify your vehicle drivers to report to the garage in the event they were needed for an evacuation?[e]

	Orange	Putnam	Westchester	All Counties
Telephone	1	3	4	8
Radio	0	1	3	4

15. Is your garage located within the 10-mile Emergency Planning Zone?

	Orange	Putnam	Westchester	All Counties
Yes	1[f]	1	3	5[f]
No	1[f]	2	2	5[f]

16. If the garage is within the EPZ, how will you communicate with your drivers if there is a total evacuation and your dispatcher must leave the garage?

	Orange	Putnam	Westchester	All Counties
Radio	0	0	3	3
Don't know	0	1	0	1
Move headquarters	1	0	0	1

17. Do you have maps or lists of evacuee pick-up locations available for distribution to your vehicle drivers?

	Orange	Putnam	Westchester	All Counties
Yes	0[g]	1[h]	4[c]	5[i]
No	1	2	1	4

Table 2 (Cont'd)

18. How many of your vehicle drivers have received formal training in radiological emergency response preparedness (including dosimetry, evacuation routes, etc.)?

	Orange	Putnam	Westchester	All Counties
One driver	0[g]	0[j]	1[k]	1[l]
No drivers	1	3	4	8

19. Are your vehicle drivers scheduled to receive radiological emergency response training in the future?

	Orange	Putnam	Westchester	All Counties
Yes	1	1	0	2
No	0	2	5	7

20. How many dosimeters do you have available for distribution to your drivers?

	Orange	Putnam	Westchester	All Counties
One dosimeter	0	0	1	1
No dosimeters	1	3	3	7
Don't know	0	0	1	1

[a]Confidence interval = (0.33, 1.00), confidence level = 100%.

[b]Confidence interval = (0.40, 0.80), confidence level = 100%.

[c]Confidence interval = (0.57, 0.85), confidence level = 100%.

[d]Confidence interval = (0.60, 0.87), confidence level = 88%; confidence interval = (0.47, 0.87), confidence level = 100%.

[e]Multiple responses were given by same companies.

[f]One company had garages located both within and outside the EPZ.

[g]Confidence interval = (0.00, 0.67), confidence level = 100%.

[h]Confidence interval = (0.20, 0.60), confidence level = 100%.

[i]Confidence interval = (0.40, 0.73), confidence level = 83%; confidence interval = (0.33, 0.73), confidence level = 100%.

[j]Confidence interval = (0.00, 0.40), confidence level = 100%.

[k]Confidence interval = (0.14, 0.43), confidence level = 100%.

[l]Confidence interval = (0.07, 0.27), confidence level = 86%; confidence interval = (0.07, 0.47), confidence level = 100%.

Putnam County

Of the five bus companies chosen to be surveyed in Putnam County, the respondent at one refused to answer questions without compensation and surveyors were not able to contact a second company. Two of the remaining companies that completed the survey had been contacted by the state or county concerning the CRERP. None of these three companies had personnel trained in radiological emergency response preparedness, but one indicated that such training was scheduled. One company had information on evacuee pick-up locations available for drivers. No companies had dosimeters available for drivers.

Westchester County

Seven bus companies in Westchester County were included in the CRERP and all were selected to be surveyed. Argonne surveyors were unable to contact one company, and another company refused to answer the questionnaire. Four of the five companies that completed the survey had been contacted by the state or county concerning the CRERP. The survey indicated that one driver in one company had been trained in radiological emergency response preparedness. No training sessions were scheduled for any company. Four companies had information on evacuee pick-up locations available for drivers, and one had dosimeters available for drivers.

2.2 RECEPTION CENTERS

Twelve of the 53 facilities designated to serve as reception centers were included in the sample, and 11 responded to the survey. Of these facilities,

- All (100%) were schools, and
- Seven (78%) had plans for students if the buildings were to be used as reception centers.

Nine (82%) of the respondents were aware that their buildings were designated as reception centers, but none knew who would be in charge of reception center operations. Table 3 lists the questions and numerical results of the reception center survey.

Orange County

Respondents at all four of the schools sampled in Orange County were aware that their buildings had been designated as reception centers. One respondent knew who would notify the school if it became necessary to activate the building as a reception center. None of the respondents knew who would be in charge of reception center operations. Three of the schools had plans (e.g., dismissal of school) for the students if the buildings were to be used as reception centers.

Table 3 Results of the Survey of Reception Centers

1. Are you aware that your building is designated as a Reception Center in the Indian Point Radiological Emergency Response Plan?

	Orange	Putnam	Westchester	All Counties
Yes	4[a]	3[b]	2[c]	9[d]
No	0	0	2[e]	2[e]

2. Who would notify you that your building is to be activated as a Reception Center?

	Orange	Putnam	Westchester	All Counties
Superintendent	1	0	1	2
Don't know	3	3	1	7

3. How would you be notified that your building is to be activated as a Reception Center?

	Orange	Putnam	Westchester	All Counties
Telephone	2	1	1	4
Don't know	2	2	1	5

4. Is your building utilized 12 months a year?

	Orange	Putnam	Westchester	All Counties
Yes	2	3	2	7
No	2	0	0	2

5. Who is authorized to open the building after working hours (and weekends, vacations, summers if applicable) in case it is needed as a Reception Center during a Radiological Emergency?

	Orange	Putnam	Westchester	All Counties
Custodian	2	1	1	4
Principal	0	1	0	1
Superintendent	1	1	0	2
Other	1	0	1	2

6. Is there a backup person name available in case the regular person isn't available?

	Orange	Putnam	Westchester	All Counties
Yes	4	3	1	8
No	0	0	1	1

Table 3 (Cont'd)

7. What is the normal daily occupancy of your building?

	Orange	Putnam	Westchester	All Counties
Range	660-2400	400-1850	80-750	80-2400
Mean	1343	883	415	983

8. What is the capacity of your parking lot? (automobiles)

	Orange	Putnam	Westchester	All Counties
Range	75-100	40-50	80-300	40-300
Mean	103	45	190	82

9. Are there showers in your building?

	Orange	Putnam	Westchester	All Counties
Yes	3	2	2	7
No	1	1	0	2

9a. How many showers are there in the building?[f]

		Orange	Putnam	Westchester	All Counties
Male	Range	7-15	---	1-6	---
	Mean	11	---	4	---
Female	Range	0-15	---	2-6	---
	Mean	8	---	4	---
Male or Female	Range	---	6-10	---	---
	Mean	---	8	---	---

10. Approximately how many toilets are there in the building?

		Orange	Putnam	Westchester	All Counties
Male	Range	11-35	10-35	6-10	6-35
	Mean	18	21	8	16
Female	Range	11-35	10-35	6-10	6-35
	Mean	18	21	8	16

11. In the event of a radiological emergency at the Indian Point Nuclear Generating Station, who is in charge of operations at the Reception Center to be located in your building?

	Orange	Putnam	Westchester	All Counties
Don't know	4	3	2	9
Other	0	0	0	0

Table 3 (Cont'd)

12. Do you have any plans for your own students if you are notified that your school will be used as a Reception Center? (Asked only for Reception Centers located in schools.)

	Orange	Putnam	Westchester	All Counties
Yes	3	2	2	7
No	1	0	0	1
No answer	0	1	0	1

[a]Confidence interval = (0.62, 1.00), confidence level = 92%; confidence interval = (0.50, 1.00), confidence level = 100%.

[b]Confidence interval = (0.66, 1.00), confidence level = 80%; confidence interval = (0.50, 1.00), confidence level = 100%.

[c]Confidence interval = (0.10, 0.85), confidence level = 90%; confidence interval = (0.05, 0.95), confidence level = 100%.

[d]Confidence interval = (0.60, 0.96), confidence level = 90%; confidence interval = (0.17, 0.96), confidence level = 100%.

[e]Includes one school that has been closed and one school that has not accepted the responsibility of being a reception center.

[f]Includes only those facilities with showers.

Putnam County

Respondents at each of the three schools questioned in Putnam County were aware that their buildings had been designated as reception centers, but did not know who would notify them if it became necessary to activate their buildings as reception centers or who would be in charge of reception center operations. All of those schools responding had plans (e.g., dismissal of school) for their students if the buildings were to be used as a reception centers.

Westchester County

Five schools designated as reception centers in the CRERP were chosen for the sample in Westchester County. Of these schools, one was closed in 1979, and one refused to accept the responsibility of serving as a reception center. The respondent at the third school would not answer the questionnaire by telephone. Respondents at the two schools participating in the survey were aware that their buildings had been designated as reception centers. One of these knew who would notify the school if it became necessary to activate the buildings as a reception center. Neither knew who would be in charge of

reception center operations, but both schools had plans (e.g., dismissal of school) for the students if the buildings were to be used as reception centers.

2.3 CONGREGATE CARE CENTERS

Seventeen of the 119 facilities designated to serve as congregate care centers were sampled. Of those questioned,

- Eleven (65%) of the respondents were aware that their buildings were designated as congregate care centers,
- Ten (59%) of the respondents did not know who would notify them that their buildings were to be activated as congregate care centers, and
- Nine (56%) of the schools had plans for their students if the buildings were to be used as congregate care centers.

Table 4 lists the questions and numerical results of the congregate care center survey.

Orange County

Four schools designated to serve as congregate care centers in Orange County were included in the sample. Each of these schools responded to the survey. Respondents at three of the schools were aware of their inclusion in the CRERP, but each respondent had a different idea as to who would notify the school if it became necessary to activate the building as a congregate care center. All of the schools had plans for their students if the buildings were activated as congregate care centers.

Putnam County

In Putnam County, five facilities were sampled. Respondents at two were aware that their buildings had been designated as congregate care centers. Four did not know who would notify them if it became necessary to activate their buildings as congregate care centers. Two of the schools (there was one hospital in the sample) had plans for their students if it became necessary to activate the buildings as congregate care centers.

Table 4 Results of the Survey of Congregate Care Centers

1. Are you aware that your building is designated as a congregate care center?

	Orange	Putnam	Westchester	All Counties
Yes	3[a]	2[b]	6[c]	11[d]
No	0	3	2	5
Don't know	1	0	0	1

2. Who would notify you that your building is to be activated as a congregate care center?

	Orange	Putnam	Westchester	All Counties
Civil defense	1	1	1	3
Health department	0	0	1	1
Red Cross	1	0	0	1
Superintendent of schools	1	0	0	1
Other	0	0	1	1
Don't know	1	4	5	10

3. How would you be notified that your building is to be activated as a congregate care center?[e]

	Orange	Putnam	Westchester	All Counties
Telephone	3	1	4	8
Radio	1	0	0	1
In person	1	0	0	1
Don't know	1	4	4	9

4. Is your building utilized 12 months a year?

	Orange	Putnam	Westchester	All Counties
Yes	4	4	6	14
No	0	1	1	2
No answer	0	0	1	1

Table 4 (Cont'd)

5. Who is authorized to open the building after working hours (and weekends, vacations, summers if applicable) in case it is needed as a congregate care center during a radiological emergency?[e]

	Orange	Putnam	Westchester	All Counties
Superintendent	0	0	5	5
Principal	3	1	4	8
Custodian	3	3	3	9
Secretary	1	0	1	2
Board of Education	1	1	3	5
Teacher	0	1	0	1
Don't know	0	0	1	1
Not applicable (open 24 hr/day)	0	1	0	1

6. Is there a backup person in case the regular person isn't available?

	Orange	Putnam	Westchester	All Counties
Yes	4	4	7	15
No	0	0	0	0
Don't know	0	0	1	1

7. What is the normal occupancy of your building?

	Orange	Putnam	Westchester	All Counties
Range	425-1800	100-1600	300-2300	100-2300
Mean	1062	621	966	887

8. What is the capacity of your parking lots? (automobiles)

	Orange	Putnam	Westchester	All Counties
Range	250-unlimited	40-500	40-600	40-unlimited
Mean	---	142	---	---

9. Are there showers in the your building?

	Orange	Putnam	Westchester	All Counties
Yes	3	3	5	11
No	1	2	3	6

Table 4 (Cont'd)

9a. How many showers are there in the building?[f]

		Orange	Putnam	Westchester	All Counties
Male	Range	10-29	3-10	2-12	2-29
	Mean	18	7	9	11
Female	Range	12-33	3-10	0-12	0-33
	Mean	20	7	8	11

10. Approximately how many toilets are there in the building?[f]

		Orange	Putnam	Westchester	All Counties
Male	Range	10-30	8-30	8-20	8-30
	Mean	18	16	---	---
Female	Range	10-33	8-30	8-20	8-33
	Mean	23	16	---	---

11. In the event of a radiological emergency at the Indian Point Nuclear Generating Station, who is in charge of operations at the congregate care center?

	Orange	Putnam	Westchester	All Counties
Civil defense	0	0	1	1
Red Cross	0	0	1	1
Other	1	1	1	3
Don't know	3	4	5	12

12. Do you have any plans for your own students if you are notified that your school will be used as a congregate care center? (Asked only for congregate care centers located in schools.)

	Orange	Putnam	Westchester	All Counties
Yes	4	2	3	9
No	0	2	5	7
Not applicable	0	1	0	1

[a]Confidence interval = (0.33, 0.92), confidence level = 93%; confidence interval = (0.25, 0.92), confidence level = 100%.

[b]Confidence interval = (0.07, 0.77), confidence level = 90%; confidence interval = (0.07, 0.90), confidence level = 100%.

[c]Confidence interval = (0.47, 0.97), confidence level = 90%; confidence interval = (0.08, 0.97), confidence level = 100%.

[d]Confidence interval = (0.47, 0.95), confidence level = 90%; confidence interval = (0.09, 0.95), confidence level = 100%.

[e]Multiple responses were given by some facilities.

[f]

Westchester County

Of the eight schools sampled in Westchester County, respondents at six were aware that their buildings were designated as congregate care centers in the CRERP. Five respondents did not know who would notify them if it became necessary to activate their buildings as congregate care centers. Three of the schools had plans for students if their buildings were to be activated as congregate care centers.

2.4 PUBLIC SCHOOLS WITHIN THE EPZ

Of the 50 public schools within the EPZ, ten were chosen for the sample and nine responded to the survey. Of these nine schools,

- Eight (89%) had been contacted regarding the CRERP,
- Two (22%) had personnel with some training in evacuation procedures,
- Two (22%) had such training scheduled, and
- Six (67%) had tone alert radios.

Table 5 lists the questions and numerical results of the public school survey.

Orange County

Three Orange County public schools within the EPZ were chosen in a random sample of all such schools in the county. Two of these three schools had been contacted regarding their roles in the CRERP, two had staff trained in procedures for evacuating the schools, and two had tone alert radios.

Putnam County

In Putnam County, two public schools within the EPZ were included in the survey. Both of the schools had been contacted regarding their roles in the CRERP. Neither of the schools had staff trained in procedures for evacuating the schools. One school had a tone alert ratio.

Westchester County

Five Westchester County public schools within the EPZ were questioned in the survey. Respondents at four of these schools were willing to answer questions on the telephone. The respondent at the other public school preferred to submit written responses to the questions and consequently this school is not included in the findings discussed here. Each of the remaining four schools had been contacted regarding its role in the CRERP. None of the schools had staff trained in procedures for evacuating the schools. Three schools had tone alert radios.

Table 5 Results of the Survey of Public Schools within the EPZ

1. How many students attend your school?

	Orange	Putnam	Westchester	All Counties
Range	250-650	262-775	420-2000	250-2000
Mean	387	519	1023	699

3. Have you or someone in your school been contacted to discuss your role in the Indian Point Radiological Emergency Response plan?

	Orange	Putnam	Westchester	All Counties
Yes	2[a]	2[b]	4[c]	8[d]
No	1	0	0	1

3a. If yes, who contacted your school?[e]

	Orange	Putnam	Westchester	All Counties
County	0	0	1	1
State	0	0	1	1
Board of Education	1	0	1	2
Civil defense	0	1	0	1
Don't know	0	1	2	3
Other	1	0	0	1

3b. If yes, when was your school contacted?

	Orange	Putnam	Westchester	All Counties
1983	0	0	1	1
1982	2	0	1	3
Don't know	0	2	2	4

4. Have you or any of your staff received any training in procedures for evacuating your school?

	Orange	Putnam	Westchester	All Counties
Yes	2[a]	0[f]	0[g]	2[h]
No	1	2	4	7

5. Are any training sessions planned?

	Orange	Putnam	Westchester	All Counties
Yes	2	0	0	2
No	1	2	3	6
Don't know	0	0	1	1

Table 5 (Cont'd)

6. Who will contact you to tell you that your school is to be evacuated?

	Orange	Putnam	Westchester	All Counties
District office	0	0	3	3
Civil defense	1	1	0	2
County	1	0	0	1
Don't know	1	1	1	3

7. How will you be contacted?[e]

	Orange	Putnam	Westchester	All Counties
Telephone	2	2	2	6
Radio	1	0	2	3
In person	0	0	1	1
Don't know	1	0	0	1

8. Do you have a tone alert radio in your school?

	Orange	Putnam	Westchester	All Counties
Yes	2[a]	1[i]	3[j]	6[k]
No	1	1	1	3

9. Are you responsible for contacting any other schools or facilities in your area to inform them that they are to be evacuated?

	Orange	Putnam	Westchester	All Counties
Yes	1	0	0	1
No	2	1	3	6
Don't know	0	1	1	2

10. Have you been informed who will provide buses if evacuation becomes necessary?

	Orange	Putnam	Westchester	All Counties
Westpoint Tours	2	0	0	2
School district	1	1	0	2
Vanguard	0	0	2	2
Other	0	0	1	1
Don't know	0	1	1	2

Table 5 (Cont'd)

11. Have you been informed where your students will be taken initially if your school is evacuated?

	Orange	Putnam	Westchester	All Counties
Yes	2	2	4	8
No	1	0	0	1

[a]Confidence interval = (0.40, 0.80), confidence level = 100%.

[b]Confidence interval = (0.50, 1.00), confidence level = 100%.

[c]Confidence interval = (0.59, 1.00), confidence level = 90%; confidence interval = (0.10, 1.00), confidence level = 100%.

[d]Confidence interval = (0.66, 0.98), confidence level = 90%; confidence interval = (0.16, 0.98), confidence level = 100%.

[e]Multiple responses were given by some facilities.

[f]Confidence interval = (0.00, 0.50), confidence level = 100%.

[g]Confidence interval = (0.00,0.41), confidence level = 90%; confidence interval = (0.00, 0.90), confidence level = 100%.

[h]Confidence interval = (0.04, 0.46), confidence level = 89%; confidence interval = (0.04, 0.86), confidence level = 100%.

[i]Confidence interval = (0.25, 0.75), confidence level = 100%.

[j]Confidence interval = (0.34, 0.98), confidence level = 89%; confidence interval = (0.07, 0.98), confidence level = 100%.

[k]Confidence interval = (0.36, 0.88), confidence level = 90%; confidence interval = (0.12, 0.94), confidence level = 100%.

2.5 NONPUBLIC SCHOOLS, NURSERY SCHOOLS, AND DAY CARE CENTERS WITHIN THE EPZ

Nine of the 41 nonpublic schools, nursery schools, and day care centers within the EPZ were sampled. Of the nine schools surveyed,

- Eight (89%) had been contacted regarding the CRERP,
- Two (22%) had personnel with some training in evacuation procedures,

- None had training sessions planned, and
- Seven (78%) had tone alert radios.

Table 6 lists the questions and numerical results of this survey.

Orange County

Two Orange County nonpublic schools, nursery schools, or day care centers within the EPZ were included in the sample. One of the two schools had been contacted regarding its role in the CRERP. The staff of one school had received some training in procedures for evacuating the school. One facility had a tone alert radio, and the respondent at this facility expected to be contacted by radio in an emergency. The other facility had not received a tone alert radio, and the respondent there expected to be contacted by telephone.

Putnam County

In Putnam County, two nonpublic schools, nursery schools, or day care centers within the EPZ were included in the sample. Each of the schools had been contacted regarding its role in the CRERP. The staff of one school had received some training in procedures for evacuating the school. One of the schools had a tone alert radio and the respondent expected to be contacted by radio in an emergency. The other school did not have a tone alert radio, and the respondent there expected to be contacted by telephone.

Westchester County

Five Westchester County nonpublic schools, nursery schools, or day care centers within the EPZ were included in the sample. Each of the five schools had been contacted regarding its role in the CRERP. The staff of one of the five schools had received some training in procedures for evacuating the school. All five schools had tone alert radios in the buildings, and all respondents expected to be contacted by radio in an emergency.

2.6 SCHOOL DISTRICTS WITHIN THE EPZ

Eight of the school districts with schools within the EPZ were sampled. Of the eight districts surveyed;

- Seven (88%) had been contacted by the state or county,
- Two (25%) had personnel with some training in evacuation procedures,

Table 6 Results of the Survey of Nonpublic Schools, Nursery Schools, and Day Care Centers within the EPZ

1. How many students attend your school?

	Orange	Putnam	Westchester	All Counties
Range	17-129	40-100	62-425	17-425
Mean	73	70	217	152

3. Have you or someone in your school been contacted to discuss your role in the Indian Point Radiological Emergency Response Plan?

	Orange	Putnam	Westchester	All Counties
Yes	1[a]	2[b]	5[c]	8[d]
No	0	0	0	0
Don't know	1	0	0	1

3a. If yes, who contacted your school?

	Orange	Putnam	Westchester	All Counties
Utility	0	0	1	1
Don't know	1	2	4	7

3b. If yes, when was your school contacted?

	Orange	Putnam	Westchester	All Counties
1982	0	0	3	3
1981	0	0	2	2
Don't know	1	2	0	3

4. Have you or any of your staff received any training in procedures for evacuating your school?

	Orange	Putnam	Westchester	All Counties
Yes	1[a]	0[e]	1[f]	2[g]
No	0	1	4	5
Don't know	1	1	0	2

5. Are any training sessions planned?

	Orange	Putnam	Westchester	All Counties
Yes	0	0	0	0
No	1	1	5	7
Don't know	1	1	0	2

Table 6 (Cont'd)

6. Who will contact you to tell you that your school is to be evacuated?

	Orange	Putnam	Westchester	All Counties
Civil defense	0	1	0	1
Police	1	0	0	1
Other school	1	0	0	1
Radio	0	0	5	5
Don't know	0	1	0	1

7. How will you be contacted?[h]

	Orange	Putnam	Westchester	All Counties
Telephone	1	1	0	2
Radio	1	1	5	7

8. Do you have a tone alert radio in your school?

	Orange	Putnam	Westchester	All Counties
Yes	1[a]	1[a]	5[c]	7[m]
No	1	1	0	2

9. Are you responsible for contacting any other schools or facilities in your area to inform them that they are to be evacuated?

	Orange	Putnam	Westchester	All Counties
Yes	0	0	1	1
No	2	2	4	8

10. Have you been informed who will provide buses if evacuation becomes necessary?[h]

	Orange	Putnam	Westchester	All Counties
West Point Tours	1	0	3	4
Vanguard	0	0	0	0
Omnivan	0	0	1	1
Don't know	1	2	2	5

11. Have you been informed where your students will be taken initially if your school is evacuated?

	Orange	Putnam	Westchester	All Counties
Yes	2	2	4	8
No	0	0	1	1

[a]Confidence interval = 0.50, confidence level = 100%.

[b]Confidence interval = 1.00, confidence level = 100%.

[c]Confidence interval = (0.64,1.00) confidence level = 91%; confidence interval = (0.14,1.00) confidence level = 100%.

[d]Confidence interval = (0.66,0.98), confidence level = 90%; confidence interval = (0.20,0.98), confidence level = 100%.

[e]Confidence interval = 0.00, confidence level = 100%.

[f]Confidence interval = (0.03,0.56), confidence level = 89%; confidence interval = (0.03,0.89), confidence level = 100%.

[g]confidence interval = (0.05,0.46), confidence level= 90%; confidence interval = (0.05,0.83), confidence level = 100%.

[h]Multiple responses were given by some facilities.

[i]confidence interval = (0.54,0.95), confidence level = 90%; confidence interval = (0.17,0.95), confidence level = 100%.

- Two (25%) had such training scheduled, and
- Six (75%) had an official who knew who would contact the district if schools needed to be evacuated.

Table 7 lists the questions and numerical results of the school district survey.

Orange County

Both Orange County school districts within the EPZ were included in the sample. One district had been contacted by the state or county. The staff of one of the school districts had received some training in procedures for evacuating its schools. Neither district had a tone alert radio in the district office.

Putnam County

In Putnam County, two school districts within the EPZ were surveyed. Both districts had been contacted by the state or county. The staffs of the two school districts had not received any training in procedures for evacuating their schools. One of the districts had a tone alert radio in the district office.

Westchester County

Four Westchester County school districts within the EPZ were included in the survey. Each of the school districts in the sample had been contacted by the state or county. The staff of one district had received some training in procedures for evacuating its schools. Two of the sampled districts had tone alert radios in the district offices.

Table 7 Results of the Survey of School Districts within the EPZ

1. How many schools are in this district which are within the plume exposure emergency planning zone?

	Orange	Putnam	Westchester	All Counties
One school	1	1	1	3
Two schools	0	1	0	1
Three schools	1	0	1	2
Five schools	0	0	1	1
Ten schools	0	0	1	1

2. Have you or someone on your staff been contacted by the state or county to discuss your role in Indian Point Radiological Emergency Response Plan?

	Orange	Putnam	Westchester	All Counties
Yes	1[a]	2[b]	4[c]	7[d]
No	1	0	0	1

2a. If yes, who contacted you concerning the plan?

	Orange	Putnam	Westchester	All Counties
County	1	0	1	2
Civil defense	0	2	0	2
Utility	0	0	1	1
Other	0	0	2	2
Don't know	0	0	1	1

2b. If yes, when were you contacted concerning the plan?

	Orange	Putnam	Westchester	All Counties
1983	0	0	3	3
1982	1	2	1	4

3. Have you or any of your staff received any training in procedures for evacuating the schools in your district?

	Orange	Putnam	Westchester	All Counties
Yes	1[a]	0[e]	1[f]	2[g]
No	1	2	3	6

4. Are any training sessions planned?

	Orange	Putnam	Westchester	All Counties
Yes	1	0	1	2
No	0	1	3	4
Don't know	1	1	0	2

Table 7 (Cont'd)

5. Who will contact you to tell you that some or all of the schools in your district are to be evacuated?

	Orange	Putnam	Westchester	All Counties
Superintendent of Hendrick Hudson School District	0	1	2	3
Civil defense	0	1	0	1
Other	1	0	1	2
Don't know	1	0	1	2

6. How will you be contacted?[h]

	Orange	Putnam	Westchester	All Counties
Telephone	1	2	4	7
Radio	0	1	0	1
Don't know	1	0	0	1

7. Is there a tone alert radio in the district offices?

	Orange	Putnam	Westchester	All Counties
Yes	0	1	2	3
No	2	1	2	5

8. Are you responsible for contacting any other schools or facilities in your area to inform them that they are to be evacuated?

	Orange	Putnam	Westchester	All Counties
Yes	1	0	3	4
No	1	2	0	3
Don't know	0	0	1	1

[a]Confidence interval = 0.50, confidence level = 100%.

[b]Confidence interval = (0.67,1.00), confidence level = 100%.

[c]Confidence interval = (0.62,1.00), confidence level = 92%; confidence interval = (0.5,1.00), confidence level = 100%.

[d]Confidence interval = (0.69,0.92), confidence level = 88%; confidence interval = (0.54,0.92), confidence level = 100%.

[e]Confidence interval = (0.00,0.33), confidence level = 100%.

[f]Confidence interval = (0.125,0.625), confidence level = 100%.

[g]Confidence interval = (0.15,0.46), confidence level = 91%; confidence interval = (0.15,0.54), confidence level = 100%.

[h]Multiple responses were given by some facilities.

2.7 HOSPITALS AND NURSING HOMES WITHIN THE EPZ

Seven of the 23 hospitals and nursing homes within the EPZ were surveyed. Of the facilities surveyed;

- Six (86%) had been contacted by the state or county,
- Three (43%) had personnel with some training in evacuation procedures, and
- All (100%) had tone alert radios.

Respondents at three (43%) said that they did not know where residents would be taken it if became necessary to evacuate the facilities. Table 8 lists the questions and numerical results of the hospital and nursing home survey.

Orange County

One hospital and no nursing homes in Orange County are within the EPZ, so the survey is based on a 100% sample. The hospital had not been contacted by the state or county concerning the CRERP, had no personnel trained in evacuation procedures, and had no evacuation training sessions planned. The respondent did not know who would contact the hospital if an evacuation were necessary or where residents would be taken during an evacuation. The hospital did have a tone alert radio and sufficient vehicles to execute an evacuation.

Putnam County

In Putnam County, one hospital and one nursing home are within the EPZ, and each was surveyed. Both facilities had been contacted by the state or county concerning the CRERP. Neither facility had personnel trained in evacuation procedures, but training sessions were planned for one. One respondent knew who would contact the facility if an evacuation were necessary, and both facilities had tone alert radios. Neither respondent knew how many additional vehicles were needed for an evacuation. One respondent knew where its residents would be taken during an evacuation.

Westchester County

Four of the 20 hospitals and nursing homes in Westchester County within the EPZ were surveyed. All of these facilities had been contacted by the state or county concerning the CRERP, and the staff of three facilities had received some training in procedures for evacuating the residents of their facilities. Three facilities reported that additional training sessions were planned. One respondent knew who would contact the facility if an evacuation were necessary. Each facility had a tone alert radio. All of the respondents indicated that additional vehicles were needed for an evacuation and three knew where residents would be taken during an ev[illegible]

Table 8 Results of the Survey of Hospitals and Nursing Homes to be Evacuated

1. How many patients and residents do you have, on average?

	Orange	Putnam	Westchester	All Counties
Range	80	15-36	56-190	15-190
Mean	80	26	96	74

2a. On average, how many are ambulatory?

	Orange	Putnam	Westchester	All Counties
Range	75	14-20	8-150	8-150
Mean	75	17	65	53

2b. On average, how many require a wheelchair?

	Orange	Putnam	Westchester	All Counties
Range	5	1-8	0-78	0-78
Mean	5	5	27	18

2c. On average, how many require a stretcher?

	Orange	Putnam	Westchester	All Counties
Range	0	0-8	0-14	0-14
Mean	0	4	4	3

3. Have you been contacted by the state or county to discuss your role in the Indian Point Radiological Emergency Response Plan?

	Orange	Putnam	Westchester	All Counties
Yes	0[a]	2[b]	4[c]	6[d]
No	1	0	0	1

3a. If yes, who contacted you?[e]

	Orange	Putnam	Westchester	All Counties
Health department	---	0	1	1
Civil defense	---	1	0	1
County	---	0	2	2
Utility	---	0	1	1
Don't know	---	1	1	2

Table 8 (Cont'd)

3b. If yes, when were you contacted?

	Orange	Putnam	Westchester	All Counties
1982	---	2	1	3
Several times	---	0	2	2
Don't know	---	0	1	1

4. Have you or your staff received any training in procedures for evacuating the residents in your facility?

	Orange	Putnam	Westchester	All Counties
Yes	0[a]	0[b]	3[f]	3[g]
No	1	2	1	4

5. Are training sessions planned?

	Orange	Putnam	Westchester	All Counties
Yes	0	1	3	4
No	1	1	1	3

6. Who will contact you to tell you that your facility is to be evacuated?

	Orange	Putnam	Westchester	All Counties
Sheriff	0	1	1	2
Other	0	0	0	0
Don't know	1	1	3	5

7. How will you be contacted?[e]

	Orange	Putnam	Westchester	All Counties
Telephone	0	2	1	3
Radio	1	1	3	5

8. Is there a tone alert radio in your facility?

	Orange	Putnam	Westchester	All Counties
Yes	1	2	4	7
No	0	0	0	0

Table 8 (Cont'd)

9. How many facility-owned vehicles do you have available for evacuation of your residents?

		Orange	Putnam	Westchester	All Counties
Buses	Range	---	0	0	0
	Mean	---	0	0	---
Vans	Range	---	0-1	1-2	0-2
	Mean	---	1	1	---
Ambulances	Range	---	0-3	0	0-3
	Mean	---	2	0	---
Other	Range	5	0-1	0-1	0-5
	Mean	5	1	0	1

10. If this number is inadequate, how many additional vehicles would be needed?

	Orange	Putnam	Westchester	All Counties
2 buses	0	0	1	1
3 buses	0	0	1	1
Don't know	0	2	2	4
None	1	0	0	1

11. What facility will act as the reception center for your residents?

	Orange	Putnam	Westchester	All Counties
White Plains	0	0	2	2
Beacon	0	1	0	1
Cannon	0	0	1	1
Don't know	1	1	1	3

[a]Confidence interval = 0.00, confidence level = 100%.

[b]Confidence interval = 1.00, confidence level = 100%.

[c]Confidence interval = (0.60,1.00), confidence level = 90%; confidence interval = (0.20,1.00), confidence level = 100%.

[d]Confidence interval = (0.57,0.96), confidence level = 92%; confidence interval = (0.26,0.96), confidence level = 100%.

[e]Multiple responses were given by some facilities.

[f]Confidence interval = (0.35,0.95), confidence level = 90%; confidence interval = (0.15,0.95), confidence level = 100%.

[g]Confidence interval = (0.13,0.70), confidence level = 91%; confidence interval = (0.13,0.83), confidence level = 100%.

2.8 HOSPITALS CAPABLE OF TREATING RADIOLOGICALLY CONTAMINATED PATIENTS

Each of the six hospitals listed in the CRERP as being capable of treating radiologically contaminated patients was surveyed. Of the hospitals listed in the CRERP,

- Five (83%) had respondents who were aware that their hospitals may be used for the emergency treatment of patients if there is an emergency at the Indian Point Nuclear Power Station,
- Four (67%) had staffs trained for radiological emergencies, and
- All (100%) had standard operating procedures for treating contaminated patients.

Table 9 lists the questions and numerical results of this survey.

Orange County

Two hospitals are listed in the Orange County CRERP as being capable of treating radiologically contaminated patients, and both were included in the sample. Respondents at both hospitals were aware that their facilities may be used for the emergency treatment of radioactively contaminated patients if there is an emergency at Indian Point, and both had been contacted by the state or county. One respondent knew who would notify the hospital to prepare for contaminated patients. The staff of each hospital was trained for radiological emergencies, and each hospital had standard operating procedures for treating contaminated patients.

Putnam County

The one hospital in Putnam County that is listed in the CRERP was surveyed. Although the hospital had been contacted by the county, the survey respondent was not aware that the facility may be used for the emergency treatment of radioactively contaminated patients if there is an emergency at Indian Point. The respondent also did not know who would notify the hospital to prepare for such patients. The hospital staff has not been trained for radiological emergencies, but there were standard operating procedures for treating contaminated patients.

Westchester County

Westchester County has three hospitals listed in the CRERP to treat radioactively contaminated patients and each facility was surveyed. All of the respondents were aware that their hospitals may be used for the emergency treatment of patients if there is an emergency at Indian Point, and two had been contacted by the state or county. Each responded differently when asked

Table 9 Results of the Survey of Hospitals Capable of Treating Radiologically Contaminated Patients[a]

1. Do you know that this hospital may be used for the emergency treatment of patients if there is an emergency at the Indian Point Nuclear Power Station?

	Orange	Putnam	Westchester	All Counties
Yes	2	0	3	5
No	0	1	0	1

2. Who would notify you that your hospital should prepare for potentially contaminated injured patients?

	Orange	Putnam	Westchester	All Counties
County	0	0	1	1
County sheriff	1	0	0	1
Police department	0	0	1	1
Don't know	1	1	1	3

3. How would you be notified?[b]

	Orange	Putnam	Westchester	All Counties
Telephone	0	0	2	2
Radio	1	0	1	2
Other	0	0	1	1
Don't know	1	1	0	2

4. Have you been contacted by the state or county to discuss your role in responding to an emergency at the Indian Point Nuclear Power Station?

	Orange	Putnam	Westchester	All Counties
Yes	2	1	2	5
No	0	0	0	0
Don't know	0	0	1	1

4a. If yes, who contacted you?

	Orange	Putnam	Westchester	All Counties
County	1	0	1	2
Office of Natural Disasters	1	0	0	1
Other	0	0	1	1
Don't know	0	1	0	1

Table 9 (Cont'd)

4b. If yes, when were you contacted?

	Orange	Putnam	Westchester	All Counties
Dec. 1982	0	0	1	1
Over a year ago	1	1	0	2
Don't know	1	0	1	2

5. Is the staff of this facility trained for radiological emergencies that may take place at a nuclear power station?

	Orange	Putnam	Westchester	All Counties
Yes	2	0	2	4
No	0	1	1	2

5a. Are the following personnel on the staff at the facility?

	Orange	Putnam	Westchester	All Counties
Health Physicist	2	0	3	5
Health Physics Technician	0	0	2	2
X-ray Technician with health physics training	0	0	3	3

6. Are dosimeters provided for personnel who will be caring for contaminated injured persons?

	Orange	Putnam	Westchester	All Counties
Yes	1	1	3	5
No	0	0	0	0
Don't know	1	0	0	1

6a. If yes, what type of dosimeters are used?

	Orange	Putnam	Westchester	All Counties
Pocket self reading	0	0	2	2
Film badge	1	1	3	5
Thermoluminescent	0	0	0	0

Table 9 (Cont'd)

7. Are there survey instruments available?

	Orange	Putnam	Westchester	All Counties
Yes	2	0	2	4
No	0	1	0	1
Don't know	0	0	1	1

7a. If yes, what type of survey instruments are available?

	Orange	Putnam	Westchester	All Counties
Geiger counters	2	0	2	4

8. Can an area be set aside for the treatment of radioactively contaminated patients that is separate from normal hospital operations?

	Orange	Putnam	Westchester	All Counties
Yes	2	0	3	5
No	0	0	0	0
Don't know	0	1	0	1

9. Are there sinks, showers, and change areas?

	Orange	Putnam	Westchester	All Counties
Yes	2	0	2	4
No	0	0	1	1
No answer	0	1	0	1

10a. Are there facilities for solid waste containment and/or disposal?

	Orange	Putnam	Westchester	All Counties
Yes	2	0	3	5
No	0	1	0	1

10b. Are there facilities for liquid waste containment and/or disposal?

	Orange	Putnam	Westchester	All Counties
Yes	2	0	3	5
No	0	1	0	1

Table 9 (Cont'd)

10c. Can facilities for waste containment and/or disposal be disposed?

	Orange	Putnam	Westchester	All Counties
Yes	1	0	2	3
No	0	1	0	1
Don't know	1	0	1	2

11. Are communications available to communicate with fixed and mobile facilities?

	Orange	Putnam	Westchester	All Counties
Yes	2	1	2	5
No	0	0	1	1

11a. If yes, what communications systems are used?

	Orange	Putnam	Westchester	All Counties
Radio	2	1	2	5

12. Are there standard operating procedures for hospital personnel treating patients who have radioactively contaminated wounds, gross contamination, or gross gamma whole body exposures?

	Orange	Putnam	Westchester	All Counties
Yes	2	1	3	6
No	0	0	0	0

[a]Since all of the hospitals listed in the plans as being capable of treating radiologically contaminated patients were surveyed, no statistical analysis needed to be performed on the results.

[b]Multiple responses were given by some facilities.

who would notify the hospital to prepare for contaminated patients. Two hospitals had staff trained for radiological emergencies. All of the hospitals had standard operating procedures for treating contaminated patients.

2.9 AMBULANCES

Of the 89 ambulance companies and volunteer ambulance corps listed in the CRERP, 14 were included in the sample. Of those 14, three no longer exist; one was not operating at the time of the survey; and one is still operating, but repeated attempts to reach an official from this company were unsuccessful. From the completed nine surveys,

- Five (56%) of the companies were aware that they were designated to respond to radiological emergencies,
- Six (67%) had been contacted by the state or county,
- None had ambulances equipped with monitoring devices or potassium iodide (KI),
- Seven (78%) had ambulance crews that had been trained for radiological emergencies,
- Three (33%) had crews that had been trained in the care and treatment of radiologically injured or contaminated patients, and
- Two (22%) had standard operating procedures for ambulance crews treating radiologically injured patients.

Table 10 lists the questions and numerical results of the ambulance company survey.

Orange County

Five ambulance companies were included in the sample for Orange County. Of these five, one had been disbanded and a second was also assumed to be disbanded because surveyors were unable to contact anyone who was aware of its existence. From the remaining three companies, one respondent was aware that the CRERP had designated the company to respond to radiological emergencies at Indian Point. One company had been contacted by the county. The ambulance crews of two of the three companies were trained for radiological emergencies. No ambulances were equipped with monitoring devices or KI.

Table 10 Results of the Survey of Ambulance Companies

1. Are you aware that your company is designated to respond to radiological emergencies in the Indian Point Radiological Emergency Response Plan?

	Orange	Putnam	Westchester	All Counties
Yes	1[a]	3[b]	1[c]	5[d]
No	2	1	1	8[e,f]

2. Who would notify you that your company is to provide services?[g]

	Orange	Putnam	Westchester	All Counties
Sheriff/police	2	2	1	5
Civil defense	2	1	0	3
County	0	1	0	1
Don't know	0	0	2	2

3. How would you be notified that your company is to provide services?[g]

	Orange	Putnam	Westchester	All Counties
Radio	3	3	1	7
Telephone	2	1	0	3
Police	0	0	1	1

4. Have you been contacted by the state or county to discuss your role in responding to an emergency at the Indian Point Nuclear Power Station?

	Orange	Putnam	Westchester	All Counties
Yes	1[a]	3[b]	2[h]	6[i]
No	2	1	0	7[e,f]

4a. If yes, who contacted the company?

	Orange	Putnam	Westchester	All Counties
County	0	1	1	2
Civil defense	1	2	0	3
Don't know	0	0	1	1

4b. If yes, when was the company contacted?

	Orange	Putnam	Westchester	All Counties
1983	0	0	2	2
1982	1	0	0	1
Don't know	0	3	0	3

Table 10 (Cont'd)

5. Are ambulance crews of this facility trained for radiological emergencies that may take place at a nuclear power plant?

	Orange	Putnam	Westchester	All Counties
Yes	2[j]	4[k]	1[c]	7[l]
No	1	0	1	6[e,f]

6. What type of equipment is there to communicate with fixed and mobile facilities?

	Orange	Putnam	Westchester	All Counties
Radio	3	4	2	9
Walkie-talkie	1	0	0	1
Radio pager	1	0	0	1

7. Are ambulances equipped with monitoring devices?

	Orange	Putnam	Westchester	All Counties
Yes	0	0	0	0
No	3	3	2	12[e,f]
Don't know	0	1	0	1

8. Are ambulance crews trained in the use of monitoring equipment and dosimeters?

	Orange	Putnam	Westchester	All Counties
Yes	0	1	0	1
No	3	2	2	12[e,f]
Don't know	0	1	0	1

9. Does the ambulance have the following equipment? (number of companies answering yes)

	Orange	Putnam	Westchester	All Counties
Gloves	2	3	2	7
Blankets	2	4	2	8
Waste containers	2	2	1	5
Batteries	1	2	0	3
Labels	2	2	2	6

Table 10 (Cont'd)

10. Are ambulance crews trained in the care and treatment of radiologically injured or contaminated patients?

	Orange	Putnam	Westchester	All Counties
Yes	1	2	0	3
No	2	2	2	10[e,f]

11. Are there standard operating procedures for ambulance crews treating patients that have radioactive wounds, gross contamination, or gross gamma whole body exposures?

	Orange	Putnam	Westchester	All Counties
Yes	1	1	0	2
No	2	3	2	11[e,f]

12. Are ambulance crews trained in the use of potassium iodide and is it available for use?

	Orange	Putnam	Westchester	All Counties
Yes	0	0	0	0
No	3	4	2	13[e,f]

13. Where do ambulance drivers transport patients?

	Orange	Putnam	Westchester	All Counties
Westchester County Medical Center	0	0	2	2
Putnam Community Hospital	0	1	0	1
Butterfield Hospital	0	1	0	1
St. Anthony's Hospital	1	0	0	1
Arden Hill Hospital	1	0	0	1
Nearest hospital	2	0	0	2
Don't know	0	2	0	2

[a]Confidence interval = (0.04,0.78), confidence level = 89%; confidence interval = (0.04,0.93), confidence level = 100%.

[b]Confidence interval = (0.36,0.91), confidence level = 91%; confidence interval = (0.27,0.91), confidence level = 100%.

[c]Confidence interval = (0.02,0.80), confidence level = 91%; confidence interval = (0.02,0.96), confidence level = 100%.

[d]Confidence interval = (0.18,0.63), confidence level = 90%; confidence interval = (0.06,0.91), confidence level = 100%.

[e]Includes one company that no longer exists and one company that commenced operations in Feb. 1983.

[f]Includes one company that has been disbanded and one company that apparently no longer exists.

[g]Multiple responses were given by some companies.

[h]Confidence interval = (0.31,1.00), confidence level = 91%; confidence interval = (0.04,1.00), confidence level = 100%.

[i]Confidence interval = (0.24,0.70), confidence level = 90%; confidence interval = (0.07,0.92), confidence level = 100%.

[j]Confidence interval = (0.22,0.96), confidence level = 89%; confidence interval = (0.07,0.96), confidence level = 100%.

[k]Confidence interval = (0.64,1.00), confidence level = 91%; confidence interval = (0.36,1.00), confidence level = 100%.

[l]Confidence interval = (0.30,0.76), confidence level = 90%; confidence interval = (0.08,0.93), confidence level = 100%.

Putnam County

In Putnam County, four ambulance companies were surveyed. All were associated with local fire departments. Three of the respondents questioned were aware that their companies were designated in the CRERP to respond to radiological emergencies at Indian Point, and three had been contacted by the state or county. All of the ambulance crews had received training for radiological emergencies. No ambulances were equipped with monitoring devices or KI.

Westchester County

Five ambulance companies in Westchester County were chosen to be sampled. One of these no longer exists, a second was not operating at the time of the survey, and surveyors were unable to reach an official from a third company, despite repeated attempts to do so. One of the other two company respondents was aware that the CRERP designated the company to respond to radiological emergencies at Indian Point, and both of these companies had been contacted by the state or county. One company had crews that had been trained for radiological emergencies. No ambulances were equipped with monitoring devices or KI.

2.10 PERSONNEL MONITORING CENTERS

Based upon an examination of the Orange, Westchester, and revised Putnam CRERPs, it was determined that personnel monitoring centers will be established as needed and where needed during a radiological emergency. Attachment 11 in Sec. 3 (Health) of the Orange CRERP reads in part:

> During a radiological emergency, the County Commissioner of Health is responsible for the radiological exposure control of emergency response personnel. Activities associated with this responsibility include, but are not limited to, the following: . . . 7. Establishing facilities for the decontamination of exposed emergency personnel.

The revised Putnam CRERP states:

> Personnel monitoring centers will be established at the time of an emergency outside but near the 10-mile EPZ. Locations will be communicated at the time to emergency team leaders and supervisors. (Attachment 12, County Radiological Officer)

Accordingly, since no sites in Orange County or Putnam County have been designated as personnel monitoring centers, it was impossible to survey such centers.

At the time of the verification analysis, the Westchester CRERP did not indicate where personnel monitoring centers will be located. Subsequent revisions to the plan state:

> 2.1 Appropriate personnel monitoring centers will be established and operational unless the determination is made by the County Chief Executive that none are needed because of the absence of a release of radioactive material sufficient to cause a contamination problem.
>
> 2.2 Personnel monitoring centers [PMCs] will be activated at the time of an emergency outside the 10-mile EPZ. Activation and locations will be communicated to emergency team leaders and supervisors and Commissioner/Sheriff in the event traffic control is required at PMC locations. The PMC for County Emergency Workers is currently the Westchester County Fire Training Center, Dana Road, Valhalla, N.Y. (Section 3, Attachment 13)

Since the facility at the Westchester County Fire Training Center was not originally included in the CRERP, the verification analysis could not include the facility.

APPENDIX A

QUESTIONNAIRES USED IN THE SURVEY

BUS COMPANIES

B.C. Interview I.D. # _____
Interviewer _____

Verified by:	Date Completed
Telephone	_____
Letter (received)	_____
Field Visit	_____

FEMA/REP VERIFICATION FORM

Indian Point Nuclear Generating Station

I. ORGANIZATION VERIFICATION DATA

	Information taken from _____ Plan	Verification Data (if same as plan, indicate "Same")
1. Company Information		
Company Name	_____	_____
General Manager	_____	_____
Telephone Number	_____	_____
Business Address	_____	_____
	_____	_____
2. Garage Information		
Garage Address	_____	_____
	_____	_____
Telephone Number	_____	_____
Person in Charge	_____	_____
Title	_____	_____

B.C Interview I.D. #_____
Interviewer's Initials _____

QUESTIONNAIRE	PLAN	VERIFICATION (enter response; put D.K. if respondent does not know)
1. Information source being verified (check one) New York State Plan ___ County Plan _____ (Name of County)		
2. How many buses and vans do you have in your garage? Buses Vans	_____ _____	_____ _____
3. On an average day, how many buses and vans do you have in working condition? Buses Vans	_____ _____	_____ _____
4. What is the average capacity of the buses and vans that you have in working condition on an average day? Buses Vans	_____ _____	_____ _____
5. How many of your vehicles are equipped to transport handicapped, nonambulatory individuals?	_____	_____
6. How many licensed bus and van drivers do you employ?	_____	_____

B.C. Interview I.D. # _____
Interviewer's Initials _____

II. QUESTIONNAIRE (Cont'd)

	PLAN	VERIFICATION
7. How many vehicles do you use on an ordinary daily basis when schools are in session?		
For schools (public and private)	_____	_____
For general population	_____	_____
For special facilities	_____	_____
8. How many vehicles do you use on an ordinary daily basis when schools are not in session? (weekends, vacations, summers, etc.)		
Not in use	_____	_____
For general population	_____	_____
For special facilities	_____	_____
Other (specify)	_____	_____
9. Approximately how many of your vehicles are equipped with mobile communications equipment?	_____	_____

10. Have you or someone in your organization been contacted by State or County representatives to discuss your role in the Indian Point Radiological Emergency Response Plan?

_____ Yes
_____ No

Who _____ When _____

11. Does your organization have a formal agreement to supply vehicles in the event of a radiological emergency at the Indian Point Nuclear Generating Station?

Yes _____
No _____

Yes _____
_____
Date if known
No _____
_____
Do not know

B.C. Interview I.D. # _____
Interviewer's Initials _____

QUESTIONNAIRE (Cont'd)	PLAN	VERIFICATION
12. Who would contact you and tell you to deploy your vehicles in the event an evacuation became necessary?	_____	_____
13. How would you be contacted? (e.g. phone, radio, etc.)	_____	_____
14. How would you notify your vehicle drivers to report to the garage in the event they were needed for an evacuation?	_____	_____
15. Is your garage located within the 10 mile Emergency Planning Zone? No ____ Yes ____ (if yes, ask: How will you communicate with your drivers if there is a total evacuation and your dispatcher must leave the garage?)	_____ _____	
16. How many vehicles will you use if evacuation becomes necessary?		
First wave (Total)	_____	_____
Schools	_____	_____
General Population	_____	_____
Special Facilities	_____	_____
Second wave (Total)	_____	_____
Schools	_____	_____
General Population	_____	_____
Special Facilities	_____	_____

B.C. Interview I.D. # _____
Interviewer's Initials _____

II. QUSTIONNAIRE (Cont'd) PLAN VERIFICATION

17. Do you have maps or lists of evacuee pickup locations available for distribution to your vehicle drivers?

_____ Yes
_____ No
_____ Other (specify)
_____ Do not know

18. How many of your vehicle drivers have received formal training on radiological emergency response preparedness (including dosimetry, evacuation routes, etc.) _____ _____

19. Are your vehicle drivers scheduled to receive radiological emergency response training in the future?

_____ Yes Date (if known) _____
_____ No
_____ Do not know

20. How many dosimeters do you have available for distribution to your drivers?

Low range self reading	_____	_____
High range self reading	_____	_____
Film badges	_____	_____
Total Dosimeters	_____	_____
No. of bus drivers	_____	_____

21. Where are your dosimeters stored?

_____
_____

RECEPTION CENTERS

R.C. Interview I.D. # _____
Interviewer _____
Verified by: Date Completed
Telephone _____
Letter _____
Field Visit _____

FEMA/REP VERIFICATION FORM

Indian Point Nuclear Generating Station

I. ORGANIZATION VERIFICATION DATA

	Information taken from _____ Plan	Verification Data (if same plan, indicate "same")
1. Building Name	_____	_____
2. Address	_____	_____
	_____	_____
3. Telephone Number	_____	_____
4. Person in Charge of Building	_____	_____
5. Person in charge of Congregate Care Center	_____	_____
Telephone Number	_____	_____

6. Is this a school?

_____ Yes
_____ No

II. QUESTIONNAIRE

Questions to be asked of person in charge of normal building operations:

1. Are you aware that your building is designated as a Reception Center in the Indian Point Radiological Emergency Response Plan?

   _____ Yes
   _____ No (if no, ask who is "in charge" of the building and ask the questions of that person)

2. Who would notify you that your building is to be activated as a Reception Center?

   Name _____ Don't know _____

3. How would you be notified that your building is to be activated as a Reception Center?

   _____ Telephone
   _____ Radio
   _____ Other (specify) _____
   _____ Don't know

4. Is your building utilized 12 months a year?

   _____ Yes
   _____ No

5. Who is authorized to open the building after working hours (and weekends, vacations, summers if applicable) in case it is needed as a Reception Center during a radiological emergency? _____

   Don't know _____

6. Is there a back-up person name available in case the regular person isn't available?

   Yes _____ Name _____
   No _____
   Don't know _____

II. QUESTIONNAIRE (Cont'd)

7. What is the normal daily occupancy of your building?

_____ persons

8. What is the capacity of your parking lot?

_____ automobiles
_____ buses/vans

9. Are there showers in your building?

Yes _____ How many male? _____
No _____ How many female? _____

10. Approximately how many toilets are there in your building?

_____ Male
_____ Female

11. In the event of a radiological emergency at the Indian Point Nuclear Generating Station, who is in charge of operations at the Reception Center to be located in your building?

Name _____
Title _____
Address _____
_____

Telephone Numbers
Business _____
Home _____

(Ask only for a reception center located in a school)

12. Do you have any plans for your own students if you are notified that your school will be used as a reception center?

No _____
Yes _____ If yes, briefly describe them._____
_____

III. QUESTIONNAIRE

Questions to be asked of person in charge of reception center at _____.

(if respondent does not know, indicate with D.K.)

1. Who would notify you that your Reception center is to be activated.

   _____

2. How would you receive this notification?

   Telephone _____ EBS message _____
   Radio _____ Other _____

3. How many staff are assigned to the facility?

   _____

4. Are there enough personnel to staff more than one shift?

   Yes _____ No _____

5. Are all personnel assigned to work in the facility trained in handling mass evacuees?

   Yes _____ No _____

6. Do you have forms for registering people who come to the facility?

   Yes _____ No _____

7. Is there a capability for decontamination and radiation monitoring?

   Yes _____ No _____

(Ask questions 8, 9, 10 and 11 only if yes to 7)

8. Are you able to:

Monitor people?	Yes_____	No_____
Decontaminate people?	Yes_____	No_____
Monitor vehicles?	Yes_____	No_____
Decontaminate vehicles?	Yes_____	No_____

9. Do you have procedures to handle waste generated during contamination of people and vehicles?

Solid waste?	Yes_____	No_____
Liquid waste?	Yes_____	No_____

III. QUESTIONNAIRE (Cont'd)

10. Do you have a supply of clothing for use in place of contaminated clothing?

Yes_____ No_____

11. Where can additional supplies be obtained?

_____

12. How would the Reception center maintain communications with the county Emergency Operations Center?

Telephone _____ Radio _____ Other (Specify) _____

13. How would the Reception center maintain communications with Congregate Care Center?

Telephone _____ Radio _____ Same location _____
Other (Specify) _____

14. From whom would you receive notifications on the status of the emergency?

County EOC _____ EBS reports _____ Other (Specify) _____

CONGREGATE CARE RELOCATION CENTERS

C.C.R.C. Interview I.D. # _____

Interviewer _____

Verified by:	Date Completed
Telephone	_____
Letter	_____
Field Visit	_____

FEMA/REP VERIFICATION FORM

Indian Point Nuclear Generating Station

I. ORGANIZATION VERIFICATION DATA

	Information taken from _____ Plan	Verification Data (if same plan, indicate "same")
1. Building Name	_____	_____
2. Address	_____	_____
	_____	_____
3. Telephone Number	_____	_____
4. Person in Charge of Building	_____	_____
5. Person in Charge of Congregate Care Center	_____	_____
Telephone Number	_____	_____

6. Is this a school?

_____ Yes

_____ No

II. QUESTIONNAIRE

Questions to be asked of person in charge of normal building operations: (if respondent does not know, indicate with D.K.)

1. Are you aware that your building is designated as a Congregate Care Center in the Indian Point Radiological Emergency Response Plan?

   _____ Yes
   _____ No (if no, ask who is "in charge" of the building and ask the questions of that person)

2. Who would notify you that your building is to be activated as a Congregate Care Center?

   Name _____ Don't know _____

3. How would you be notified that your building is to be activated as a Congregate Care Center?

   _____ Telephone
   _____ Radio
   _____ Other (specify) _____

4. Is your building utilized 12 months a year?

   _____ Yes
   _____ No

5. Who is authorized to open the building after working hours (and weekends, vacations, summers, if applicable) in case it is needed as a Congregate Care Center during a radiological emergency? _____

6. Is there a back-up person available in case the regular person isn't available?

   _____ Yes Name _____
   _____ No

II. QUESTIONNAIRE (Cont'd)

7. What is the normal daily occupancy of your building?

_____ persons

8. What is the capacity of your parking lot?

_____ Automobiles
_____ buses/vans

9. Are there showers in your building?

Yes _____ How many male? _____
No _____ How many female? _____

10. Approximately how many toilets are there in your building?

_____ Male
_____ Female

11. In the event of a radiological emergency at the Indian Point Nuclear Generating Station, who is in charge of operations at the Congregate Care Center to be located in your building?

Name _____
Title _____
Address _____
_____

Telephone Numbers
Business _____
Home _____

12. Do you have any plans for your students if you are notified that your school will be used as a reception center:

_____ No
_____ Yes If yes, please briefly describe them.

_____
_____

III. QUESTIONNAIRE

Questions to be asked of person in charge of Congregate Care Center at _____.
(if respondent does not know, indicate with D.K.)

1. Who would notify you that your Congregate Care Center is to be activated?
_____

2. How would you receive this notification?

Telephone _____ EBS Message _____
Radio _____ Other _____

3. What is the capacity of the facility?
_____

4. How many personnel are assigned to the facility?
_____

5. Are there enough personnel to staff more than one shift?

Yes _____ No _____

6. Are all personnel assigned to work in the facility trained in handling mass evacuees?

Yes _____ No _____

If no, how many individuals have been trained? _____

7. Do you have procedures for handling people arriving without papers indicating that they have been processed at a reception center?

Yes _____ No _____ Don't know _____

8. If yes, what are your procedures:
_____?

9. (If yes to 7) Can your facility be configured to maintain a separation between people who have been processed through a reception center and those who have not?

Yes _____ No _____ Don't know _____

10. Are sleeping accommodations (beds, cots, blankets) provided?

Yes _____ No _____ If yes, how many _____

11. How would the Congregate Care Center maintain communications with the County Emergency Operation Center?

Telephone _____ Radio _____ Other (specify) _____

III. QUESTIONNAIRE (Cont'd)

12. How would the center maintain communications with the Reception Center?

Telephone _____ Radio _____ Same location _____ Other (specify) _____

13. From whom would you receive emergency notification on the status of the emergency?

County EOC _____ EBS Reports _____ Other (Specify) _____

SCHOOLS TO BE EVACUATED

School Interview I.D. # _____
Interviewer _____
Verified by: Date Completed
Telephone _____
Letter _____
Field Visit _____

FEMA/REP VERIFICATION FORM

Indian Point Nuclear Generating Station

I. ORGANIZATION VERIFICATION DATA

	Information taken from _____ Plan	Verification Data (if same plan, indicate "same")
1. School Name	_____	_____
2. Address	_____	_____
	_____	_____
3. Person in Charge of School	_____	_____
4. Telephone Number	_____	_____

5. Is school still in operation?

Yes_____ No_____

II. QUESTIONNAIRE

1. How many students attend your school? _____

2. What hours is your school in session? _____

3. Have you or someone in your school been contacted to discuss your role in the Indian Point Radiological Emergency Response Plan?

   Yes_____ No_____ Don't know_____

   If yes,
   Who (name) _____ When _____
   Title/Organization _____

4. Have you or any of your staff received any training in procedures for evacuating your school?

   Yes_____ No_____ Don't know_____

   If yes, what? _____

5. Are any training sessions planned?

   Yes_____ No_____ Don't know_____

   If yes, details (what, when) _____
   _____

6. Who will contact you to tell you that your school is to be evacuated?

   Name _____ Title _____

7. How will you be contacted?

   _____ Telephone
   _____ Tone alert radio
   _____ Other (specify) _____

8. Do you have a tone alert radio in your school?

   Yes_____ No_____ Don't know_____

9. Are you responsible for contacting any other schools or facilities in your area to inform them that they are to be evacuated?

   Yes_____ No_____ Don't know_____

   If so, which one(s)?
   _____
   _____
   _____
   _____

II. QUESTIONNAIRE (Cont'd)

10. Have you been informed who will provide buses if evacuation becomes necessary?

Yes_____ No_____ Don't know_____

If yes, who? _____

11. Have you been informed where your students will be taken initially if your school is evacuated?

Yes_____ No_____ Don't know_____

If yes, where? _____

SCHOOL DISTRICTS WITHIN
THE PLUME EXPOSURE EPZ

School District Interview I.D. # _____
Interviewer _____
Verified by: Date Completed
Telephone _____
Letter _____
Field Visit _____

FEMA/REP VERIFICATION FORM

Indian Point Nuclear Power Station

I. ORGANIZATION VERIFICATION DATA

1. School District Name _____

2. Address _____

3. Superintendent of Schools _____

4. Telephone Number _____

II. QUESTIONNAIRE (Cont'd)

1. How many schools are in this district which are within the plume exposure emergency planning zone?

_____

2. Have you or someone on your staff been contacted by the state or county to discuss your role in the Indian Point Radiological Emergency Response Plan?

Yes_____ No_____ Don't know_____

If yes,
Who (name) _____, When _____
Title/Organization _____

3. Have you or any of your staff received any training in procedures for evacuating the schools in your district?

Yes_____ No_____ Don't know_____

If yes, please briefly describe.

_____

_____

4. Are any training sessions planned?

Yes_____ No_____ Don't know_____

If yes, please give details (when, what)?

_____

_____

5. Who will contact you to tell you that some or all of the schools in your district are to be evacuated?

Name _____ Title _____

6. How will you be contacted?

_____ Telephone
_____ Tone alert radio
_____ Other (specify) _____

7. Is there a tone alert radio in the district offices?

Yes_____ No_____ Don't know_____

8. Are you responsible for contacting any other schools or facilities in your area to inform them that they are to be evacuated?

Yes_____ No_____ Don't know_____

If so, which ones(s)?

_____

_____

_____

_____

_____

_____

SPECIAL FACILITIES TO BE EVACUATED

S. F. Interview I.D. # _____
Interviewer _____

Verified by:	Date Completed
Telephone	_____
Letter	_____
Field Visit	_____

FEMA/REP VERIFICATION FORM

Indian Point Nuclear Power Station

I. ORGANIZATION VERIFICATION DATA

		Information taken from _____ Plan	Verification Data (if same plan, indicate "same")
1. Facility Type	_____ Hospital _____ Nursing Home _____ _____ Other (specify) _____		
2. Facility Name		_____	_____
3. Address		_____	_____
		_____	_____
4. Person in charge of facility		_____	_____
5. Title/Position		_____	_____
6. Telephone Number		_____	_____

II. QUESTIONNAIRE

1. How many patients and residents do you have, on average?

_____

2. On average, how many:

are ambulatory? _____
require a wheelchair? _____
require a stretcher? _____

3. Have you been contacted by the state or county to discuss your role in the Indian Point Radiological Emergency Response Plan?

Yes_____ No_____ Don't know_____

If yes,
Who _____, When _____
Title/Organization _____

4. Have you or your staff received any training in procedures for evacuating the residents in your facility?

Yes_____ No_____ Don't know_____

If yes, describe briefly:

_____
_____

5. Are training sessions planned:

Yes_____ No_____ Don't know_____

If yes, please describe briefly:

_____
_____

6. Who will contact you to tell you that your facility is to be evacuated?

Name _____ Title _____

7. How will you be contacted?

_____Telephone
_____ Tone alert radio
_____ Other (specify) _____

8. Is there a tone alert radio in your facility?

Yes_____ No_____ Don't know_____

II. QUESTIONNAIRE (Cont'd)

9. How many facility-owned vehicles do you have available for evacuation of your residents?

_____ Buses
_____ Vans
_____ Ambulances

10. If this number is inadequate, how many additional vehicles would be needed?

_____ Buses
_____ Vans
_____ Ambulances

Who will provide them?

_____

11. What facility will act as the reception center for your residents?

Name _____ Location _____

HOSPITALS

H. Interview I.D. # _____
Interviewer _____

Verified by:	Date Completed
Telephone	_____
Letter	_____
Field Visit	_____

FEMA/REP VERIFICATION FORM

Indian Point Nuclear Generating Station

I. ORGANIZATION VERIFICATION DATA

	Information taken from _____ Plan	Verification Data (if same plan, indicate "same")
1. Hospital Name	_____	_____
2. Address	_____	_____
	_____	_____
3. Telephone Number	_____	_____
4. Person in Charge Radiological Emergency Response	_____	_____

II. QUESTIONNAIRE

Questions to be asked of person in charge of Radiological Emergency Response at the facility:

1. Do you know that this hospital may be used for emergency treatment of patients if there is an emergency at the Indian Point Nuclear Power Station?

   Yes_____ No_____ Don't know_____

2. Who would notify you that your hospital should prepare for potentially contaminated injured patients?

   _____ Name _____ Don't know

3. How would you be notified?

   Telephone _____
   Radio _____
   Other (specify) _____

4. Have you been contacted by the state or county to discuss your role in responding to an emergency at the Indian Point Nuclear Power Stations:

   Yes_____ No_____ Don't know_____

   If Yes,
   By Whom _____ When _____

   Title/Organization _____

5. Is the staff of this facility trained for Radiological Emergencies that may take place at a nuclear power station?

   Yes_____ No_____ Don't know_____

   If Yes,
   Is there a Health Physicist on the staff Yes _____ No _____
   Is there a Health Physics Technician Yes _____ No _____
   An X-Ray technician with H.P. training Yes _____ No _____

6. Are dosimeters provided for personnel who will be caring for contaminated injured persons?

   Yes_____ No_____ Don't know_____

II. QUESTIONNAIRE (Cont'd)

If Yes,
What type of dosimeters are used,

_____ Pocket self reading
_____ Film Badge
_____ TLDs

7. Are there survey instruments available?

Yes_____ No_____ Don't know_____

If yes,
What type? explain briefly _____

8. Can an area be set aside for the treatment of radioactive contaminated patients that is separate from normal hospital operations?

Yes_____ No_____ Don't know_____

9. Are there sinks, showers and change areas?

Yes_____ No_____ Don't know_____

10. Are there facilities for waste containment and/or disposal?

Yes_____ No_____

Solids? _____
Liquids? _____
Can they be disposed? _____

11. Are communications available to communicate with fixed and mobile facilities?

Yes_____ No_____ Don't know_____

If Yes,
What is used?
Telephone _____
Radio _____
Radio pagers _____

12. Are there Standard Operating Procedures for hospital personnel treating patients who have radioactive contaminated wounds, gross contamination or gross gamma whole body exposures?

Yes_____ No_____ Don't know_____

II. QUESTIONNAIRE (Cont'd)

If this facility cannot treat contaminated patients, what hospitals with capabilities for doing blood chemistry and whole body scanning are mentioned in the SOP's?

_____

_____

_____

_____

AMBULANCE COMPANIES

A.C. Interview I.D. # _____
Interviewer _____
Verified by: Date Completed
Telephone _____
Letter _____
Field Visit _____

FEMA/REP VERIFICATION FORM

Indian Point Nuclear Generating Station

I. ORGANIZATION VERIFICATION DATA

	Information taken from _____ Plan	Verification Data (if same plan, indicate "same")
1. Company Name	_____	_____
2. Address	_____	_____
	_____	_____
3. Telephone Number	_____	_____
4. Person in Charge of Company	_____	_____

II. QUESTIONNAIRE

Questions to be asked of person in charge of Radiological Emergency Response at Ambulance Services.

1. Are you aware that your company is designated to respond to radiological emergencies in the Indian Point Radiological Emergency Response Plan?

   _____ Yes
   _____ No (if no, ask who is "in charge" of the company and ask the questions of that person)

2. Who would notify you that your company is to provide services?

   Name _____ Don't know _____

3. How would you be notified that your company is to provide services?

   _____ Telephone
   _____ Radio
   _____ Other (specify) _____

4. Have you been contacted by the state or county to discuss your role in responding to an emergency at the Indian Point Nuclear Power Station?

   Yes_____ No_____ Don't know_____

   If Yes,
   By Who _____ When _____

   Title/Organization _____

5. Are the ambulance crews of this facility trained for Radiological Emergencies that may take place at a nuclear power plant?

   If Yes,
   By Whom _____ When _____

   Title/Organization _____

6. Is there equipment to communicate with fixed and mobile facilities?

   Yes_____ No_____ Don't know_____

   If Yes,
   What type?
   Radio _____
   Radio pagers _____
   Walkie-talkie _____

II. QUESTIONNAIRE (Cont'd)

7. Are ambulances equipped with monitoring devices?

Yes_____ No_____ Don't know_____

If Yes,
What type?
Survey meters _____
Dosimeters, pocket self reading_____
TLDs or film badges _____

8. Are ambulance crews trained in the use of monitoring equipment and dosimeters?

Yes_____ No_____ Don't know_____

If Yes,
By Whom _____ When _____

Title/Organization _____

9. Does the ambulance have the following equipment?

Gloves (rubber or plastic) _____
Blankets or coverings (plastic or paper) _____
Plastic bags or large metal cans for wastes_____
Batteries for survey instruments _____
Tags, labels, tape _____

10. Are ambulance crews trained in the care and treatment of radiologically injured or contaminated patients?

Yes_____ No_____ Don't know_____

If Yes,
By Whom _____ When _____

Title/Organization _____

11. Are there standard operating procedures for ambulance crews treating patients that have radioactive wounds, gross contamination or gross gamma whole body exposures?

Yes_____ No_____ Don't know_____

12. Potassium iodide (KI) as a radioactive iodine blocker is used for protection against the uptake radioactive iodine that may be present during an accident at nuclear power stations. Are ambulance crews trained in the use of this drug and is it available for use?

Yes_____ No_____ Don't know_____

II. QUESTIONNAIRE (Cont'd)

13. Where do ambulance drivers transport patients?

_____ Don't know _____
Place

APPENDIX B

CONFIDENCE INTERVALS

Introduction

In many practical situations, statistical and probability theory can be used to analyze the information obtained by surveys. In particular, a confidence interval can be placed around an estimate of the presence or absence of some characteristic in a population by taking random samples of only a portion of that population.* For example, a confidence interval can be placed around the estimated number of institutions prepared to meet a radiological emergency by randomly sampling only a fraction of these institutions. For this and similar situations in which sampling all members of the population is expensive or impossible, statistical and probability theory is used to interpret information from a given set of samples. This theory allows one, for example, to estimate the characteristic of interest and place a "C x 100%" confidence interval around that estimate. The general theory further states that C x 100% of all such confidence intervals so constructed will in fact contain the "true" value. The confidence limits are upper and lower bounds.

Theory

Consider a population of N objects, K of which are "successes" (prepared, for example), and N - K of which are "not successes" (not prepared). If a random sample of size NS is taken from the population of N, then the hypergeometric probability function provides the probability that X objects of those NS randomly sampled without replacement will be successes, given that K of the N objects in the whole population are successes. The hypergeometric probability function is defined as

$$f(X;\ N,\ NS,\ K) = \frac{\binom{K}{X}\binom{N-K}{NS-X}}{\binom{N}{NS}}$$

where the "combination" or "binomial coefficient" expression is

$$\binom{a}{b} = \frac{a!}{(a-b)!b!}$$

and the factorial is defined as

$$a! = a(a-1)(a-2)(a-3)\ldots(3)(2)(1)$$

---

*A confidence interval is a range of values which may or may not include the parameter of interest. The degree of belief (which should not be interpreted as a probability) that the confidence interval actually contains the true value is the confidence level.

The cumulative hypergeometric distribution function is defined as the probability of finding X or fewer successes in a random sample of NS objects from a population of N objects. Mathematically this is written as:

$$F(X;\ N,\ NS,\ K) = \sum_{r=0}^{X} \frac{\binom{K}{r}\binom{N-K}{NS-r}}{\binom{N}{NS}} = \sum_{r=0}^{X} f(r;\ N,\ NS,\ K)$$

The tables of Appendix C provide individual and cumulative values of the hypergeometric distribution for N = 2 to 12, for all possible combinations of NS, K and X.*

To illustrate the use of the tables, consider the first page of Appendix C; the first entry in the right-hand column indicates that there is a 0.60 probability of having 1 success out of 2 items selected randomly from a population of 5 in which there are a total of 3 successes. There is also a 0.70 probability of selecting either 0 or 1 successful item under the same conditions.

These tables can be used to construct an approximate C x 100% confidence interval around an estimate of K. The confidence intervals will generally be approximate due to the discrete nature of the hypergeometric distribution. Denote K_u as the upper limit and K_ℓ as the lower limit for the estimate of K where:

$$K_u = \text{smallest } K \text{ such that } F(X;\ N,\ NS,\ K) \leq (1 - C)/2$$

and

$$K_\ell = \text{largest } K \text{ such that } F(X - 1;\ N,\ NS,\ K) \geq (1 + C)/2$$

When the above equation yields a value of K less than X, due to the discrete nature of the hypergeometric distribution and the definition of confidence intervals, K_ℓ is taken to be X.

K_u and K_ℓ provide a C x 100% confidence interval for the proportion of successes, namely, K_ℓ/N to K_u/N; the observed proportion of successes is X/NS. It follows that $K_\ell/N \leq X/NS \leq K_u/N$.

Example

Consider a case in which N = 11, NS = 5, X = 1 and C = 0.80. That is, the statistician wants 80% confidence that the true value of K lies between

---

*Additional values for those cases where $F(\bullet) \leq 0.20$ or $F(\bullet) \geq 0.80$ were also tabulated and can be obtained on microfiche from Ron Whitfield, Argonne National Laboratory.

the values K_ℓ and K_u, given that 1 out of 5 samples was successful from a total population of 11. Using the tables, the following is found:

K	F(1; 11, 5, K)	F(0; 11, 5, K)
1	1.000	1.00
2	0.818	0.545
3	0.516	0.273
4	0.348	0.121
5	0.175	0.045
6	0.067	
7	0.015	

K_u is determined by finding the smallest value of K such that F(1; 11, 5, K) $\leq$ 0.1; this value is $K_u = 6$. K_ℓ is determined by finding the largest value of K such that F(0; 11, 5, K) $\geq$ 0.9; this value is 0, but is less than the observed number of successes; therefore $K_\ell = 1$. As a result, the statistician is approximately 80% confident that the true value of the number of successes in a population of 11 is between 1 and 6, given that 1 success was found in 5 random samples drawn from these 11. To be more precise, the interval 2 to 8 is a 93.3% confidence interval. Similarly, the interval 1 to 5 is an 82.5% confidence interval.

A 93.3% confidence interval on the proportion of successes is 0.09 to 0.55; the observed proportion is 0.20.

Choice of Confidence Intervals

Confidence intervals are constructed by first observing that the hypergeometric distribution properly describes the probabilities of observing the various outcomes while sampling (without replacement) fewer than all of the members of a finite population. It is important to use this distribution when the population of interest is small or the percent sampled is large (both usually apply here) in order to obtain correct results and conclusions. The theory of confidence intervals is used to construct upper and lower bounds for the estimated parameters. These bounds are influenced by the size of the population of interest, the number of samples taken, and the observed results.

When confidence intervals are stated in this report, usually both an approximate 90% and a 100% confidence interval are given. The 100% confidence interval is not a statistical device, but represents the possible minimum and maximum values implied by the sample. The approximate 90% confidence intervals are statistical devices; they are approximate due to the discrete nature of the hypergeometric distribution (i.e., it deals with integer numbers). It is not possible or meaningful to construct an approximate 90% confidence interval when the population of interest is too small. This problem does arise if all or almost all of the population can be sampled; in such a case, an exact (or nearly exact) estimate can be obtained.

Confidence intervals usually can be located at any number of places in the allowable interval (i.e., the 100% confidence interval). The following principles were used to set the confidence intervals listed in this report:

- The confidence level was chosen to be as close as possible to 90%.

- If moving the confidence interval a small distance to the right of the lowest possible value (0.07 in Fig. 1) decreases the maximum confidence level below about 85%, then the low end of the confidence interval is set at the lowest possible value (i.e., the 86% confidence interval is appropriate).

- A similar argument applies to locating the confidence interval if the observed proportion is near 1.00, as illustrated in Fig. 2. The 88% confidence interval, which has its high end at the highest possible value (0.87), is the appropriate choice.

- When possible, the confidence interval is "shortened" at both ends, as illustrated in Fig. 3. In this case, there is 95% confidence that the true proportion is greater than or equal to 0.18, 95% confidence that it is less than or equal to 0.63, and therefore 90% confidence that it is in the range 0.18 to 0.63. A qualitative argument for preferring the 90% confidence interval to the 89% confidence interval in Fig. 3 is that the 90% confidence interval is more conservative in estimating the upper bound on the proportion. This conservative interval seems to be appropriate since the observed proportion is 0.38.

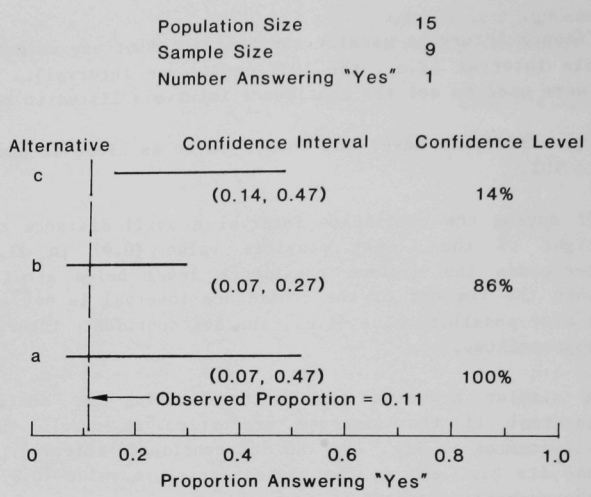

Fig. 1 Choice of Confidence Intervals for the Bus Company Category -- Low Proportion Observed

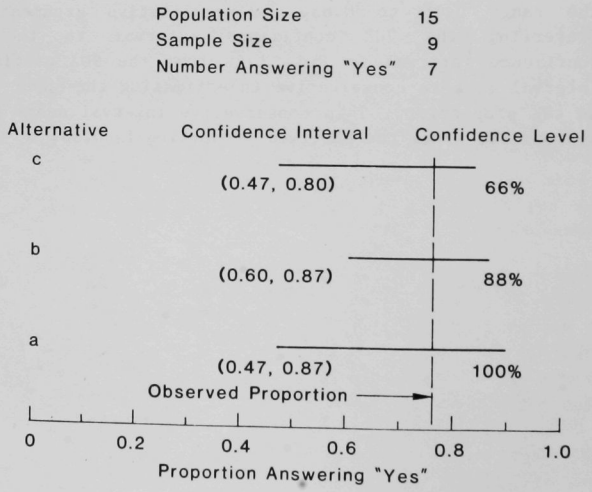

Fig. 2 Choice of Confidence Intervals for the Bus Company Category -- High Proportion Observed

Population Size	89
Sample Size	13
Number Answering "Yes"	5

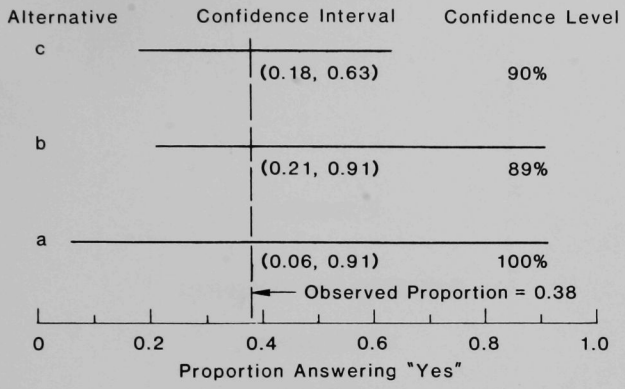

Fig. 3 Choice of Confidence Intervals for the Ambulance Companies Category

APPENDIX C

INDIVIDUAL AND CUMULATIVE PROBABILITIES FOR THE HYPERGEOMETRIC DISTRIBUTION FOR

N = 2, ..., 12

NS = 1, ..., N-1

K = 1, ..., N

X = 0, ..., NS

N	NS	K	X	P(<=X)	P(=X)
2	1	1	0	0.500000	0.500000
2	1	1	1	1.000000	0.500000
2	1	2	1	1.000000	1.000000
3	1	1	0	0.666667	0.666667
3	1	1	1	1.000000	0.333333
3	1	2	0	0.333333	0.333333
3	1	2	1	1.000000	0.666667
3	1	3	1	1.000000	1.000000
3	2	1	0	0.333333	0.333333
3	2	1	1	1.000000	0.666667
3	2	2	1	0.666667	0.666667
3	2	2	2	1.000000	0.333333
3	2	3	2	1.000000	1.000000
4	1	1	0	0.750000	0.750000
4	1	1	1	1.000000	0.250000
4	1	2	0	0.500000	0.500000
4	1	2	1	1.000000	0.500000
4	1	3	0	0.250000	0.250000
4	1	3	1	1.000000	0.750000
4	1	4	1	1.000000	1.000000
4	2	1	0	0.500000	0.500000
4	2	1	1	1.000000	0.500000
4	2	2	0	0.166667	0.166667
4	2	2	1	0.833333	0.666667
4	2	2	2	1.000000	0.166667
4	2	3	1	0.500000	0.500000
4	2	3	2	1.000000	0.500000
4	2	4	2	1.000000	1.000000
4	3	1	0	0.250000	0.250000
4	3	1	1	1.000000	0.750000
4	3	2	1	0.500000	0.500000
4	3	2	2	1.000000	0.500000
4	3	3	2	0.750000	0.750000
4	3	3	3	1.000000	0.250000
4	3	4	3	1.000000	1.000000
5	1	1	0	0.800000	0.800000
5	1	1	1	1.000000	0.200000
5	1	2	0	0.600000	0.600000
5	1	2	1	1.000000	0.400000
5	1	3	0	0.400000	0.400000
5	1	3	1	1.000000	0.600000
5	1	4	0	0.200000	0.200000
5	1	4	1	1.000000	0.800000
5	1	5	1	1.000000	1.000000
5	2	1	0	0.600000	0.600000
5	2	1	1	1.000000	0.400000
5	2	2	0	0.300000	0.300000
5	2	2	1	0.900000	0.600000
5	2	2	2	1.000000	0.100000
5	2	3	0	0.100000	0.100000
5	2	3	1	0.700000	0.600000
5	2	3	2	1.000000	0.300000
5	2	4	1	0.400000	0.400000
5	2	4	2	1.000000	0.600000
5	2	5	2	1.000000	1.000000
5	3	1	0	0.400000	0.400000
5	3	1	1	1.000000	0.600000
5	3	2	0	0.100000	0.100000
5	3	2	1	0.700000	0.600000
5	3	2	2	1.000000	0.300000
5	3	3	1	0.300000	0.300000
5	3	3	2	0.900000	0.600000
5	3	3	3	1.000000	0.100000
5	3	4	2	0.600000	0.600000
5	3	4	3	1.000000	0.400000
5	3	5	3	1.000000	1.000000
5	4	1	0	0.200000	0.200000
5	4	1	1	1.000000	0.800000
5	4	2	1	0.400000	0.400000
5	4	2	2	1.000000	0.600000
5	4	3	2	0.600000	0.600000
5	4	3	3	1.000000	0.400000
5	4	4	3	0.800000	0.800000
5	4	4	4	1.000000	0.200000
5	4	5	4	1.000000	1.000000
6	1	1	0	0.833333	0.833333
6	1	1	1	1.000000	0.166667
6	1	2	0	0.666667	0.666667
6	1	2	1	1.000000	0.333333
6	1	3	0	0.500000	0.500000
6	1	3	1	1.000000	0.500000
6	1	4	0	0.333333	0.333333
6	1	4	1	1.000000	0.666667
6	1	5	0	0.166667	0.166667
6	1	5	1	1.000000	0.833333
6	1	6	1	1.000000	1.000000
6	2	1	0	0.666667	0.666667
6	2	1	1	1.000000	0.333333
6	2	2	0	0.400000	0.400000
6	2	2	1	0.933333	0.533333
6	2	2	2	1.000000	0.066667
6	2	3	0	0.200000	0.200000
6	2	3	1	0.800000	0.600000
6	2	3	2	1.000000	0.200000
6	2	4	0	0.066667	0.066667
6	2	4	1	0.600000	0.533333
6	2	4	2	1.000000	0.400000
6	2	5	1	0.333333	0.333333
6	2	5	2	1.000000	0.666667
6	2	6	2	1.000000	1.000000

N	NS	K	X	P(<=X)	P(=X)
6	3	1	0	0.500000	0.500000
6	3	1	1	1.000000	0.500000
6	3	2	0	0.200000	0.200000
6	3	2	1	0.800000	0.600000
6	3	2	2	1.000000	0.200000
6	3	3	0	0.050000	0.050000
6	3	3	1	0.500000	0.450000
6	3	3	2	0.950000	0.450000
6	3	3	3	1.000000	0.050000
6	3	4	1	0.200000	0.200000
6	3	4	2	0.800000	0.600000
6	3	4	3	1.000000	0.200000
6	3	5	2	0.500000	0.500000
6	3	5	3	1.000000	0.500000
6	3	6	3	1.000000	1.000000
6	4	1	0	0.333333	0.333333
6	4	1	1	1.000000	0.666667
6	4	2	0	0.066667	0.066667
6	4	2	1	0.600000	0.533333
6	4	2	2	1.000000	0.400000
6	4	3	1	0.200000	0.200000
6	4	3	2	0.800000	0.600000
6	4	3	3	1.000000	0.200000
6	4	4	2	0.400000	0.400000
6	4	4	3	0.933333	0.533333
6	4	4	4	1.000000	0.066667
6	4	5	3	0.666667	0.666667
6	4	5	4	1.000000	0.333333
6	4	6	4	1.000000	1.000000
6	5	1	0	0.166667	0.166667
6	5	1	1	1.000000	0.833333
6	5	2	1	0.333333	0.333333
6	5	2	2	1.000000	0.666667
6	5	3	2	0.500000	0.500000
6	5	3	3	1.000000	0.500000
6	5	4	3	0.666667	0.666667
6	5	4	4	1.000000	0.333333
6	5	5	4	0.833333	0.833333
6	5	5	5	1.000000	0.166667
6	5	6	5	1.000000	1.000000
7	1	1	0	0.857143	0.857143
7	1	1	1	1.000000	0.142857
7	1	2	0	0.714286	0.714286
7	1	2	1	1.000000	0.285714
7	1	3	0	0.571429	0.571429
7	1	3	1	1.000000	0.428571
7	1	4	0	0.428571	0.428571
7	1	4	1	1.000000	0.571429
7	1	5	0	0.285714	0.285714
7	1	5	1	1.000000	0.714286

N	NS	K	X	P(<=X)	P(=X)
7	1	6	0	0.142857	0.142857
7	1	6	1	1.000000	0.857143
7	1	7	1	1.000000	1.000000
7	2	1	0	0.714286	0.714286
7	2	1	1	1.000000	0.285714
7	2	2	0	0.476190	0.476190
7	2	2	1	0.952381	0.476190
7	2	2	2	1.000000	0.047619
7	2	3	0	0.285714	0.285714
7	2	3	1	0.857143	0.571429
7	2	3	2	1.000000	0.142857
7	2	4	0	0.142857	0.142857
7	2	4	1	0.714286	0.571429
7	2	4	2	1.000000	0.285714
7	2	5	0	0.047619	0.047619
7	2	5	1	0.523810	0.476190
7	2	5	2	1.000000	0.476190
7	2	6	1	0.285714	0.285714
7	2	6	2	1.000000	0.714286
7	2	7	2	1.000000	1.000000
7	3	1	0	0.571429	0.571429
7	3	1	1	1.000000	0.428571
7	3	2	0	0.285714	0.285714
7	3	2	1	0.857143	0.571429
7	3	2	2	1.000000	0.142857
7	3	3	0	0.114286	0.114286
7	3	3	1	0.628571	0.514286
7	3	3	2	0.971429	0.342857
7	3	3	3	1.000000	0.028571
7	3	4	0	0.028571	0.028571
7	3	4	1	0.371429	0.342857
7	3	4	2	0.885714	0.514286
7	3	4	3	1.000000	0.114286
7	3	5	1	0.142857	0.142857
7	3	5	2	0.714286	0.571429
7	3	5	3	1.000000	0.285714
7	3	6	2	0.428571	0.428571
7	3	6	3	1.000000	0.571429
7	3	7	3	1.000000	1.000000
7	4	1	0	0.428571	0.428571
7	4	1	1	1.000000	0.571429
7	4	2	0	0.142857	0.142857
7	4	2	1	0.714286	0.571429
7	4	2	2	1.000000	0.285714
7	4	3	0	0.028571	0.028571
7	4	3	1	0.371429	0.342857
7	4	3	2	0.885714	0.514286
7	4	3	3	1.000000	0.114286
7	4	4	1	0.114286	0.114286
7	4	4	2	0.628571	0.514286

N	NS	K	X	P(<=X)	P(=X)
7	4	4	3	0.971429	0.342857
7	4	4	4	1.000000	0.028571
7	4	5	2	0.285714	0.285714
7	4	5	3	0.857143	0.571429
7	4	5	4	1.000000	0.142857
7	4	6	3	0.571429	0.571429
7	4	6	4	1.000000	0.428571
7	4	7	4	1.000000	1.000000
7	5	1	0	0.285714	0.285714
7	5	1	1	1.000000	0.714286
7	5	2	0	0.047619	0.047619
7	5	2	1	0.523810	0.476190
7	5	2	2	1.000000	0.476190
7	5	3	1	0.142857	0.142857
7	5	3	2	0.714286	0.571429
7	5	3	3	1.000000	0.285714
7	5	4	2	0.285714	0.285714
7	5	4	3	0.857143	0.571429
7	5	4	4	1.000000	0.142857
7	5	5	3	0.476190	0.476190
7	5	5	4	0.952381	0.476190
7	5	5	5	1.000000	0.047619
7	5	6	4	0.714286	0.714286
7	5	6	5	1.000000	0.285714
7	5	7	5	1.000000	1.000000
7	6	1	0	0.142857	0.142857
7	6	1	1	1.000000	0.857143
7	6	2	1	0.285714	0.285714
7	6	2	2	1.000000	0.714286
7	6	3	2	0.428571	0.428571
7	6	3	3	1.000000	0.571429
7	6	4	3	0.571429	0.571429
7	6	4	4	1.000000	0.428571
7	6	5	4	0.714286	0.714286
7	6	5	5	1.000000	0.285714
7	6	6	5	0.857143	0.857143
7	6	6	6	1.000000	0.142857
7	6	7	6	1.000000	1.000000
8	1	1	0	0.875000	0.875000
8	1	1	1	1.000000	0.125000
8	1	2	0	0.750000	0.750000
8	1	2	1	1.000000	0.250000
8	1	3	0	0.625000	0.625000
8	1	3	1	1.000000	0.375000
8	1	4	0	0.500000	0.500000
8	1	4	1	1.000000	0.500000
8	1	5	0	0.375000	0.375000
8	1	5	1	1.000000	0.625000
8	1	6	0	0.250000	0.250000
8	1	6	1	1.000000	0.750000

N	NS	K	X	P(<=X)	P(=X)
8	1	7	0	0.125000	0.125000
8	1	7	1	1.000000	0.875000
8	1	8	1	1.000000	1.000000
8	2	1	0	0.750000	0.750000
8	2	1	1	1.000000	0.250000
8	2	2	0	0.535714	0.535714
8	2	2	1	0.964286	0.428571
8	2	2	2	1.000000	0.035714
8	2	3	0	0.357143	0.357143
8	2	3	1	0.892857	0.535714
8	2	3	2	1.000000	0.107143
8	2	4	0	0.214286	0.214286
8	2	4	1	0.785714	0.571429
8	2	4	2	1.000000	0.214286
8	2	5	0	0.107143	0.107143
8	2	5	1	0.642857	0.535714
8	2	5	2	1.000000	0.357143
8	2	6	0	0.035714	0.035714
8	2	6	1	0.464286	0.428571
8	2	6	2	1.000000	0.535714
8	2	7	1	0.250000	0.250000
8	2	7	2	1.000000	0.750000
8	2	8	2	1.000000	1.000000
8	3	1	0	0.625000	0.625000
8	3	1	1	1.000000	0.375000
8	3	2	0	0.357143	0.357143
8	3	2	1	0.892857	0.535714
8	3	2	2	1.000000	0.107143
8	3	3	0	0.178571	0.178571
8	3	3	1	0.714286	0.535714
8	3	3	2	0.982143	0.267857
8	3	3	3	1.000000	0.017857
8	3	4	0	0.071429	0.071429
8	3	4	1	0.500000	0.428571
8	3	4	2	0.928571	0.428571
8	3	4	3	1.000000	0.071429
8	3	5	0	0.017857	0.017857
8	3	5	1	0.285714	0.267857
8	3	5	2	0.821429	0.535714
8	3	5	3	1.000000	0.178571
8	3	6	1	0.107143	0.107143
8	3	6	2	0.642857	0.535714
8	3	6	3	1.000000	0.357143
8	3	7	2	0.375000	0.375000
8	3	7	3	1.000000	0.625000
8	3	8	3	1.000000	1.000000
8	4	1	0	0.500000	0.500000
8	4	1	1	1.000000	0.500000
8	4	2	0	0.214286	0.214286
8	4	2	1	0.785714	0.571429

N	NS	K	X	P(<=X)	P(=X)
8	4	2	2	1.000000	0.214286
8	4	3	0	0.071429	0.071429
8	4	3	1	0.500000	0.428571
8	4	3	2	0.928571	0.428571
8	4	3	3	1.000000	0.071429
8	4	4	0	0.014286	0.014286
8	4	4	1	0.242857	0.228571
8	4	4	2	0.757143	0.514286
8	4	4	3	0.985714	0.228571
8	4	4	4	1.000000	0.014286
8	4	5	1	0.071429	0.071429
8	4	5	2	0.500000	0.428571
8	4	5	3	0.928571	0.428571
8	4	5	4	1.000000	0.071429
8	4	6	2	0.214286	0.214286
8	4	6	3	0.785714	0.571429
8	4	6	4	1.000000	0.214286
8	4	7	3	0.500000	0.500000
8	4	7	4	1.000000	0.500000
8	4	8	4	1.000000	1.000000
8	5	1	0	0.375000	0.375000
8	5	1	1	1.000000	0.625000
8	5	2	0	0.107143	0.107143
8	5	2	1	0.642857	0.535714
8	5	2	2	1.000000	0.357143
8	5	3	0	0.017857	0.017857
8	5	3	1	0.285714	0.267857
8	5	3	2	0.821429	0.535714
8	5	3	3	1.000000	0.178571
8	5	4	1	0.071429	0.071429
8	5	4	2	0.500000	0.428571
8	5	4	3	0.928571	0.428571
8	5	4	4	1.000000	0.071429
8	5	5	2	0.178571	0.178571
8	5	5	3	0.714286	0.535714
8	5	5	4	0.982143	0.267857
8	5	5	5	1.000000	0.017857
8	5	6	3	0.357143	0.357143
8	5	6	4	0.892857	0.535714
8	5	6	5	1.000000	0.107143
8	5	7	4	0.625000	0.625000
8	5	7	5	1.000000	0.375000
8	5	8	5	1.000000	1.000000
8	6	1	0	0.250000	0.250000
8	6	1	1	1.000000	0.750000
8	6	2	0	0.035714	0.035714
8	6	2	1	0.464286	0.428571
8	6	2	2	1.000000	0.535714
8	6	3	1	0.107143	0.107143
8	6	3	2	0.642857	0.535714

N	NS	K	X	P(<=X)	P(=X)
8	6	3	3	1.000000	0.357143
8	6	4	2	0.214286	0.214286
8	6	4	3	0.785714	0.571429
8	6	4	4	1.000000	0.214286
8	6	5	3	0.357143	0.357143
8	6	5	4	0.892857	0.535714
8	6	5	5	1.000000	0.107143
8	6	6	4	0.535714	0.535714
8	6	6	5	0.964286	0.428571
8	6	6	6	1.000000	0.035714
8	6	7	5	0.750000	0.750000
8	6	7	6	1.000000	0.250000
8	6	8	6	1.000000	1.000000
8	7	1	0	0.125000	0.125000
8	7	1	1	1.000000	0.875000
8	7	2	1	0.250000	0.250000
8	7	2	2	1.000000	0.750000
8	7	3	2	0.375000	0.375000
8	7	3	3	1.000000	0.625000
8	7	4	3	0.500000	0.500000
8	7	4	4	1.000000	0.500000
8	7	5	4	0.625000	0.625000
8	7	5	5	1.000000	0.375000
8	7	6	5	0.750000	0.750000
8	7	6	6	1.000000	0.250000
8	7	7	6	0.875000	0.875000
8	7	7	7	1.000000	0.125000
8	7	8	7	1.000000	1.000000
9	1	1	0	0.888889	0.888889
9	1	1	1	1.000000	0.111111
9	1	2	0	0.777778	0.777778
9	1	2	1	1.000000	0.222222
9	1	3	0	0.666667	0.666667
9	1	3	1	1.000000	0.333333
9	1	4	0	0.555556	0.555556
9	1	4	1	1.000000	0.444444
9	1	5	0	0.444444	0.444444
9	1	5	1	1.000000	0.555556
9	1	6	0	0.333333	0.333333
9	1	6	1	1.000000	0.666667
9	1	7	0	0.222222	0.222222
9	1	7	1	1.000000	0.777778
9	1	8	0	0.111111	0.111111
9	1	8	1	1.000000	0.888889
9	1	9	1	1.000000	1.000000
9	2	1	0	0.777778	0.777778
9	2	1	1	1.000000	0.222222
9	2	2	0	0.583333	0.583333
9	2	2	1	0.972222	0.388889
9	2	2	2	1.000000	0.027778

N	NS	K	X	P(<=X)	P(=X)
9	2	3	0	0.416667	0.416667
9	2	3	1	0.916667	0.500000
9	2	3	2	1.000000	0.083333
9	2	4	0	0.277778	0.277778
9	2	4	1	0.833333	0.555556
9	2	4	2	1.000000	0.166667
9	2	5	0	0.166667	0.166667
9	2	5	1	0.722222	0.555556
9	2	5	2	1.000000	0.277778
9	2	6	0	0.083333	0.083333
9	2	6	1	0.583333	0.500000
9	2	6	2	1.000000	0.416667
9	2	7	0	0.027778	0.027778
9	2	7	1	0.416667	0.388889
9	2	7	2	1.000000	0.583333
9	2	8	1	0.222222	0.222222
9	2	8	2	1.000000	0.777778
9	2	9	2	1.000000	1.000000
9	3	1	0	0.666667	0.666667
9	3	1	1	1.000000	0.333333
9	3	2	0	0.416667	0.416667
9	3	2	1	0.916667	0.500000
9	3	2	2	1.000000	0.083333
9	3	3	0	0.238095	0.238095
9	3	3	1	0.773810	0.535714
9	3	3	2	0.988095	0.214286
9	3	3	3	1.000000	0.011905
9	3	4	0	0.119048	0.119048
9	3	4	1	0.595238	0.476190
9	3	4	2	0.952381	0.357143
9	3	4	3	1.000000	0.047619
9	3	5	0	0.047619	0.047619
9	3	5	1	0.404762	0.357143
9	3	5	2	0.880952	0.476190
9	3	5	3	1.000000	0.119048
9	3	6	0	0.011905	0.011905
9	3	6	1	0.226190	0.214286
9	3	6	2	0.761905	0.535714
9	3	6	3	1.000000	0.238095
9	3	7	1	0.083333	0.083333
9	3	7	2	0.583333	0.500000
9	3	7	3	1.000000	0.416667
9	3	8	2	0.333333	0.333333
9	3	8	3	1.000000	0.666667
9	3	9	3	1.000000	1.000000
9	4	1	0	0.555556	0.555556
9	4	1	1	1.000000	0.444444
9	4	2	0	0.277778	0.277778
9	4	2	1	0.833333	0.555556
9	4	2	2	1.000000	0.166667

N	NS	K	X	P(<=X)	P(=X)
9	4	3	0	0.119048	0.119048
9	4	3	1	0.595238	0.476190
9	4	3	2	0.952381	0.357143
9	4	3	3	1.000000	0.047619
9	4	4	0	0.039683	0.039683
9	4	4	1	0.357143	0.317460
9	4	4	2	0.833333	0.476190
9	4	4	3	0.992063	0.158730
9	4	4	4	1.000000	0.007937
9	4	5	0	0.007937	0.007937
9	4	5	1	0.166667	0.158730
9	4	5	2	0.642857	0.476190
9	4	5	3	0.960317	0.317460
9	4	5	4	1.000000	0.039683
9	4	6	1	0.047619	0.047619
9	4	6	2	0.404762	0.357143
9	4	6	3	0.880952	0.476190
9	4	6	4	1.000000	0.119048
9	4	7	2	0.166667	0.166667
9	4	7	3	0.722222	0.555556
9	4	7	4	1.000000	0.277778
9	4	8	3	0.444444	0.444444
9	4	8	4	1.000000	0.555556
9	4	9	4	1.000000	1.000000
9	5	1	0	0.444444	0.444444
9	5	1	1	1.000000	0.555556
9	5	2	0	0.166667	0.166667
9	5	2	1	0.722222	0.555556
9	5	2	2	1.000000	0.277778
9	5	3	0	0.047619	0.047619
9	5	3	1	0.404762	0.357143
9	5	3	2	0.880952	0.476190
9	5	3	3	1.000000	0.119048
9	5	4	0	0.007937	0.007937
9	5	4	1	0.166667	0.158730
9	5	4	2	0.642857	0.476190
9	5	4	3	0.960317	0.317460
9	5	4	4	1.000000	0.039683
9	5	5	1	0.039683	0.039683
9	5	5	2	0.357143	0.317460
9	5	5	3	0.833333	0.476190
9	5	5	4	0.992063	0.158730
9	5	5	5	1.000000	0.007937
9	5	6	2	0.119048	0.119048
9	5	6	3	0.595238	0.476190
9	5	6	4	0.952381	0.357143
9	5	6	5	1.000000	0.047619
9	5	7	3	0.277778	0.277778
9	5	7	4	0.833333	0.555556
9	5	7	5	1.000000	0.166667

N	NS	K	X	P(<=X)	P(=X)
9	5	8	4	0.555556	0.555556
9	5	8	5	1.000000	0.444444
9	5	9	5	1.000000	1.000000
9	6	1	0	0.333333	0.333333
9	6	1	1	1.000000	0.666667
9	6	2	0	0.083333	0.083333
9	6	2	1	0.583333	0.500000
9	6	2	2	1.000000	0.416667
9	6	3	0	0.011905	0.011905
9	6	3	1	0.226190	0.214286
9	6	3	2	0.761905	0.535714
9	6	3	3	1.000000	0.238095
9	6	4	1	0.047619	0.047619
9	6	4	2	0.404762	0.357143
9	6	4	3	0.880952	0.476190
9	6	4	4	1.000000	0.119048
9	6	5	2	0.119048	0.119048
9	6	5	3	0.595238	0.476190
9	6	5	4	0.952381	0.357143
9	6	5	5	1.000000	0.047619
9	6	6	3	0.238095	0.238095
9	6	6	4	0.773810	0.535714
9	6	6	5	0.988095	0.214286
9	6	6	6	1.000000	0.011905
9	6	7	4	0.416667	0.416667
9	6	7	5	0.916667	0.500000
9	6	7	6	1.000000	0.083333
9	6	8	5	0.666667	0.666667
9	6	8	6	1.000000	0.333333
9	6	9	6	1.000000	1.000000
9	7	1	0	0.222222	0.222222
9	7	1	1	1.000000	0.777778
9	7	2	0	0.027778	0.027778
9	7	2	1	0.416667	0.388889
9	7	2	2	1.000000	0.583333
9	7	3	1	0.083333	0.083333
9	7	3	2	0.583333	0.500000
9	7	3	3	1.000000	0.416667
9	7	4	2	0.166667	0.166667
9	7	4	3	0.722222	0.555556
9	7	4	4	1.000000	0.277778
9	7	5	3	0.277778	0.277778
9	7	5	4	0.833333	0.555556
9	7	5	5	1.000000	0.166667
9	7	6	4	0.416667	0.416667
9	7	6	5	0.916667	0.500000
9	7	6	6	1.000000	0.083333
9	7	7	5	0.583333	0.583333
9	7	7	6	0.972222	0.388889
9	7	7	7	1.000000	0.027778

N	NS	K	X	P(<=X)	P(=X)
9	7	8	6	0.777778	0.777778
9	7	8	7	1.000000	0.222222
9	7	9	7	1.000000	1.000000
9	8	1	0	0.111111	0.111111
9	8	1	1	1.000000	0.888889
9	8	2	1	0.222222	0.222222
9	8	2	2	1.000000	0.777778
9	8	3	2	0.333333	0.333333
9	8	3	3	1.000000	0.666667
9	8	4	3	0.444444	0.444444
9	8	4	4	1.000000	0.555556
9	8	5	4	0.555556	0.555556
9	8	5	5	1.000000	0.444444
9	8	6	5	0.666667	0.666667
9	8	6	6	1.000000	0.333333
9	8	7	6	0.777778	0.777778
9	8	7	7	1.000000	0.222222
9	8	8	7	0.888889	0.888889
9	8	8	8	1.000000	0.111111
9	8	9	8	1.000000	1.000000
10	1	1	0	0.900000	0.900000
10	1	1	1	1.000000	0.100000
10	1	2	0	0.800000	0.800000
10	1	2	1	1.000000	0.200000
10	1	3	0	0.700000	0.700000
10	1	3	1	1.000000	0.300000
10	1	4	0	0.600000	0.600000
10	1	4	1	1.000000	0.400000
10	1	5	0	0.500000	0.500000
10	1	5	1	1.000000	0.500000
10	1	6	0	0.400000	0.400000
10	1	6	1	1.000000	0.600000
10	1	7	0	0.300000	0.300000
10	1	7	1	1.000000	0.700000
10	1	8	0	0.200000	0.200000
10	1	8	1	1.000000	0.800000
10	1	9	0	0.100000	0.100000
10	1	9	1	1.000000	0.900000
10	1	10	1	1.000000	1.000000
10	2	1	0	0.800000	0.800000
10	2	1	1	1.000000	0.200000
10	2	2	0	0.622222	0.622222
10	2	2	1	0.977778	0.355556
10	2	2	2	1.000000	0.022222
10	2	3	0	0.466667	0.466667
10	2	3	1	0.933333	0.466667
10	2	3	2	1.000000	0.066667
10	2	4	0	0.333333	0.333333
10	2	4	1	0.866667	0.533333
10	2	4	2	1.000000	0.133333

N	NS	K	X	P(<=X)	P(=X)
10	2	5	0	0.222222	0.222222
10	2	5	1	0.777778	0.555556
10	2	5	2	1.000000	0.222222
10	2	6	0	0.133333	0.133333
10	2	6	1	0.666667	0.533333
10	2	6	2	1.000000	0.333333
10	2	7	0	0.066667	0.066667
10	2	7	1	0.533333	0.466667
10	2	7	2	1.000000	0.466667
10	2	8	0	0.022222	0.022222
10	2	8	1	0.377778	0.355556
10	2	8	2	1.000000	0.622222
10	2	9	1	0.200000	0.200000
10	2	9	2	1.000000	0.800000
10	2	10	2	1.000000	1.000000
10	3	1	0	0.700000	0.700000
10	3	1	1	1.000000	0.300000
10	3	2	0	0.466667	0.466667
10	3	2	1	0.933333	0.466667
10	3	2	2	1.000000	0.066667
10	3	3	0	0.291667	0.291667
10	3	3	1	0.816667	0.525000
10	3	3	2	0.991667	0.175000
10	3	3	3	1.000000	0.008333
10	3	4	0	0.166667	0.166667
10	3	4	1	0.666667	0.500000
10	3	4	2	0.966667	0.300000
10	3	4	3	1.000000	0.033333
10	3	5	0	0.083333	0.083333
10	3	5	1	0.500000	0.416667
10	3	5	2	0.916667	0.416667
10	3	5	3	1.000000	0.083333
10	3	6	0	0.033333	0.033333
10	3	6	1	0.333333	0.300000
10	3	6	2	0.833333	0.500000
10	3	6	3	1.000000	0.166667
10	3	7	0	0.008333	0.008333
10	3	7	1	0.183333	0.175000
10	3	7	2	0.708333	0.525000
10	3	7	3	1.000000	0.291667
10	3	8	1	0.066667	0.066667
10	3	8	2	0.533333	0.466667
10	3	8	3	1.000000	0.466667
10	3	9	2	0.300000	0.300000
10	3	9	3	1.000000	0.700000
10	3	10	3	1.000000	1.000000
10	4	1	0	0.600000	0.600000
10	4	1	1	1.000000	0.400000
10	4	2	0	0.333333	0.333333
10	4	2	1	0.866667	0.533333

N	NS	K	X	P(<=X)	P(=X)
10	4	2	2	1.000000	0.133333
10	4	3	0	0.166667	0.166667
10	4	3	1	0.666667	0.500000
10	4	3	2	0.966667	0.300000
10	4	3	3	1.000000	0.033333
10	4	4	0	0.071429	0.071429
10	4	4	1	0.452381	0.380952
10	4	4	2	0.880952	0.428571
10	4	4	3	0.995238	0.114286
10	4	4	4	1.000000	0.004762
10	4	5	0	0.023810	0.023810
10	4	5	1	0.261905	0.238095
10	4	5	2	0.738095	0.476190
10	4	5	3	0.976190	0.238095
10	4	5	4	1.000000	0.023810
10	4	6	0	0.004762	0.004762
10	4	6	1	0.119048	0.114286
10	4	6	2	0.547619	0.428571
10	4	6	3	0.928571	0.380952
10	4	6	4	1.000000	0.071429
10	4	7	1	0.033333	0.033333
10	4	7	2	0.333333	0.300000
10	4	7	3	0.833333	0.500000
10	4	7	4	1.000000	0.166667
10	4	8	2	0.133333	0.133333
10	4	8	3	0.666667	0.533333
10	4	8	4	1.000000	0.333333
10	4	9	3	0.400000	0.400000
10	4	9	4	1.000000	0.600000
10	4	10	4	1.000000	1.000000
10	5	1	0	0.500000	0.500000
10	5	1	1	1.000000	0.500000
10	5	2	0	0.222222	0.222222
10	5	2	1	0.777778	0.555556
10	5	2	2	1.000000	0.222222
10	5	3	0	0.083333	0.083333
10	5	3	1	0.500000	0.416667
10	5	3	2	0.916667	0.416667
10	5	3	3	1.000000	0.083333
10	5	4	0	0.023810	0.023810
10	5	4	1	0.261905	0.238095
10	5	4	2	0.738095	0.476190
10	5	4	3	0.976190	0.238095
10	5	4	4	1.000000	0.023810
10	5	5	0	0.003968	0.003968
10	5	5	1	0.103175	0.099206
10	5	5	2	0.500000	0.396825
10	5	5	3	0.896825	0.396825
10	5	5	4	0.996032	0.099206
10	5	5	5	1.000000	0.003968

N	NS	K	X	P(<=X)	P(=X)
10	5	6	1	0.023810	0.023810
10	5	6	2	0.261905	0.238095
10	5	6	3	0.738095	0.476190
10	5	6	4	0.976190	0.238095
10	5	6	5	1.000000	0.023810
10	5	7	2	0.083333	0.083333
10	5	7	3	0.500000	0.416667
10	5	7	4	0.916667	0.416667
10	5	7	5	1.000000	0.083333
10	5	8	3	0.222222	0.222222
10	5	8	4	0.777778	0.555556
10	5	8	5	1.000000	0.222222
10	5	9	4	0.500000	0.500000
10	5	9	5	1.000000	0.500000
10	5	10	5	1.000000	1.000000
10	6	1	0	0.400000	0.400000
10	6	1	1	1.000000	0.600000
10	6	2	0	0.133333	0.133333
10	6	2	1	0.666667	0.533333
10	6	2	2	1.000000	0.333333
10	6	3	0	0.033333	0.033333
10	6	3	1	0.333333	0.300000
10	6	3	2	0.833333	0.500000
10	6	3	3	1.000000	0.166667
10	6	4	0	0.004762	0.004762
10	6	4	1	0.119048	0.114286
10	6	4	2	0.547619	0.428571
10	6	4	3	0.928571	0.380952
10	6	4	4	1.000000	0.071429
10	6	5	1	0.023810	0.023810
10	6	5	2	0.261905	0.238095
10	6	5	3	0.738095	0.476190
10	6	5	4	0.976190	0.238095
10	6	5	5	1.000000	0.023810
10	6	6	2	0.071429	0.071429
10	6	6	3	0.452381	0.380952
10	6	6	4	0.880952	0.428571
10	6	6	5	0.995238	0.114286
10	6	6	6	1.000000	0.004762
10	6	7	3	0.166667	0.166667
10	6	7	4	0.666667	0.500000
10	6	7	5	0.966667	0.300000
10	6	7	6	1.000000	0.033333
10	6	8	4	0.333333	0.333333
10	6	8	5	0.866667	0.533333
10	6	8	6	1.000000	0.133333
10	6	9	5	0.600000	0.600000
10	6	9	6	1.000000	0.400000
10	6	10	6	1.000000	1.000000
10	7	1	0	0.300000	0.300000

N	NS	K	X	P(<=X)	P(=X)
10	7	1	1	1.000000	0.700000
10	7	2	0	0.066667	0.066667
10	7	2	1	0.533333	0.466667
10	7	2	2	1.000000	0.466667
10	7	3	0	0.008333	0.008333
10	7	3	1	0.183333	0.175000
10	7	3	2	0.708333	0.525000
10	7	3	3	1.000000	0.291667
10	7	4	1	0.033333	0.033333
10	7	4	2	0.333333	0.300000
10	7	4	3	0.833333	0.500000
10	7	4	4	1.000000	0.166667
10	7	5	2	0.083333	0.083333
10	7	5	3	0.500000	0.416667
10	7	5	4	0.916667	0.416667
10	7	5	5	1.000000	0.083333
10	7	6	3	0.166667	0.166667
10	7	6	4	0.666667	0.500000
10	7	6	5	0.966667	0.300000
10	7	6	6	1.000000	0.033333
10	7	7	4	0.291667	0.291667
10	7	7	5	0.816667	0.525000
10	7	7	6	0.991667	0.175000
10	7	7	7	1.000000	0.008333
10	7	8	5	0.466667	0.466667
10	7	8	6	0.933333	0.466667
10	7	8	7	1.000000	0.066667
10	7	9	6	0.700000	0.700000
10	7	9	7	1.000000	0.300000
10	7	10	7	1.000000	1.000000
10	8	1	0	0.200000	0.200000
10	8	1	1	1.000000	0.800000
10	8	2	0	0.022222	0.022222
10	8	2	1	0.377778	0.355556
10	8	2	2	1.000000	0.622222
10	8	3	1	0.066667	0.066667
10	8	3	2	0.533333	0.466667
10	8	3	3	1.000000	0.466667
10	8	4	2	0.133333	0.133333
10	8	4	3	0.666667	0.533333
10	8	4	4	1.000000	0.333333
10	8	5	3	0.222222	0.222222
10	8	5	4	0.777778	0.555556
10	8	5	5	1.000000	0.222222
10	8	6	4	0.333333	0.333333
10	8	6	5	0.866667	0.533333
10	8	6	6	1.000000	0.133333
10	8	7	5	0.466667	0.466667
10	8	7	6	0.933333	0.466667
10	8	7	7	1.000000	0.066667

N	NS	K	X	P(<=X)	P(=X)
10	8	8	6	0.622222	0.622222
10	8	8	7	0.977778	0.355556
10	8	8	8	1.000000	0.022222
10	8	9	7	0.800000	0.800000
10	8	9	8	1.000000	0.200000
10	8	10	8	1.000000	1.000000
10	9	1	0	0.100000	0.100000
10	9	1	1	1.000000	0.900000
10	9	2	1	0.200000	0.200000
10	9	2	2	1.000000	0.800000
10	9	3	2	0.300000	0.300000
10	9	3	3	1.000000	0.700000
10	9	4	3	0.400000	0.400000
10	9	4	4	1.000000	0.600000
10	9	5	4	0.500000	0.500000
10	9	5	5	1.000000	0.500000
10	9	6	5	0.600000	0.600000
10	9	6	6	1.000000	0.400000
10	9	7	6	0.700000	0.700000
10	9	7	7	1.000000	0.300000
10	9	8	7	0.800000	0.800000
10	9	8	8	1.000000	0.200000
10	9	9	8	0.900000	0.900000
10	9	9	9	1.000000	0.100000
10	9	10	9	1.000000	1.000000
11	1	1	0	0.909091	0.909091
11	1	1	1	1.000000	0.090909
11	1	2	0	0.818182	0.818182
11	1	2	1	1.000000	0.181818
11	1	3	0	0.727273	0.727273
11	1	3	1	1.000000	0.272727
11	1	4	0	0.636364	0.636364
11	1	4	1	1.000000	0.363636
11	1	5	0	0.545455	0.545455
11	1	5	1	1.000000	0.454545
11	1	6	0	0.454545	0.454545
11	1	6	1	1.000000	0.545455
11	1	7	0	0.363636	0.363636
11	1	7	1	1.000000	0.636364
11	1	8	0	0.272727	0.272727
11	1	8	1	1.000000	0.727273
11	1	9	0	0.181818	0.181818
11	1	9	1	1.000000	0.818182
11	1	10	0	0.090909	0.090909
11	1	10	1	1.000000	0.909091
11	1	11	1	1.000000	1.000000
11	2	1	0	0.818182	0.818182
11	2	1	1	1.000000	0.181818
11	2	2	0	0.654545	0.654545
11	2	2	1	0.981818	0.327273
11	2	2	2	1.000000	0.018182
11	2	3	0	0.509091	0.509091
11	2	3	1	0.945455	0.436364
11	2	3	2	1.000000	0.054545
11	2	4	0	0.381818	0.381818
11	2	4	1	0.890909	0.509091
11	2	4	2	1.000000	0.109091
11	2	5	0	0.272727	0.272727
11	2	5	1	0.818182	0.545455
11	2	5	2	1.000000	0.181818
11	2	6	0	0.181818	0.181818
11	2	6	1	0.727273	0.545455
11	2	6	2	1.000000	0.272727
11	2	7	0	0.109091	0.109091
11	2	7	1	0.618182	0.509091
11	2	7	2	1.000000	0.381818
11	2	8	0	0.054545	0.054545
11	2	8	1	0.490909	0.436364
11	2	8	2	1.000000	0.509091
11	2	9	0	0.018182	0.018182
11	2	9	1	0.345455	0.327273
11	2	9	2	1.000000	0.654545
11	2	10	1	0.181818	0.181818
11	2	10	2	1.000000	0.818182
11	2	11	2	1.000000	1.000000
11	3	1	0	0.727273	0.727273
11	3	1	1	1.000000	0.272727
11	3	2	0	0.509091	0.509091
11	3	2	1	0.945455	0.436364
11	3	2	2	1.000000	0.054545
11	3	3	0	0.339394	0.339394
11	3	3	1	0.848485	0.509091
11	3	3	2	0.993939	0.145455
11	3	3	3	1.000000	0.006061
11	3	4	0	0.212121	0.212121
11	3	4	1	0.721212	0.509091
11	3	4	2	0.975758	0.254545
11	3	4	3	1.000000	0.024242
11	3	5	0	0.121212	0.121212
11	3	5	1	0.575758	0.454545
11	3	5	2	0.939394	0.363636
11	3	5	3	1.000000	0.060606
11	3	6	0	0.060606	0.060606
11	3	6	1	0.424242	0.363636
11	3	6	2	0.878788	0.454545
11	3	6	3	1.000000	0.121212
11	3	7	0	0.024242	0.024242
11	3	7	1	0.278788	0.254545
11	3	7	2	0.787879	0.509091
11	3	7	3	1.000000	0.212121

N	NS	K	X	P(<=X)	P(=X)
11	3	8	0	0.006061	0.006061
11	3	8	1	0.151515	0.145455
11	3	8	2	0.660606	0.509091
11	3	8	3	1.000000	0.339394
11	3	9	1	0.054545	0.054545
11	3	9	2	0.490909	0.436364
11	3	9	3	1.000000	0.509091
11	3	10	2	0.272727	0.272727
11	3	10	3	1.000000	0.727273
11	3	11	3	1.000000	1.000000
11	4	1	0	0.636364	0.636364
11	4	1	1	1.000000	0.363636
11	4	2	0	0.381818	0.381818
11	4	2	1	0.890909	0.509091
11	4	2	2	1.000000	0.109091
11	4	3	0	0.212121	0.212121
11	4	3	1	0.721212	0.509091
11	4	3	2	0.975758	0.254545
11	4	3	3	1.000000	0.024242
11	4	4	0	0.106061	0.106061
11	4	4	1	0.530303	0.424242
11	4	4	2	0.912121	0.381818
11	4	4	3	0.996970	0.084848
11	4	4	4	1.000000	0.003030
11	4	5	0	0.045455	0.045455
11	4	5	1	0.348485	0.303030
11	4	5	2	0.803030	0.454545
11	4	5	3	0.984848	0.181818
11	4	5	4	1.000000	0.015152
11	4	6	0	0.015152	0.015152
11	4	6	1	0.196970	0.181818
11	4	6	2	0.651515	0.454545
11	4	6	3	0.954545	0.303030
11	4	6	4	1.000000	0.045455
11	4	7	0	0.003030	0.003030
11	4	7	1	0.087879	0.084848
11	4	7	2	0.469697	0.381818
11	4	7	3	0.893939	0.424242
11	4	7	4	1.000000	0.106061
11	4	8	1	0.024242	0.024242
11	4	8	2	0.278788	0.254545
11	4	8	3	0.787879	0.509091
11	4	8	4	1.000000	0.212121
11	4	9	2	0.109091	0.109091
11	4	9	3	0.618182	0.509091
11	4	9	4	1.000000	0.381818
11	4	10	3	0.363636	0.363636
11	4	10	4	1.000000	0.636364
11	4	11	4	1.000000	1.000000
11	5	1	0	0.545455	0.545455

N	NS	K	X	P(<=X)	P(=X)
11	5	1	1	1.000000	0.454545
11	5	2	0	0.272727	0.272727
11	5	2	1	0.818182	0.545455
11	5	2	2	1.000000	0.181818
11	5	3	0	0.121212	0.121212
11	5	3	1	0.575758	0.454545
11	5	3	2	0.939394	0.363636
11	5	3	3	1.000000	0.060606
11	5	4	0	0.045455	0.045455
11	5	4	1	0.348485	0.303030
11	5	4	2	0.803030	0.454545
11	5	4	3	0.984848	0.181818
11	5	4	4	1.000000	0.015152
11	5	5	0	0.012987	0.012987
11	5	5	1	0.175325	0.162338
11	5	5	2	0.608225	0.432900
11	5	5	3	0.932900	0.324675
11	5	5	4	0.997835	0.064935
11	5	5	5	1.000000	0.002165
11	5	6	0	0.002165	0.002165
11	5	6	1	0.067100	0.064935
11	5	6	2	0.391775	0.324675
11	5	6	3	0.824675	0.432900
11	5	6	4	0.987013	0.162338
11	5	6	5	1.000000	0.012987
11	5	7	1	0.015152	0.015152
11	5	7	2	0.196970	0.181818
11	5	7	3	0.651515	0.454545
11	5	7	4	0.954545	0.303030
11	5	7	5	1.000000	0.045455
11	5	8	2	0.060606	0.060606
11	5	8	3	0.424242	0.363636
11	5	8	4	0.878788	0.454545
11	5	8	5	1.000000	0.121212
11	5	9	3	0.181818	0.181818
11	5	9	4	0.727273	0.545455
11	5	9	5	1.000000	0.272727
11	5	10	4	0.454545	0.454545
11	5	10	5	1.000000	0.545455
11	5	11	5	1.000000	1.000000
11	6	1	0	0.454545	0.454545
11	6	1	1	1.000000	0.545455
11	6	2	0	0.181818	0.181818
11	6	2	1	0.727273	0.545455
11	6	2	2	1.000000	0.272727
11	6	3	0	0.060606	0.060606
11	6	3	1	0.424242	0.363636
11	6	3	2	0.878788	0.454545
11	6	3	3	1.000000	0.121212
11	6	4	0	0.015152	0.015152

N	NS	K	X	P(<=X)	P(=X)
11	6	4	1	0.196970	0.181818
11	6	4	2	0.651515	0.454545
11	6	4	3	0.954545	0.303030
11	6	4	4	1.000000	0.045455
11	6	5	0	0.002165	0.002165
11	6	5	1	0.067100	0.064935
11	6	5	2	0.391775	0.324675
11	6	5	3	0.824675	0.432900
11	6	5	4	0.987013	0.162338
11	6	5	5	1.000000	0.012987
11	6	6	1	0.012987	0.012987
11	6	6	2	0.175325	0.162338
11	6	6	3	0.608225	0.432900
11	6	6	4	0.932900	0.324675
11	6	6	5	0.997835	0.064935
11	6	6	6	1.000000	0.002165
11	6	7	2	0.045455	0.045455
11	6	7	3	0.348485	0.303030
11	6	7	4	0.803030	0.454545
11	6	7	5	0.984848	0.181818
11	6	7	6	1.000000	0.015152
11	6	8	3	0.121212	0.121212
11	6	8	4	0.575758	0.454545
11	6	8	5	0.939394	0.363636
11	6	8	6	1.000000	0.060606
11	6	9	4	0.272727	0.272727
11	6	9	5	0.818182	0.545455
11	6	9	6	1.000000	0.181818
11	6	10	5	0.545455	0.545455
11	6	10	6	1.000000	0.454545
11	6	11	6	1.000000	1.000000
11	7	1	0	0.363636	0.363636
11	7	1	1	1.000000	0.636364
11	7	2	0	0.109091	0.109091
11	7	2	1	0.618182	0.509091
11	7	2	2	1.000000	0.381818
11	7	3	0	0.024242	0.024242
11	7	3	1	0.278788	0.254545
11	7	3	2	0.787879	0.509091
11	7	3	3	1.000000	0.212121
11	7	4	0	0.003030	0.003030
11	7	4	1	0.087879	0.084848
11	7	4	2	0.469697	0.381818
11	7	4	3	0.893939	0.424242
11	7	4	4	1.000000	0.106061
11	7	5	1	0.015152	0.015152
11	7	5	2	0.196970	0.181818
11	7	5	3	0.651515	0.454545
11	7	5	4	0.954545	0.303030
11	7	5	5	1.000000	0.045455

N	NS	K	X	P(<=X)	P(=X)
11	7	6	2	0.045455	0.045455
11	7	6	3	0.348485	0.303030
11	7	6	4	0.803030	0.454545
11	7	6	5	0.984848	0.181818
11	7	6	6	1.000000	0.015152
11	7	7	3	0.106061	0.106061
11	7	7	4	0.530303	0.424242
11	7	7	5	0.912121	0.381818
11	7	7	6	0.996970	0.084848
11	7	7	7	1.000000	0.003030
11	7	8	4	0.212121	0.212121
11	7	8	5	0.721212	0.509091
11	7	8	6	0.975758	0.254545
11	7	8	7	1.000000	0.024242
11	7	9	5	0.381818	0.381818
11	7	9	6	0.890909	0.509091
11	7	9	7	1.000000	0.109091
11	7	10	6	0.636364	0.636364
11	7	10	7	1.000000	0.363636
11	7	11	7	1.000000	1.000000
11	8	1	0	0.272727	0.272727
11	8	1	1	1.000000	0.727273
11	8	2	0	0.054545	0.054545
11	8	2	1	0.490909	0.436364
11	8	2	2	1.000000	0.509091
11	8	3	0	0.006061	0.006061
11	8	3	1	0.151515	0.145455
11	8	3	2	0.660606	0.509091
11	8	3	3	1.000000	0.339394
11	8	4	1	0.024242	0.024242
11	8	4	2	0.278788	0.254545
11	8	4	3	0.787879	0.509091
11	8	4	4	1.000000	0.212121
11	8	5	2	0.060606	0.060606
11	8	5	3	0.424242	0.363636
11	8	5	4	0.878788	0.454545
11	8	5	5	1.000000	0.121212
11	8	6	3	0.121212	0.121212
11	8	6	4	0.575758	0.454545
11	8	6	5	0.939394	0.363636
11	8	6	6	1.000000	0.060606
11	8	7	4	0.212121	0.212121
11	8	7	5	0.721212	0.509091
11	8	7	6	0.975758	0.254545
11	8	7	7	1.000000	0.024242
11	8	8	5	0.339394	0.339394
11	8	8	6	0.848485	0.509091
11	8	8	7	0.993939	0.145455
11	8	8	8	1.000000	0.006061
11	8	9	6	0.509091	0.509091

N	NS	K	X	P(<=X)	P(=X)
11	8	9	7	0.945455	0.436364
11	8	9	8	1.000000	0.054545
11	8	10	7	0.727273	0.727273
11	8	10	8	1.000000	0.272727
11	8	11	8	1.000000	1.000000
11	9	1	0	0.181818	0.181818
11	9	1	1	1.000000	0.818182
11	9	2	0	0.018182	0.018182
11	9	2	1	0.345455	0.327273
11	9	2	2	1.000000	0.654545
11	9	3	1	0.054545	0.054545
11	9	3	2	0.490909	0.436364
11	9	3	3	1.000000	0.509091
11	9	4	2	0.109091	0.109091
11	9	4	3	0.618182	0.509091
11	9	4	4	1.000000	0.381818
11	9	5	3	0.181818	0.181818
11	9	5	4	0.727273	0.545455
11	9	5	5	1.000000	0.272727
11	9	6	4	0.272727	0.272727
11	9	6	5	0.818182	0.545455
11	9	6	6	1.000000	0.181818
11	9	7	5	0.381818	0.381818
11	9	7	6	0.890909	0.509091
11	9	7	7	1.000000	0.109091
11	9	8	6	0.509091	0.509091
11	9	8	7	0.945455	0.436364
11	9	8	8	1.000000	0.054545
11	9	9	7	0.654545	0.654545
11	9	9	8	0.981818	0.327273
11	9	9	9	1.000000	0.018182
11	9	10	8	0.818182	0.818182
11	9	10	9	1.000000	0.181818
11	9	11	9	1.000000	1.000000
11	10	1	0	0.090909	0.090909
11	10	1	1	1.000000	0.909091
11	10	2	1	0.181818	0.181818
11	10	2	2	1.000000	0.818182
11	10	3	2	0.272727	0.272727
11	10	3	3	1.000000	0.727273
11	10	4	3	0.363636	0.363636
11	10	4	4	1.000000	0.636364
11	10	5	4	0.454545	0.454545
11	10	5	5	1.000000	0.545455
11	10	6	5	0.545455	0.545455
11	10	6	6	1.000000	0.454545
11	10	7	6	0.636364	0.636364
11	10	7	7	1.000000	0.363636
11	10	8	7	0.727273	0.727273
11	10	8	8	1.000000	0.272727

N	NS	K	X	P(<=X)	P(=X)
11	10	9	8	0.818182	0.818182
11	10	9	9	1.000000	0.181818
11	10	10	9	0.909091	0.909091
11	10	10	10	1.000000	0.090909
11	10	11	10	1.000000	1.000000
12	1	1	0	0.916667	0.916667
12	1	1	1	1.000000	0.083333
12	1	2	0	0.833333	0.833333
12	1	2	1	1.000000	0.166667
12	1	3	0	0.750000	0.750000
12	1	3	1	1.000000	0.250000
12	1	4	0	0.666667	0.666667
12	1	4	1	1.000000	0.333333
12	1	5	0	0.583333	0.583333
12	1	5	1	1.000000	0.416667
12	1	6	0	0.500000	0.500000
12	1	6	1	1.000000	0.500000
12	1	7	0	0.416667	0.416667
12	1	7	1	1.000000	0.583333
12	1	8	0	0.333333	0.333333
12	1	8	1	1.000000	0.666667
12	1	9	0	0.250000	0.250000
12	1	9	1	1.000000	0.750000
12	1	10	0	0.166667	0.166667
12	1	10	1	1.000000	0.833333
12	1	11	0	0.083333	0.083333
12	1	11	1	1.000000	0.916667
12	1	12	1	1.000000	1.000000
12	2	1	0	0.833333	0.833333
12	2	1	1	1.000000	0.166667
12	2	2	0	0.681818	0.681818
12	2	2	1	0.984848	0.303030
12	2	2	2	1.000000	0.015152
12	2	3	0	0.545455	0.545455
12	2	3	1	0.954545	0.409091
12	2	3	2	1.000000	0.045455
12	2	4	0	0.424242	0.424242
12	2	4	1	0.909091	0.484848
12	2	4	2	1.000000	0.090909
12	2	5	0	0.318182	0.318182
12	2	5	1	0.848485	0.530303
12	2	5	2	1.000000	0.151515
12	2	6	0	0.227273	0.227273
12	2	6	1	0.772727	0.545455
12	2	6	2	1.000000	0.227273
12	2	7	0	0.151515	0.151515
12	2	7	1	0.681818	0.530303
12	2	7	2	1.000000	0.318182
12	2	8	0	0.090909	0.090909
12	2	8	1	0.575758	0.484848

N	NS	K	X	P(<=X)	P(=X)
12	2	8	2	1.000000	0.424242
12	2	9	0	0.045455	0.045455
12	2	9	1	0.454545	0.409091
12	2	9	2	1.000000	0.545455
12	2	10	0	0.015152	0.015152
12	2	10	1	0.318182	0.303030
12	2	10	2	1.000000	0.681818
12	2	11	1	0.166667	0.166667
12	2	11	2	1.000000	0.833333
12	2	12	2	1.000000	1.000000
12	3	1	0	0.750000	0.750000
12	3	1	1	1.000000	0.250000
12	3	2	0	0.545455	0.545455
12	3	2	1	0.954545	0.409091
12	3	2	2	1.000000	0.045455
12	3	3	0	0.381818	0.381818
12	3	3	1	0.872727	0.490909
12	3	3	2	0.995455	0.122727
12	3	3	3	1.000000	0.004545
12	3	4	0	0.254545	0.254545
12	3	4	1	0.763636	0.509091
12	3	4	2	0.981818	0.218182
12	3	4	3	1.000000	0.018182
12	3	5	0	0.159091	0.159091
12	3	5	1	0.636364	0.477273
12	3	5	2	0.954545	0.318182
12	3	5	3	1.000000	0.045455
12	3	6	0	0.090909	0.090909
12	3	6	1	0.500000	0.409091
12	3	6	2	0.909091	0.409091
12	3	6	3	1.000000	0.090909
12	3	7	0	0.045455	0.045455
12	3	7	1	0.363636	0.318182
12	3	7	2	0.840909	0.477273
12	3	7	3	1.000000	0.159091
12	3	8	0	0.018182	0.018182
12	3	8	1	0.236364	0.218182
12	3	8	2	0.745455	0.509091
12	3	8	3	1.000000	0.254545
12	3	9	0	0.004545	0.004545
12	3	9	1	0.127273	0.122727
12	3	9	2	0.618182	0.490909
12	3	9	3	1.000000	0.381818
12	3	10	1	0.045455	0.045455
12	3	10	2	0.454545	0.409091
12	3	10	3	1.000000	0.545455
12	3	11	2	0.250000	0.250000
12	3	11	3	1.000000	0.750000
12	3	12	3	1.000000	1.000000
12	4	1	0	0.666667	0.666667

N	NS	K	X	P(<=X)	P(=X)
12	4	1	1	1.000000	0.333333
12	4	2	0	0.424242	0.424242
12	4	2	1	0.909091	0.484848
12	4	2	2	1.000000	0.090909
12	4	3	0	0.254545	0.254545
12	4	3	1	0.763636	0.509091
12	4	3	2	0.981818	0.218182
12	4	3	3	1.000000	0.018182
12	4	4	0	0.141414	0.141414
12	4	4	1	0.593939	0.452525
12	4	4	2	0.933333	0.339394
12	4	4	3	0.997980	0.064646
12	4	4	4	1.000000	0.002020
12	4	5	0	0.070707	0.070707
12	4	5	1	0.424242	0.353535
12	4	5	2	0.848485	0.424242
12	4	5	3	0.989899	0.141414
12	4	5	4	1.000000	0.010101
12	4	6	0	0.030303	0.030303
12	4	6	1	0.272727	0.242424
12	4	6	2	0.727273	0.454545
12	4	6	3	0.969697	0.242424
12	4	6	4	1.000000	0.030303
12	4	7	0	0.010101	0.010101
12	4	7	1	0.151515	0.141414
12	4	7	2	0.575758	0.424242
12	4	7	3	0.929293	0.353535
12	4	7	4	1.000000	0.070707
12	4	8	0	0.002020	0.002020
12	4	8	1	0.066667	0.064646
12	4	8	2	0.406061	0.339394
12	4	8	3	0.858586	0.452525
12	4	8	4	1.000000	0.141414
12	4	9	1	0.018182	0.018182
12	4	9	2	0.236364	0.218182
12	4	9	3	0.745455	0.509091
12	4	9	4	1.000000	0.254545
12	4	10	2	0.090909	0.090909
12	4	10	3	0.575758	0.484848
12	4	10	4	1.000000	0.424242
12	4	11	3	0.333333	0.333333
12	4	11	4	1.000000	0.666667
12	4	12	4	1.000000	1.000000
12	5	1	0	0.583333	0.583333
12	5	1	1	1.000000	0.416667
12	5	2	0	0.318182	0.318182
12	5	2	1	0.848485	0.530303
12	5	2	2	1.000000	0.151515
12	5	3	0	0.159091	0.159091
12	5	3	1	0.636364	0.477273

N	NS	K	X	P(<=X)	P(=X)
12	5	3	2	0.954545	0.318182
12	5	3	3	1.000000	0.045455
12	5	4	0	0.070707	0.070707
12	5	4	1	0.424242	0.353535
12	5	4	2	0.848485	0.424242
12	5	4	3	0.989899	0.141414
12	5	4	4	1.000000	0.010101
12	5	5	0	0.026515	0.026515
12	5	5	1	0.247475	0.220960
12	5	5	2	0.689394	0.441919
12	5	5	3	0.954545	0.265152
12	5	5	4	0.998737	0.044192
12	5	5	5	1.000000	0.001263
12	5	6	0	0.007576	0.007576
12	5	6	1	0.121212	0.113636
12	5	6	2	0.500000	0.378788
12	5	6	3	0.878788	0.378788
12	5	6	4	0.992424	0.113636
12	5	6	5	1.000000	0.007576
12	5	7	0	0.001263	0.001263
12	5	7	1	0.045455	0.044192
12	5	7	2	0.310606	0.265152
12	5	7	3	0.752525	0.441919
12	5	7	4	0.973485	0.220960
12	5	7	5	1.000000	0.026515
12	5	8	1	0.010101	0.010101
12	5	8	2	0.151515	0.141414
12	5	8	3	0.575758	0.424242
12	5	8	4	0.929293	0.353535
12	5	8	5	1.000000	0.070707
12	5	9	2	0.045455	0.045455
12	5	9	3	0.363636	0.318182
12	5	9	4	0.840909	0.477273
12	5	9	5	1.000000	0.159091
12	5	10	3	0.151515	0.151515
12	5	10	4	0.681818	0.530303
12	5	10	5	1.000000	0.318182
12	5	11	4	0.416667	0.416667
12	5	11	5	1.000000	0.583333
12	5	12	5	1.000000	1.000000
12	6	1	0	0.500000	0.500000
12	6	1	1	1.000000	0.500000
12	6	2	0	0.227273	0.227273
12	6	2	1	0.772727	0.545455
12	6	2	2	1.000000	0.227273
12	6	3	0	0.090909	0.090909
12	6	3	1	0.500000	0.409091
12	6	3	2	0.909091	0.409091
12	6	3	3	1.000000	0.090909
12	6	4	0	0.030303	0.030303

N	NS	K	X	P(<=X)	P(=X)
12	6	4	1	0.272727	0.242424
12	6	4	2	0.727273	0.454545
12	6	4	3	0.969697	0.242424
12	6	4	4	1.000000	0.030303
12	6	5	0	0.007576	0.007576
12	6	5	1	0.121212	0.113636
12	6	5	2	0.500000	0.378788
12	6	5	3	0.878788	0.378788
12	6	5	4	0.992424	0.113636
12	6	5	5	1.000000	0.007576
12	6	6	0	0.001082	0.001082
12	6	6	1	0.040043	0.038961
12	6	6	2	0.283550	0.243506
12	6	6	3	0.716450	0.432900
12	6	6	4	0.959957	0.243506
12	6	6	5	0.998918	0.038961
12	6	6	6	1.000000	0.001082
12	6	7	1	0.007576	0.007576
12	6	7	2	0.121212	0.113636
12	6	7	3	0.500000	0.378788
12	6	7	4	0.878788	0.378788
12	6	7	5	0.992424	0.113636
12	6	7	6	1.000000	0.007576
12	6	8	2	0.030303	0.030303
12	6	8	3	0.272727	0.242424
12	6	8	4	0.727273	0.454545
12	6	8	5	0.969697	0.242424
12	6	8	6	1.000000	0.030303
12	6	9	3	0.090909	0.090909
12	6	9	4	0.500000	0.409091
12	6	9	5	0.909091	0.409091
12	6	9	6	1.000000	0.090909
12	6	10	4	0.227273	0.227273
12	6	10	5	0.772727	0.545455
12	6	10	6	1.000000	0.227273
12	6	11	5	0.500000	0.500000
12	6	11	6	1.000000	0.500000
12	6	12	6	1.000000	1.000000
12	7	1	0	0.416667	0.416667
12	7	1	1	1.000000	0.583333
12	7	2	0	0.151515	0.151515
12	7	2	1	0.681818	0.530303
12	7	2	2	1.000000	0.318182
12	7	3	0	0.045455	0.045455
12	7	3	1	0.363636	0.318182
12	7	3	2	0.840909	0.477273
12	7	3	3	1.000000	0.159091
12	7	4	0	0.010101	0.010101
12	7	4	1	0.151515	0.141414
12	7	4	2	0.575758	0.424242

N	NS	K	X	P(<=X)	P(=X)
12	7	4	3	0.929293	0.353535
12	7	4	4	1.000000	0.070707
12	7	5	0	0.001263	0.001263
12	7	5	1	0.045455	0.044192
12	7	5	2	0.310606	0.265152
12	7	5	3	0.752525	0.441919
12	7	5	4	0.973485	0.220960
12	7	5	5	1.000000	0.026515
12	7	6	1	0.007576	0.007576
12	7	6	2	0.121212	0.113636
12	7	6	3	0.500000	0.378788
12	7	6	4	0.878788	0.378788
12	7	6	5	0.992424	0.113636
12	7	6	6	1.000000	0.007576
12	7	7	2	0.026515	0.026515
12	7	7	3	0.247475	0.220960
12	7	7	4	0.689394	0.441919
12	7	7	5	0.954545	0.265152
12	7	7	6	0.998737	0.044192
12	7	7	7	1.000000	0.001263
12	7	8	3	0.070707	0.070707
12	7	8	4	0.424242	0.353535
12	7	8	5	0.848485	0.424242
12	7	8	6	0.989899	0.141414
12	7	8	7	1.000000	0.010101
12	7	9	4	0.159091	0.159091
12	7	9	5	0.636364	0.477273
12	7	9	6	0.954545	0.318182
12	7	9	7	1.000000	0.045455
12	7	10	5	0.318182	0.318182
12	7	10	6	0.848485	0.530303
12	7	10	7	1.000000	0.151515
12	7	11	6	0.583333	0.583333
12	7	11	7	1.000000	0.416667
12	7	12	7	1.000000	1.000000
12	8	1	0	0.333333	0.333333
12	8	1	1	1.000000	0.666667
12	8	2	0	0.090909	0.090909
12	8	2	1	0.575758	0.484848
12	8	2	2	1.000000	0.424242
12	8	3	0	0.018182	0.018182
12	8	3	1	0.236364	0.218182
12	8	3	2	0.745455	0.509091
12	8	3	3	1.000000	0.254545
12	8	4	0	0.002020	0.002020
12	8	4	1	0.066667	0.064646
12	8	4	2	0.406061	0.339394
12	8	4	3	0.858586	0.452525
12	8	4	4	1.000000	0.141414
12	8	5	1	0.010101	0.010101

N	NS	K	X	P(<=X)	P(=X)
12	8	5	2	0.151515	0.141414
12	8	5	3	0.575758	0.424242
12	8	5	4	0.929293	0.353535
12	8	5	5	1.000000	0.070707
12	8	6	2	0.030303	0.030303
12	8	6	3	0.272727	0.242424
12	8	6	4	0.727273	0.454545
12	8	6	5	0.969697	0.242424
12	8	6	6	1.000000	0.030303
12	8	7	3	0.070707	0.070707
12	8	7	4	0.424242	0.353535
12	8	7	5	0.848485	0.424242
12	8	7	6	0.989899	0.141414
12	8	7	7	1.000000	0.010101
12	8	8	4	0.141414	0.141414
12	8	8	5	0.593939	0.452525
12	8	8	6	0.933333	0.339394
12	8	8	7	0.997980	0.064646
12	8	8	8	1.000000	0.002020
12	8	9	5	0.254545	0.254545
12	8	9	6	0.763636	0.509091
12	8	9	7	0.981818	0.218182
12	8	9	8	1.000000	0.018182
12	8	10	6	0.424242	0.424242
12	8	10	7	0.909091	0.484848
12	8	10	8	1.000000	0.090909
12	8	11	7	0.666667	0.666667
12	8	11	8	1.000000	0.333333
12	8	12	8	1.000000	1.000000
12	9	1	0	0.250000	0.250000
12	9	1	1	1.000000	0.750000
12	9	2	0	0.045455	0.045455
12	9	2	1	0.454545	0.409091
12	9	2	2	1.000000	0.545455
12	9	3	0	0.004545	0.004545
12	9	3	1	0.127273	0.122727
12	9	3	2	0.618182	0.490909
12	9	3	3	1.000000	0.381818
12	9	4	1	0.018182	0.018182
12	9	4	2	0.236364	0.218182
12	9	4	3	0.745455	0.509091
12	9	4	4	1.000000	0.254545
12	9	5	2	0.045455	0.045455
12	9	5	3	0.363636	0.318182
12	9	5	4	0.840909	0.477273
12	9	5	5	1.000000	0.159091
12	9	6	3	0.090909	0.090909
12	9	6	4	0.500000	0.409091
12	9	6	5	0.909091	0.409091
12	9	6	6	1.000000	0.090909

N	NS	K	X	P(<=X)	P(=X)
12	9	7	4	0.159091	0.159091
12	9	7	5	0.636364	0.477273
12	9	7	6	0.954545	0.318182
12	9	7	7	1.000000	0.045455
12	9	8	5	0.254545	0.254545
12	9	8	6	0.763636	0.509091
12	9	8	7	0.981818	0.218182
12	9	8	8	1.000000	0.018182
12	9	9	6	0.381818	0.381818
12	9	9	7	0.872727	0.490909
12	9	9	8	0.995455	0.122727
12	9	9	9	1.000000	0.004545
12	9	10	7	0.545455	0.545455
12	9	10	8	0.954545	0.409091
12	9	10	9	1.000000	0.045455
12	9	11	8	0.750000	0.750000
12	9	11	9	1.000000	0.250000
12	9	12	9	1.000000	1.000000
12	10	1	0	0.166667	0.166667
12	10	1	1	1.000000	0.833333
12	10	2	0	0.015152	0.015152
12	10	2	1	0.318182	0.303030
12	10	2	2	1.000000	0.681818
12	10	3	1	0.045455	0.045455
12	10	3	2	0.454545	0.409091
12	10	3	3	1.000000	0.545455
12	10	4	2	0.090909	0.090909
12	10	4	3	0.575758	0.484848
12	10	4	4	1.000000	0.424242
12	10	5	3	0.151515	0.151515
12	10	5	4	0.681818	0.530303
12	10	5	5	1.000000	0.318182
12	10	6	4	0.227273	0.227273
12	10	6	5	0.772727	0.545455
12	10	6	6	1.000000	0.227273
12	10	7	5	0.318182	0.318182
12	10	7	6	0.848485	0.530303
12	10	7	7	1.000000	0.151515
12	10	8	6	0.424242	0.424242
12	10	8	7	0.909091	0.484848
12	10	8	8	1.000000	0.090909
12	10	9	7	0.545455	0.545455
12	10	9	8	0.954545	0.409091
12	10	9	9	1.000000	0.045455
12	10	10	8	0.681818	0.681818
12	10	10	9	0.984848	0.303030
12	10	10	10	1.000000	0.015152
12	10	11	9	0.833333	0.833333
12	10	11	10	1.000000	0.166667
12	10	12	10	1.000000	1.000000

N	NS	K	X	P(<=X)	P(=X)
12	11	1	0	0.083333	0.083333
12	11	1	1	1.000000	0.916667
12	11	2	1	0.166667	0.166667
12	11	2	2	1.000000	0.833333
12	11	3	2	0.250000	0.250000
12	11	3	3	1.000000	0.750000
12	11	4	3	0.333333	0.333333
12	11	4	4	1.000000	0.666667
12	11	5	4	0.416667	0.416667
12	11	5	5	1.000000	0.583333
12	11	6	5	0.500000	0.500000
12	11	6	6	1.000000	0.500000
12	11	7	6	0.583333	0.583333
12	11	7	7	1.000000	0.416667
12	11	8	7	0.666667	0.666667
12	11	8	8	1.000000	0.333333
12	11	9	8	0.750000	0.750000
12	11	9	9	1.000000	0.250000
12	11	10	9	0.833333	0.833333
12	11	10	10	1.000000	0.166667
12	11	11	10	0.916667	0.916667
12	11	11	11	1.000000	0.083333
12	11	12	11	1.000000	1.000000

X

B