

Annex F

Working Group Procedure for Conducting an Equipment Reliability Survey

By
Power Systems Reliability Subcommittee
Power Systems Technology Committee
Industrial Power Systems Department
IEEE Industry Applications Society

Procedure I

Compiled December 8, 1980; Approved May 4, 1981

WORKING GROUP PROCEDURE FOR
CONDUCTING AN EQUIPMENT RELIABILITY SURVEY

POWER SYSTEMS RELIABILITY SUBCOMMITTEE
POWER SYSTEMS TECHNOLOGY COMMITTEE
INDUSTRIAL POWER SYSTEMS DEPARTMENT
IEEE INDUSTRY APPLICATIONS SOCIETY

Scope: Conduct an equipment reliability survey of industrial plants and commercial buildings. Keep anonymous the names of those who submit data. Do not collect the equipment manufacturer's name. Publish an IEEE Working Group report. Collect data that may be included in future versions of IEEE Standard 493-1980, "IEEE Recommended Practice for the Design of Reliable Industrial and Commercial Power Systems". This will include failures, population and unit-years, outage duration time after failure, and other information that are considered important.

Review Approval: The final IEEE Working Group report must be approved before publication by the Chairman, Power Systems Reliability Subcommittee and anyone else that he delegates. Other members of the Power Systems Reliability Subcommittee may ask to review the IEEE Working Group report before the Chairman and/or his delegates give their approval, but they do not have a veto over what is published.

- Steps:
1. The Power Systems Reliability Subcommittee (PSRS) will determine the equipment category to be surveyed.
 2. The PSRS Chairman will appoint a Working Group Chairman. The Working Group Chairman (WGC) will select the members of the Working Group, subject to approval by the PSRS Chairman. Usually the WG will include a WGC from a previous survey who is familiar with conducting a reliability survey. It is expected that the WGC will do the most work, including survey preparation, data collection, data analysis, and will be the coordinating author of the final report and will present the report at an IEEE technical conference. The PSRS Chairman will compile a budget and submit it to IAS for approval.
 3. The WGC will compile a schedule for steps 4 through 15.
 4. The WGC will review previous reliability surveys (AIEE 1962 and IEEE 1973/1974, etc.) on this equipment category, if available, and will compile a report summarizing previous survey results and why the new survey is being conducted. This report will be used in the survey and will be sent out with the survey form to the prospective participants. In some cases in the past this report has become an IEEE paper at an IEEE conference (but this is not encouraged).

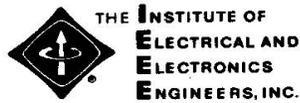
5. The WGC will compile a draft form for the survey and will send it to the members of the WG. In general the new survey will be a refinement of the previous version, geared to resolving questions raised by the past surveys. He will compile a second version, third version, etc. as necessary and develop a final form incorporating comments received from Working Group members.
6. The WGC will ask all members of the PSRS: 1) if they wish to review the final form and, 2) if they wish to review the final WG report after the survey is completed. He will send copies to those who request it and should request comments back within twelve days.
7. The final form should be approved by the PSRS Chairman and those he has delegated. However, responses that take longer than two weeks may be considered "approval by default".
8. The WGC will have the material for the survey printed (cover letter on IEEE stationery, form & definitions, reasons for survey). He will obtain the mailing list from the Chairman, Mailing List Working Group. He will review the list and augment it if appropriate. The WGC will buy postage stamps and send the survey material out for the survey. A return envelope and postage will be included and a requested return date will also be included. The WGC will keep track of negative, moved, or deceased responses for feedback to the Mailing List Chairman.
9. A follow up letter will be sent out by the WG Chairman to all participants about 8 weeks later. This always brings in additional responses.
10. An oral pep talk (3 minutes long) should be given by WGC during a technical session at the I & CPS Conference (if the timing is convenient).
11. After the "cut off" date, the WGC will analyse and tabulate the results from the survey. (An attempt should be made to contact respondents for clarification of incomplete or inconsistent data). They will be sent to the WG members for comments and suggestions for additional analysis and for what should go into the WG report.
12. The WGC will compile a first draft WG report and will send a copy to the members for comments. A second draft, third draft will be compiled as needed. A final WG report will be compiled.
13. The final WG report will be sent to the PSRS Chairman and those he has delegated for approval. Fourteen days will be allowed for their review. The final WG report will also be sent to those PSRS members who have requested it in step 6, and comments should be requested back within twelve days.

14. The WG Chairman will have the approved final WG report typed on model paper for presentation at an IEEE technical conference. Only those who have contributed as Working Group members, or by commenting on the survey or report drafts should be listed as authors; the WGC will obtain written approval from each co-author to use their names on the report. Approval of the final report by those who request it to review should be adequate approval to use names. A copy of this paper should be sent to all members of the PSRS; written discussions should be invited back from them. Other solicitations for discussions are also encouraged as deemed appropriate by the WGC or the PSRS Chairman.
15. The WG Chairman should present the final WG report at the IEEE Conference. An alternate from the WG should be designated, by the WGC, to present the paper in his absence.

It is believed that the total time cycle for steps 1 through 15 is about two years.

Charles R. Heising
Charles R. Heising
Secretary
Power Systems Reliability Subcommittee

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INDUSTRY APPLICATIONS SOCIETY

**TYPICAL MAJOR MILESTONE SCHEDULE
for
EQUIPMENT RELIABILITY SURVEYS**

YEAR 1:

1. May/June (I&CPS Conference) PSRSC Chairman appoints WG Chairman.
2. October (IAS Conference) WG Chairman presents first draft of survey form to WG.
3. November/December. WG Chairman finalizes survey form and obtains approval from PSRSC Chairman.

YEAR 2:

4. January/February. WG Chairman mails survey form to industries.
5. March/April. WG Chairman mails follow-up letter to industries.
6. May/June (I&CPS Conference) WG Chairman presents a pep talk to Conference, outlining reasons for survey.
7. August/September. WG Chairman evaluates data received; compiles first draft of report.
8. September/October (IAS Conference) WG Chairman reviews first draft of paper with members of WG and PSRSC.
9. November/December. WG Chairman prepares number of drafts required to satisfy need of WG.

YEAR 3:

10. January. WG Chairman sends final draft to PSRSC Chairman for approval.
11. February. WG Chairman prepares final manuscript and transmits for publication in I&CPS Conference record.
12. May/June (I&CPS Conference) WG Chairman presents results of survey at Conference.

Prepared by:


Philip E. Gannon, Chairman