Selectivity Study (TCC)

Performed by MSB Supplier

STX Norway Electro, STX-NE

TCC study based on IEC 61363 for Marine, executed using SKM Power Tools (PTW).

Study executed 04.12.2009 by Bjørn Andersen

Project: 75086

Yard: STX-ROB Hull 740/741/742

General:

Sources used for information.

- G1,G2,G3, G4,G5: AVK DSG86K1/4W 2125kVA,690V,60Hz,1800rpm
- EMG: STAMFORD HCM434E 360kVA,690V/60Hz, 1800rpm
- Cable data and general load collected from installer, STX Norway Electro.
- References made from drawing 75086-871-070 Sheet 1&2
- Propulsion motors are frequency controlled.

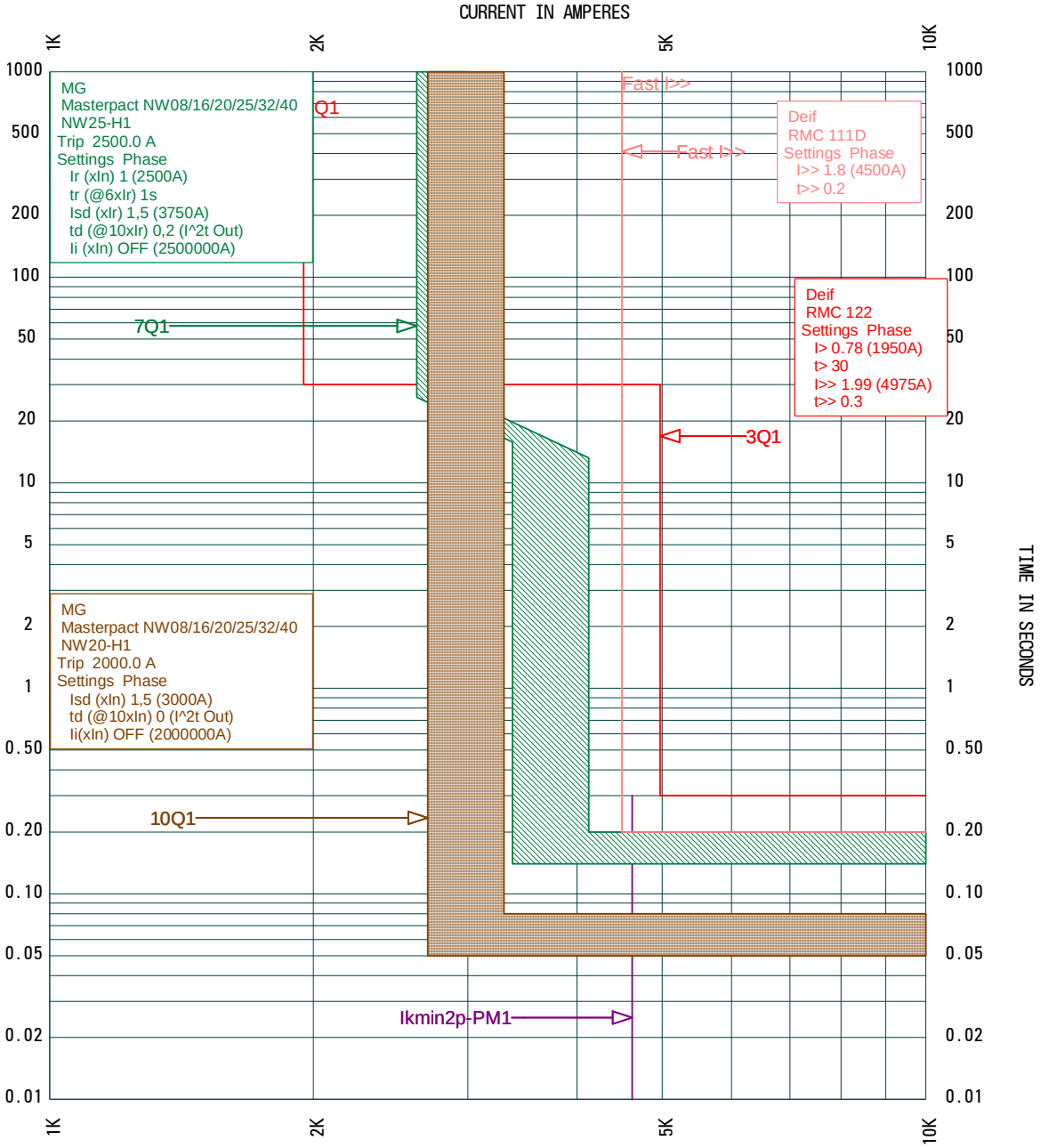
Seven (7) studies have been executed.

1. DG4 - BUSTIE - PROPULSION MP1: 3Q1-7Q1-10Q1
2. DG4 – BT - PUMPJET 1: 3Q1 - 7Q1 - 8Q1
3. DG4 – TRANSF. T6: 3Q1 - 13Q30
4. DG4 – 440V distribution: 3Q1 - 12Q7 - 1Q12
5. DG4 – 230V distribution: 3Q1 - 13Q31 - 3Q2
6. MSB-ESB230V DISTR: 3Q1 – 2Q8 – E2Q16 – E3Q10
7. EMgen-Distribution 230V: E1Q1 - E2Q16 – E3Q10

Checked:

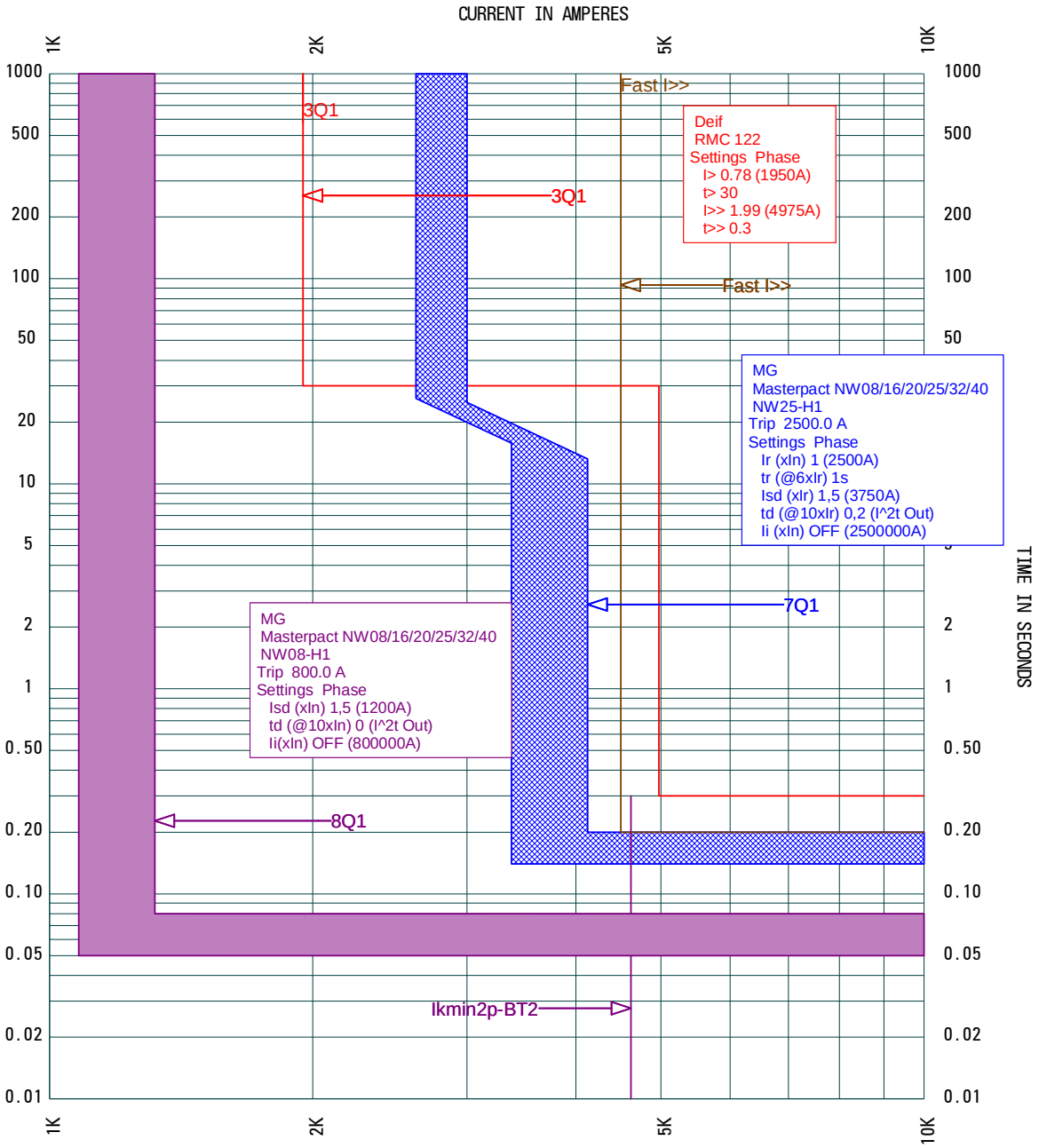
Approved:

Study 1 DG4 - BUSTIE - PROPULSION MP1: 3Q1-7Q1-10Q1



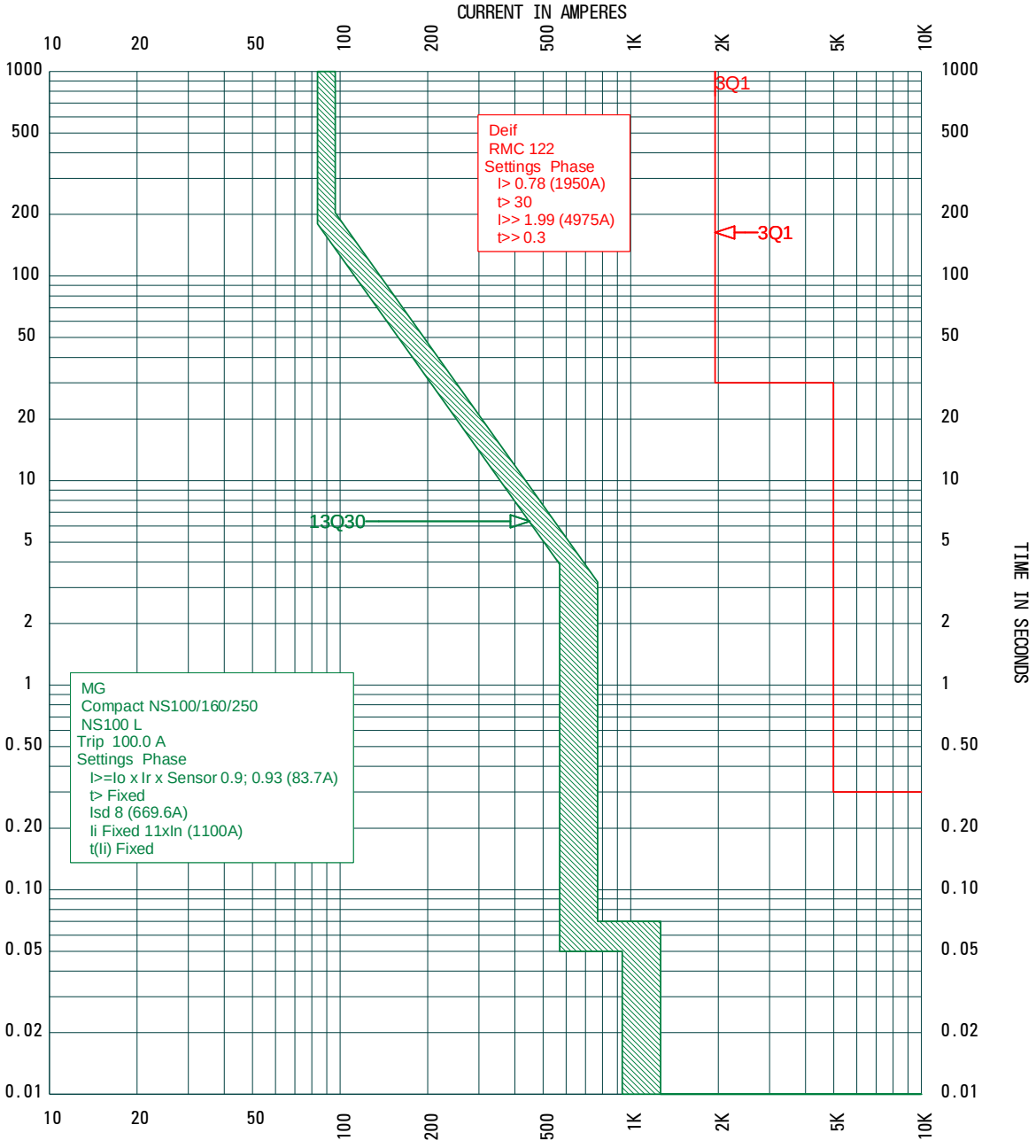
TCC Name: 1. Propulsion Oneline: November 3, 2009 1:31 PM	Current Scale x 1	Reference Voltage: 690 SKM Systems Analysis, Inc.

Study 2 DG4 – PUMPJET 1: 3Q1-7Q1-8Q1



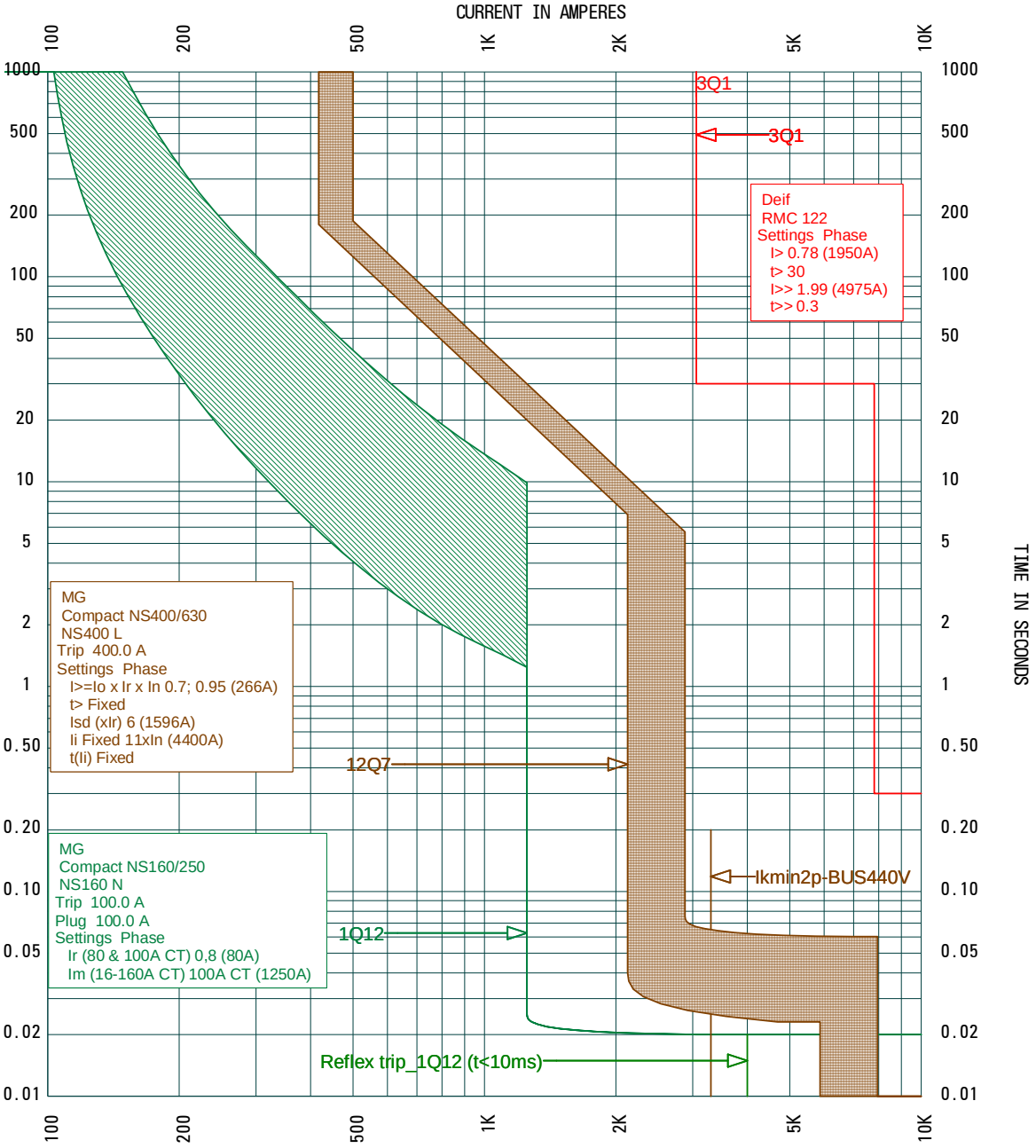
TCC Name: 2. Pumpjet no.1 Oneline: November 3, 2009 1:49 PM	Current Scale x 1	Reference Voltage: 690 SKM Systems Analysis, Inc.

Study 3 DG4 – Transformer T6: 3Q1- 13Q30



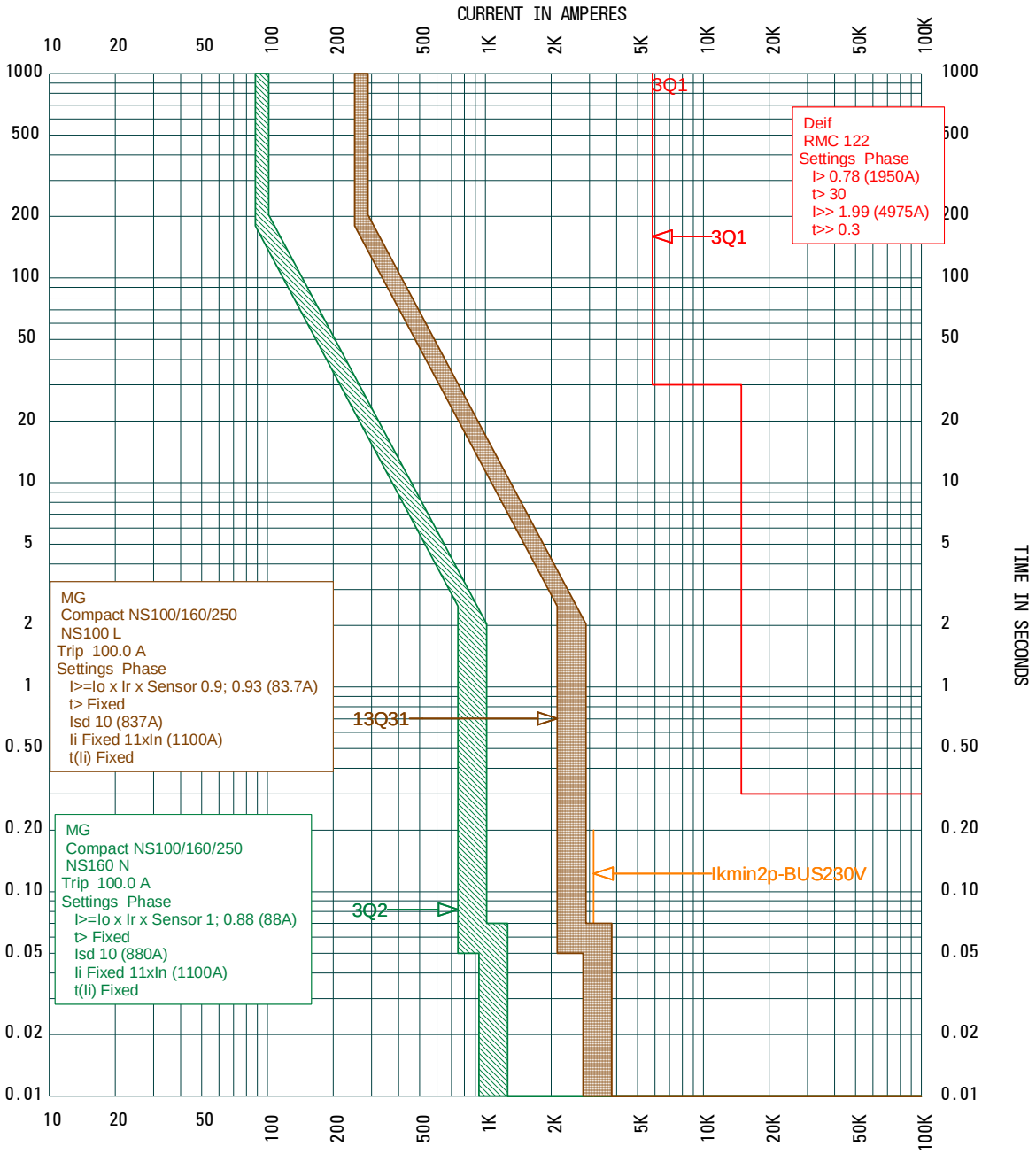
TCC Name: 3. GEN - T6, DECK OUTLET Current Scale x 1 Reference Voltage: 690
Oneline:
November 3, 2009 3:16 PM SKM Systems Analysis, Inc.

Study 4 DG4 – 440V distribution: 3Q1 - 12Q7 - 1Q12



TCC Name: 4. GEN - 440V Distribution Oneline: November 4, 2009 1:52 PM	Current Scale x 1	Reference Voltage: 440 SKM Systems Analysis, Inc.

Study 5 DG4 – 230V distribution: 3Q1 –13Q31 - 3Q2



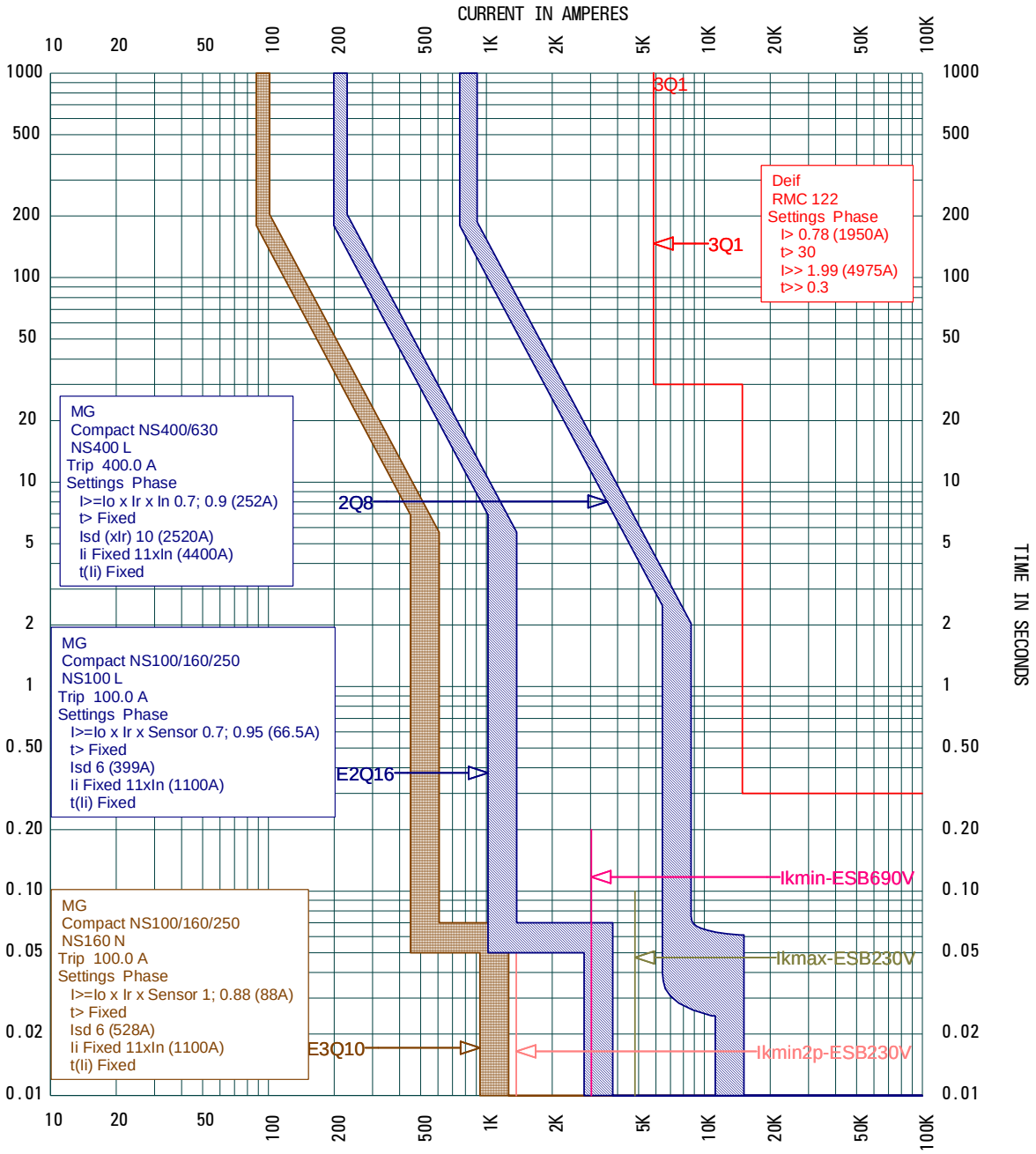
TCC Name: 5. GEN - 230V Distribution
Oneline:
November 4, 2009 11:11 AM

Current Scale x 1

Reference Voltage: 230

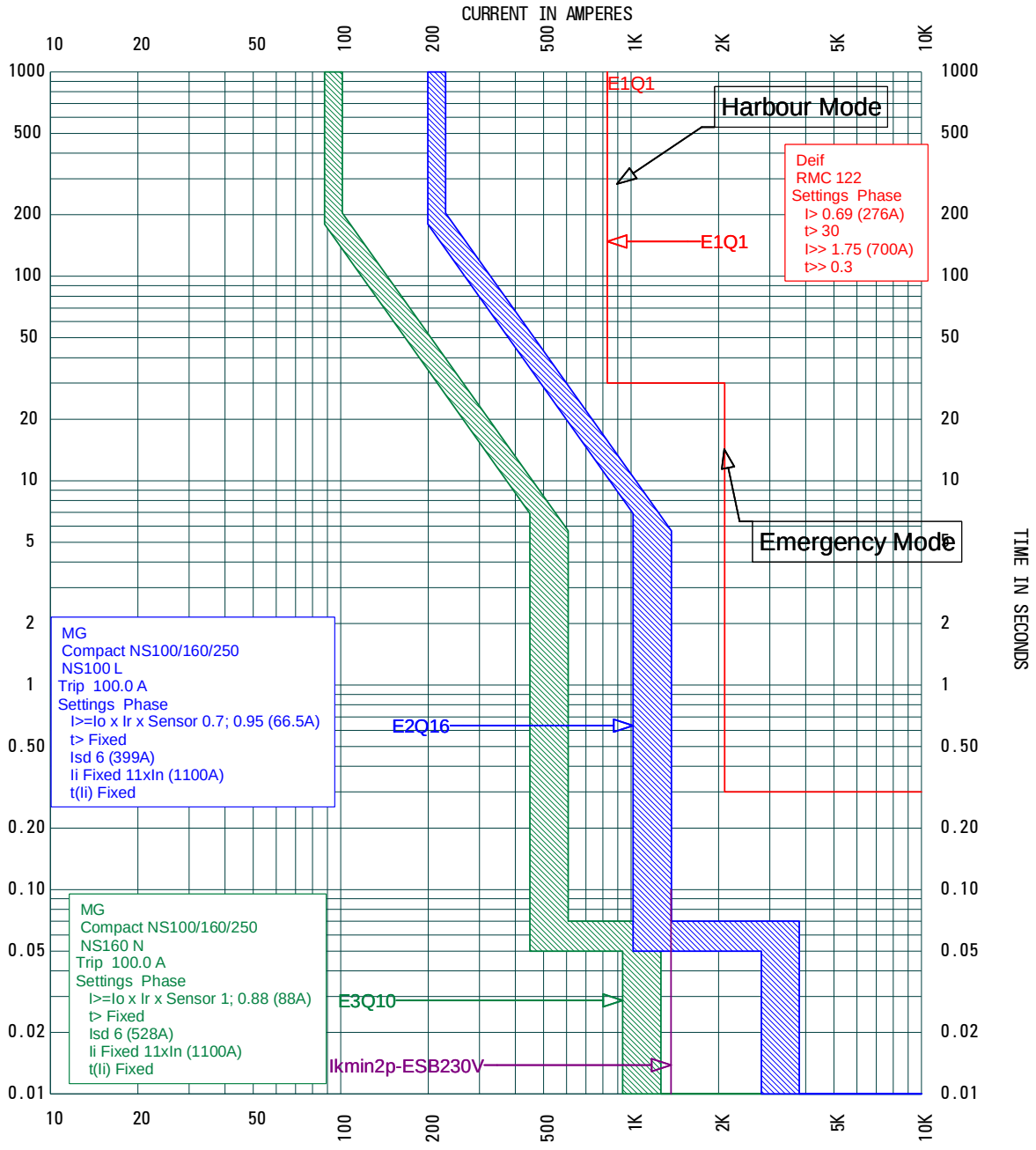
SKM Systems Analysis, Inc.

Study 6 MSB-ESB230V DISTR: 3Q1 – 2Q8 – E2Q16 – E3Q10



TCC Name: 6. MSB - ESB Oneline: November 11, 2009 3:33 PM	Current Scale x 1	Reference Voltage: 230 SKM Systems Analysis, Inc.

Study 7 EMgen-Distribution 230V: E1Q1- E2Q16 – E3Q10



TCC Name: 7. EMgen - Distr. 230V	Current Scale x 1	Reference Voltage: 230
Oneline:		
December 4, 2009 12:52 PM		SKM Systems Analysis, Inc.